

Oakside Scholars Charter
Academy
Schedule 7d
Curriculum

VISUAL ARTS - Creating

Anchor Standard 1: Generate and conceptualize artistic ideas and work. Enduring Understanding: Creativity and innovative thinking are essential life skills that can be developed. Essential Question(s): What conditions, attitudes, and behaviors support creativity and innovative thinking? What factors prevent or encourage people to take creative risks? How does collaboration expand the creative process?													
	Pre K VA:Cr.1.1.Pka	Kindergarten VA:Cr.1.1.Ka	1st VA:Cr.1.1.1a	2nd VA:Cr.1.1.2a	3rd VA:Cr.1.1.3a	4th VA:Cr.1.1.4a	5th VA:Cr.1.1.5a	6th VA:Cr.1.1.6a	7th VA:Cr.1.1.7a	8th VA:Cr.1.1.8a	HS Proficient VA:Cr.1.1.Ia	HS Accomplished VA:Cr.1.1.IIa	HS Advanced VA:Cr.1.1.IIIa
Engage in self-directed play with materials.		Engage in exploration and imaginative play with materials.	Engage collaboratively in exploration and imaginative play with materials.	Brainstorm collaboratively multiple approaches to an art or design problem.	Elaborate on an imaginative idea.	Brainstorm multiple approaches to a creative art or design problem.	Combine ideas to generate an innovative idea for art-making.	Combine concepts collaboratively to generate innovative ideas for creating art.	Apply methods to overcome creative blocks.	Document early stages of the creative process visually and/or verbally in traditional or new media.	Use multiple approaches to begin creative endeavors.	Individually or collaboratively formulate new creative problems based on student's existing artwork.	Visualize and hypothesize to generate plans for ideas and directions for creating art and design that can affect social change.
Enduring Understanding: Artists and designers shape artistic investigations, following or breaking with traditions in pursuit of creative artmaking goals. Essential Question(s): How does knowing the contexts histories, and traditions of art forms help us create works of art and design? Why do artists follow or break from established traditions? How do artists determine what resources and criteria are needed to formulate artistic investigations?													
	Pre K VA:Cr.1.2.Pka	Kindergarten VA:Cr.1.2.Ka	1st VA:Cr.1.2.1a	2nd VA:Cr.1.2.2a	3rd VA:Cr.1.2.3a	4th VA:Cr.1.2.4a	5th VA:Cr.1.2.5a	6th VA:Cr.1.2.6a	7th VA:Cr.1.2.7a	8th VA:Cr.1.2.8a	HS Proficient VA:Cr.1.2.Ia	HS Accomplished VA:Cr.1.2.IIa	HS Advanced VA:Cr.1.2.IIIa
Engage in self-directed, creative making.		Engage collaboratively in creative art-making in response to an artistic problem.	Use observation and investigation in preparation for making a work of art.	Make art or design with various materials and tools to explore personal interests, questions, and curiosity.	Apply knowledge of available resources, tools, and technologies to investigate personal ideas through the art-making process.	Collaboratively set goals and create artwork that is meaningful and has purpose to the makers.	Identify and demonstrate diverse methods of artistic investigation to choose an approach for beginning a work of art.	Formulate an artistic investigation of personally relevant content for creating art.	Develop criteria to guide making a work of art or design to meet an identified goal.	Collaboratively shape an artistic investigation of an aspect of present-day life using a contemporary practice of art and design.	Shape an artistic investigation of an aspect of present-day life using a contemporary practice of art or design.	Choose from a range of materials and methods of traditional and contemporary artistic practices, following or breaking established conventions, to plan the making of multiple works of art and design based on a theme, idea, or concept.	
Investigate - Plan - Make													

Anchor Standard 2: Organize and develop artistic ideas and work.											
Enduring Understanding: Artists and designers experiment with forms, structures, materials, concepts, media, and art-making approaches											
Essential Question(s): How do artists work? How do artists and designers determine whether a particular direction in their work is effective? How do artists and designers learn from trial and error?											
Pre K	1st	2nd	3rd	4th	5th	6th	7th	8th	HS Proficient	HS Accomplished	HS Advanced
VA-Cr2.1.Pk.a	VA-Cr2.1.1.a	VA-Cr2.1.2.a	VA-Cr2.1.3.a	VA-Cr2.1.4.a	VA-Cr2.1.5.a	VA-Cr2.1.6.a	VA-Cr2.1.7.a	VA-Cr2.1.8.a	VA-Cr2.1.a	VA-Cr2.1.1.a	VA-Cr2.1.11.a
Through experimentation, build skills in various media and approaches to art-making.	Explore uses of materials and tools to create works of art or design.	Experiment with various materials and tools to explore personal interests in a work of art or design.	Create personally satisfying artwork using a variety of artistic processes and materials .	Explore and invent art-making techniques and approaches.	Experiment and develop skills in multiple art-making techniques and approaches through practice.	Demonstrate openness in trying new ideas, materials , methods, and approaches in making works of art and design.	Demonstrate persistence in developing skills with various materials , methods, and approaches in creating works of art or design.	Demonstrate willingness to experiment, innovate, and take risks to pursue ideas, forms, and meanings that emerge in the process of art-making or designing.	Engage in making a work of art or design without having a preconceived plan.	Through experimentation, practice, and persistence, demonstrate acquisition of skills and knowledge in a chosen art form.	Experiment, plan, and make multiple works of art and design that explore a personally meaningful theme, idea, or concept .
Enduring Understanding: Artists and designers balance experimentation and safety, freedom and responsibility while developing and creating artworks.											
Essential Question(s): How do artists and designers care for and maintain materials, tools, and equipment? Why is it important for safety and health to understand and follow correct procedures in handling materials, tools, and equipment? What responsibilities come with the freedom to create?											
Pre K	1st	2nd	3rd	4th	5th	6th	7th	8th	HS Proficient	HS Accomplished	HS Advanced
VA-Cr2.2.Pk.a	VA-Cr2.2.1.a	VA-Cr2.2.2.a	VA-Cr2.2.3.a	VA-Cr2.2.4.a	VA-Cr2.2.5.a	VA-Cr2.2.6.a	VA-Cr2.2.7.a	VA-Cr2.2.8.a	VA-Cr2.2.1.a	VA-Cr2.2.1.a	VA-Cr2.2.11.a
a. Share materials with others.	Demonstrate safe procedures for using materials , tools, and equipment while making art.	Demonstrate safe procedures for using and cleaning art tools, equipment, and studio spaces.	Demonstrate an understanding of the safe and proficient use of materials , tools, and equipment for a variety of artistic processes.	When making works of art, utilize and care for materials , tools, and equipment in a manner that prevents danger to oneself and others.	Demonstrate quality craftsmanship through care for materials , tools, and use of equipment.	Explain environmental implications of conservation, care, and clean-up of art materials , tools, and equipment.	Demonstrate awareness of ethical responsibility to oneself and others when posting and sharing images and other materials through the internet, social media, and other communication formats.	Demonstrate awareness of practices, issues, and ethics of appropriation , fair use , copyright , open source , and creative commons as they apply to creating works of art and design.	Explain how traditional and non-traditional materials may impact human health and the environment and demonstrate safe handling of materials , tools, and equipment.	Demonstrate awareness of ethical implications of making and distributing creative work.	Demonstrate understanding of the importance of balancing freedom and responsibility in the use of images , materials , tools, and equipment in the creation and circulation of creative work.
Enduring Understanding: People create and interact with objects, places, and design that define, shape, enhance, and empower their lives.											
Essential Question(s): How do objects, places, and design shape lives and communities? How do artists and designers determine goals for designing or redesigning objects, places, or systems? How do artists and designers create works of art or design that effectively communicate?											
Pre K	1st	2nd	3rd	4th	5th	6th	7th	8th	HS Proficient	HS Accomplished	HS Advanced
VA-Cr2.3.Pk.a	VA-Cr2.3.1.a	VA-Cr2.3.2.a	VA-Cr2.3.3.a	VA-Cr2.3.4.a	VA-Cr2.3.5.a	VA-Cr2.3.6.a	VA-Cr2.3.7.a	VA-Cr2.3.8.a	VA-Cr2.3.1.a	VA-Cr2.3.1.a	VA-Cr2.3.11.a
Create and tell about art that communicates a story about a familiar place or object.	Identify and classify uses of everyday objects through drawings, diagrams, sculptures, or other visual means.	Repurpose objects to make something new.	Individually or collaboratively construct representations, diagrams, or maps of places that are part of everyday life.	Document, describe, and represent regional constructed environments.	Identify, describe, and visually document places and/or objects of personal significance.	Design or redesign objects, places, or systems that meet the identified needs of diverse users.	Apply visual organizational strategies to design and produce a work of art, design , or media that clearly communicates information or ideas.	Select, organize, and words to make visually clear and compelling presentations.	Collaboratively develop a proposal for an installation, artwork, or space design that transforms the perception and experience of a particular place.	Redesign an object, system, place, or design in response to contemporary issues.	Demonstrate in works of art or design how visual and material culture defines, shapes, enhances, inhibits, and/or empowers people's lives.

NATIONAL CORE ARTS STANDARDS

Anchor Standard 3: Refine and complete artistic work. Enduring Understanding: Artist and designers develop excellence through practice and constructive critique, reflecting on, revising, and refining work over time. Essential Question(s): What role does persistence play in revising, refining, and developing work? How do artists grow and become accomplished in art forms? How does collaboratively reflecting on a work help us experience it more completely?												
Pre K VA:Cr3.1.PKa	Kindergarten VA:Cr3.1.Ka	1st VA:Cr3.1.1a	2nd VA:Cr3.1.2a	3rd VA:Cr3.1.3a	4th VA:Cr3.1.4a	5th VA:Cr3.1.5a	6th VA:Cr3.1.6a	7th VA:Cr3.1.7a	8th VA:Cr3.1.8a	HS Proficient VA:Cr3.1.Ia	HS Accomplished VA:Cr3.1.IIa	HS Advanced VA:Cr3.1.IIIa
Share and talk about personal artwork.	Explain the process of making art while creating.	Use art vocabulary to describe choices while creating art.	Discuss and reflect with peers about choices made in creating artwork.	Elaborate visual information by adding details in an artwork to enhance emerging meaning.	Revise artwork in progress on the basis of insights gained through peer discussion.	Create artist statements using art vocabulary to describe personal choices in art-making.	Reflect on whether personal artwork conveys the intended meaning and revise accordingly.	Reflect on and explain important information about personal artwork in an artist statement or another format.	Apply relevant criteria to examine, reflect on, and plan revisions for a work of art or design in progress.	Apply relevant criteria from traditional and contemporary cultural contexts to examine, reflect on, and plan revisions for works of art and design in progress.	Engage in constructive critique with peers, then reflect on, re-engage, revise, and refine works of art and design in response to personal artistic vision.	Reflect on, re-engage, revise, and refine works of art or design considering relevant traditional and contemporary criteria as well as personal artistic vision.

VISUAL ARTS - Presenting

Anchor Standard 4: Select, analyze, and interpret artistic work for presentation. Enduring Understanding: Artists and other presenters consider various techniques, methods, venues, and criteria when analyzing, selecting, and curating objects artifacts, and artworks for preservation and presentation. Essential Question(s): How are artworks cared for and by whom? What criteria, methods, and processes are used to select work for preservation or presentation? Why do people value objects, artifacts, and artworks, and select them for presentation?													
	Pre K VA:Pr4.1.PKa	Kindergarten VA:Pr4.1.Ka	1st VA:Pr4.1.1a	2nd VA:Pr4.1.2a	3rd VA:Pr4.1.3a	4th VA:Pr4.1.4a	5th VA:Pr4.1.5a	6th VA:Pr4.1.6a	7th VA:Pr4.1.7a	8th VA:Pr4.1.8a	HS Proficient VA:Pr4.1.Ia	HS Accomplished VA:Pr4.1.IIa	HS Advanced VA:Pr4.1.IIIa
Select	Identify reasons for saving and displaying objects, artifacts, and artwork.	Select art objects for personal portfolio and display, explaining why they were chosen.	Explain why some objects, artifacts, and artwork are valued over others.	Categorize artwork based on a theme or concept for an exhibit.	Investigate and discuss possibilities of spaces, including electronic, for exhibiting artwork.	Analyze how past, present, and emerging technologies have impacted the preservation and presentation of artwork.	Define the roles and responsibilities of a curator, explaining the skills and knowledge needed in preserving , maintaining, and presenting objects, artifacts, and artwork.	Analyze similarities and differences associated with preserving and presenting two-dimensional, three-dimensional, and digital artwork.	Compare and contrast how technologies have changed the way artwork is preserved, presented, and experienced.	Develop and apply criteria for evaluating a collection of artwork for presentation.	Analyze, select, and curate artifacts and/or artworks for presentation and preservation .	Analyze, select, and critique personal artwork for a collection or portfolio presentation.	Critique , justify, and present choices in the process of analyzing, selecting, curating , and presenting artwork for a specific exhibit or event.
Anchor Standard 5: Develop and refine artistic techniques and work for presentation. Enduring Understanding: Artists, curators and others consider a variety of factors and methods including evolving technologies when preparing and refining artwork for display and or when deciding if and how to preserve and protect it. Essential Question(s): What methods and processes are considered when preparing artwork for presentation or preservation? How does refining artwork affect its meaning? What criteria are considered when selecting work for presentation, a portfolio, or a collection?													
	Pre K VA:Pr5.1.PKa	Kindergarten VA:Pr5.1.Ka	1st VA:Pr5.1.1a	2nd VA:Pr5.1.2a	3rd VA:Pr5.1.3a	4th VA:Pr5.1.4a	5th VA:Pr5.1.5a	6th VA:Pr5.1.6a	7th VA:Pr5.1.7a	8th VA:Pr5.1.8a	HS Proficient VA:Pr5.1.Ia	HS Accomplished VA:Pr5.1.IIa	HS Advanced VA:Pr5.1.IIIa
Analyze	Identify places where art may be displayed or saved.	Explain the purpose of a portfolio or collection.	Ask and answer questions such as where, when, why, and how artwork should be prepared for presentation or preservation .	Distinguish between different materials or artistic techniques for preparing artwork for presentation.	Identify exhibit space and prepare works of art including artists' statements , for presentation.	Analyze the various considerations for presenting and protecting art in various locations, indoor or outdoor settings, in temporary or permanent forms, and in physical or digital formats .	Develop a logical argument for safe and effective use of materials and techniques for preparing and presenting artwork.	Individually or collaboratively , develop a visual plan for displaying works of art, analyzing exhibit space, the needs of the viewer, and the layout of the exhibit.	Based on criteria , analyze and evaluate methods for preparing and presenting art.	Collaboratively prepare and present selected theme-based artwork for display, and formulate exhibition narratives for the viewer.	Analyze and evaluate the reasons and ways an exhibition is presented.	Evaluate, select, and apply methods or processes appropriate to display artwork in a specific place.	Investigate, compare, and contrast methods for preserving and protecting art.

Anchor Standard 6: Convey meaning through the presentation of artistic work. Enduring Understanding: Objects, artifacts, and artworks collected, preserved, or presented either by artists, museums, or other venues communicate meaning and a record of social, cultural, and political experiences resulting in the cultivating of appreciation and understanding. Essential Question(s): What is an art museum? How does the presenting and sharing of objects, artifacts, and artworks influence and shape ideas, beliefs, and experiences? How do objects, artifacts, and artworks collected, preserved, or presented, cultivate appreciation and understanding?													
	Pre K VA:Pr6.1.PKa	Kindergarten VA:Pr6.1.Ka	1st VA:Pr6.1.1a	2nd VA:Pr6.1.2a	3rd VA:Pr6.1.3a	4th VA:Pr6.1.4a	5th VA:Pr6.1.5a	6th VA:Pr6.1.6a	7th VA:Pr6.1.7a	8th VA:Pr6.1.8a	HS Proficient VA:Pr6.1.Ia	HS Accomplished VA:Pr6.1.IIa	HS Advanced VA:Pr6.1.IIIa
Share	Identify where art is displayed both inside and outside of school.	Explain what an art museum is and distinguish how an art museum is different from other buildings.	Identify the roles and responsibilities of people who work in and visit museums and other art venues.	Analyze how art exhibited inside and outside of schools (such as in museums, galleries, virtual spaces, and other venues) contributes to communities.	Identify and explain how and where different cultures record and illustrate stories and history of life through art.	Compare and contrast purposes of art museums, art galleries, and other venues, as well as the types of personal experiences they provide.	Cite evidence about how an exhibition in a museum or other venue presents ideas and provides information about a specific concept or topic.	Assess, explain, and provide evidence of how museums or other venues reflect history and values of a community.	Compare and contrast viewing and experiencing collections and exhibitions in different venues.	Analyze why and how an exhibition or collection may influence ideas, beliefs, and experiences.	Analyze and describe the impact that an exhibition or collection has on personal awareness of social, cultural, or political beliefs and understandings.	Make, explain, and justify connections between artists or artwork and social, cultural, and political history.	Curate a collection of objects, artifacts, or artwork to impact the viewer's understanding of social, cultural, and/or political experiences.

VISUAL ARTS - Responding

Anchor Standard 7: Perceive and analyze artistic work												
Enduring Understanding: Individual aesthetic and empathetic awareness developed through engagement with art can lead to understanding and appreciation of self, others, the natural world, and constructed environments.												
Essential Question(s): How do life experiences influence the way you relate to art? How does learning about art impact how we perceive the world? What can we learn from our responses to art?												
Pre K	Kindergarten	1st	2nd	3rd	4th	5th	6th	7th	8th	HS Proficient	HS Accomplished	HS Advanced
VA-Re.7.1.P1a	VA-Re.7.1.Ka	VA-Re.7.1.1a	VA-Re.7.1.2a	VA-Re.7.1.3a	VA-Re.7.1.4a	VA-Re.7.1.5a	VA-Re.7.1.6a	VA-Re.7.1.7a	VA-Re.7.1.8a	VA-Re.7.1.1a	VA-Re.7.1.1a	VA-Re.7.1.11a
Recognize art in one's environment.	Identify uses of art within one's personal environment.	Select and describe works of art that illustrate daily life experiences of one's self and others.	Perceive and describe aesthetic characteristics of one's natural world and constructed environments.	Speculate about processes an artist uses to create a work of art.	Compare responses to a work of art before and after working in similar media.	Compare one's own interpretation of a work of art with the interpretation of others.	Identify and interpret works of art or design that reveal how people live around the world and what they value.	Explain how the method of display, the location, and the experience of an artwork influence how it is perceived and valued.	Explain how a person's aesthetic choices are influenced by culture and environment and impact the visual image that one conveys to others.	Hypothesize ways in which art influences perception and understanding of human experiences.	Recognize and describe personal aesthetic and empathetic responses to the natural world and constructed environments.	Analyze how responses to art develop over time based on knowledge of and experience with art and life.
Enduring Understanding: Visual imagery influences understanding of and responses to the world.												
Essential Question(s): What is an image? Where and how do we encounter images in our world? How do images influence our views of the world?												
Pre K	Kindergarten	1st	2nd	3rd	4th	5th	6th	7th	8th	HS Proficient	HS Accomplished	HS Advanced
VA-Re.7.2.P1a	VA-Re.7.2.Ka	VA-Re.7.2.1a	VA-Re.7.2.2a	VA-Re.7.2.3a	VA-Re.7.2.4a	VA-Re.7.2.5a	VA-Re.7.2.6a	VA-Re.7.2.7a	VA-Re.7.2.8a	VA-Re.7.2.1a	VA-Re.7.2.11a	VA-Re.7.2.11a
Distinguish between images and real objects.	Describe what an image represents.	Compare images that represent the same subject.	Categorize images based on expressive properties.	Determine messages communicated by an image.	Analyze components in visual imagery that convey messages.	Identify and analyze cultural associations suggested by visual imagery.	Analyze ways that visual components and cultural associations suggested by images influence ideas, emotions, and actions.	Analyze multiple ways that images influence specific audiences.	Compare and contrast contexts and media in which viewers encounter images that influence ideas, emotions, and actions.	Analyze how one's understanding of the world is affected by experiencing visual imagery.	Evaluate the effectiveness of an image or images to influence ideas, feelings, and behaviors of specific audiences.	Determine the commonalities within a group of artists or visual images attributed to a particular type of art, timeframe, or culture.

Anchor Standard 8: Interpret intent and meaning in artistic work. Enduring Understanding: People gain insights into meanings of artworks by engaging in the process of art criticism. Essential Question(s): What is the value of engaging in the process of art criticism? How can the viewer "read" a work of art as text? How does knowing and using visual art vocabularies help us understand and interpret works of art?												
Pre K VA:Re8.1.Pka	Kindergarten VA:Re8.1.Ka	1st VA:Re8.1.1a	2nd VA:Re8.1.2a	3rd VA:Re8.1.3a	4th VA:Re8.1.4a	5th VA:Re8.1.5a	6th VA:Re8.1.6a	7th VA:Re8.1.7a	8th VA:Re8.1.8a	HS Proficient VA:Re8.1.Ia	HS Accomplished VA:Re8.1.IIa	HS Advanced VA:Re8.1.IIIa
Interpret art by identifying and describing subject matter.	Interpret art by identifying subject matter and describing relevant details.	Interpret art by categorizing subject matter and identifying the characteristics of form.	Interpret art by identifying the mood suggested by a work of art and describing relevant subject matter and characteristics of form.	Interpret art by analyzing use of media to create subject matter, characteristics of form, and mood.	Interpret art by referring to contextual information and analyzing relevant subject matter, characteristics of form, and use of media.	Interpret art by analyzing characteristics of form and structure, contextual information, subject matter, visual elements, and use of media to identify ideas and mood conveyed.	Interpret art by distinguishing between relevant contextual information and analyzing subject matter, characteristics of form, and structure, and use of media to identify ideas and mood conveyed.	Interpret art by analyzing art-making approaches, the characteristics of form and structure, relevant contextual information, subject matter, and use of media to identify ideas and mood conveyed.	Interpret art by analyzing how the interaction of subject matter, characteristics of form and structure, use of media, art-making approaches, and relevant contextual information contributes to understanding messages or ideas conveyed.	Interpret an artwork or collection of works, supported by relevant and sufficient evidence found in the work and its various contexts.	Identify types of contextual information useful in the process of constructing interpretations of an artwork or collection of works.	Analyze differing interpretations of an artwork or collection of works in order to select and defend a plausible critical analysis.
Anchor Standard 9: Apply criteria to evaluate artistic work. Enduring Understanding: People evaluate art based on various criteria. Essential Question(s): How does one determine criteria to evaluate a work of art? How and why might criteria vary? How is a personal preference different from an evaluation?												
Pre K VA:Re9.1.Pka	Kindergarten VA:Re9.1.Ka	1st VA:Re9.1.1a	2nd VA:Re9.1.2a	3rd VA:Re9.1.3a	4th VA:Re9.1.4a	5th VA:Re9.1.5a	6th VA:Re9.1.6a	7th VA:Re9.1.7a	8th VA:Re9.1.8a	HS Proficient VA:Re9.1.Ia	HS Accomplished VA:Re9.1.IIa	HS Advanced VA:Re9.1.IIIa
Select a preferred artwork.	Explain reasons for selecting a preferred artwork.	Classify artwork based on different reasons for preferences.	Use learned art vocabulary to express preferences about artwork.	Evaluate an artwork based on given criteria.	Apply one set of criteria to evaluate more than one work of art.	Recognize differences in criteria used to evaluate works of art depending on styles, genres, and media as well as historical and cultural contexts.	Develop and apply relevant criteria to evaluate a work of art.	Compare and explain the difference between an evaluation of an artwork based on personal criteria and an evaluation of an artwork based on a set of established criteria.	Create a convincing and logical argument to support an evaluation of art.	Establish relevant criteria in order to evaluate a work of art or collection of works.	Determine the relevance of criteria used by others to evaluate a work of art or collection of works.	Construct evaluations of a work of art or collection of works based on differing sets of criteria.

VISUAL ARTS - Connecting

Anchor Standard 10: Synthesize and relate knowledge and personal experiences to make art. Enduring Understanding: Through art-making, people make meaning by investigating and developing awareness of perceptions, knowledge, and experiences. Essential Question(s): How does engaging in creating art enrich people's lives? How does making art attain people to their surroundings? How do people contribute to awareness and understanding of their lives and the lives of their communities through art-making?																									
Pre K VA:Cn10.1.Pka		Kindergarten VA:Cn10.1.Ka		1st VA:Cn10.1.1a		2nd VA:Cn10.1.2a		3rd VA:Cn10.1.3a		4th VA:Cn10.1.4a		5th VA:Cn10.1.5a		6th VA:Cn10.1.6a		7th VA:Cn10.1.7a		8th VA:Cn10.1.8a		HS Proficient VA:Cn10.1.1a		HS Accomplished VA:Cn10.1.1a		HS Advanced VA:Cn10.1.1a	
Explore the world using descriptive and expressive words and art-making.		Create art that tells a story about a life experience.		Identify times, places, and reasons by which students make art outside of school.		Create works of art about events in home, school, or community life.		Develop a work of art based on observations of surroundings.		Create works of art that reflect community cultural traditions .		Apply formal and conceptual vocabularies of art and design to view surroundings in new ways through art-making.		Generate a collection of ideas reflecting current interests and concerns that could be investigated in art-making.		collaboratively individually or create visual documentation of places and times in which people gather to make and experience art or design in the community.		Make art collaboratively to reflect on and reinforce positive aspects of group identity.		Document the process of developing ideas from early stages to fully elaborated ideas.		Utilize inquiry methods of observation, research, and experimentation to explore unfamiliar subjects through art-making.		Synthesize knowledge of social, cultural, historical, and personal life with art-making approaches to create meaningful works of art or design.	
Anchor Standard 11: Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding Enduring Understanding: People develop ideas and understandings of society, culture, and history through their interactions with and analysis of art. Essential Question(s): How does art help us understand the lives of people of different times, places, and cultures? How is art used to impact the views of a society? How does art preserve aspects of life?																									
Pre K VA:Cn11.1.Pka		Kindergarten VA:Cn11.1.Ka		1st VA:Cn11.1.1a		2nd VA:Cn11.1.2a		3rd VA:Cn11.1.3a		4th VA:Cn11.1.4a		5th VA:Cn11.1.5a		6th VA:Cn11.1.6a		7th VA:Cn11.1.7a		8th VA:Cn11.1.8a		HS Proficient VA:Cn11.1.1a		HS Accomplished VA:Cn11.1.1a		HS Advanced VA:Cn11.1.1a	
Recognize that people make art.		Identify a purpose of an artwork.		Understand that people from different places and times have made art for a variety of reasons.		Compare and contrast cultural uses of artwork from different times and places.		Recognize that responses to art change depending on knowledge of the time and place in which it was made.		Through observation, infer information about time, place, and culture in which a work of art was created.		Identify how art is used to inform or change beliefs, values, or behaviors of an individual or society.		Analyze how art reflects changing times, traditions, resources, and cultural uses.		Analyze how response to art is influenced by understanding the time and place in which it was created, the available resources, and cultural uses.		Distinguish different ways art is used to represent, establish, reinforce, and reflect group identity.		Describe how knowledge of culture, traditions, and history may influence personal responses to art.		Compare uses of art in a variety of societal, cultural, and historical contexts and make connections to uses of art in contemporary and local contexts .		Appraise the impact of an artist or a group of artists on the beliefs, values, and behaviors of a society.	

Unit	Genre	Length	Purpose
Unit 1 Reading: Falling in Love with Reading!	Narrative	6 weeks	In this unit, you will fuel students' passion for reading. You will inspire their love of characters, words, and knowledge. Through modeling, you will help them to achieve that lost-in-a-book, engaged sort of reading that makes reading fun. You will introduce them to some foundational reading strategies that they will then use across the year. You will begin to expose them to concepts about print, helping them to understand the difference between text and picture. You will also begin to build habits that lead to robust classroom discussion.
Unit 2 STORY Part 1	Narrative	6 weeks	In this unit, you will introduce your students to the concept of genre. You will begin to develop their understanding that fiction texts contain story elements, and you will support them in identifying characters and setting. You will do all of this through the context that when a story is retold, that retell must include the most important events within the story.
Unit 3 Reading to Learn	Non-fiction	6 weeks	In this unit, your job is to ignite interest and curiosity about non-fiction topics, so students will learn new information, ask questions, and share their newfound knowledge with others. Students will learn some of the characteristics of non-fiction texts and apply key skills and strategies to support their understanding of informational text.
Unit 4 Getting to Know the Characters	Narrative	6 weeks	In this unit, your students will begin to deeply examine the characters in their stories. They will use their actions to help them understand what the characters are like. Additionally, you will expose your students to the genre of Fairy Tales.
Unit 5 STORY Elements Part 2	Narrative	10 weeks	In this unit, you will guide students to master the story elements. You will support them in arriving at the understanding that narrative texts evolve around two critical events: the problem and the solution. You will provide them with structures for how to discuss each of the story elements.



Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RL.K.1	With prompting and support, ask and answer questions about key details in a text.	X			X	X
RL.K.2	With prompting and support, retell familiar stories, including key details.	X	X		X	X
RL.K.3	With prompting and support, identify characters, settings, and major events in a story.		X		X	X X
RL.K.4	Ask and answer questions about unknown words in a text.	X			X	
RL.K.5	Recognize common types of texts (e.g., storybooks, poems).		X		X	
RL.K.6	With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.	X				
RL.K.7	With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).	X	X			
RL.K.9	With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.				X	
RL.K.10	Actively engage in group reading activities with purpose and understanding.	X	X		X	X



Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RI.K.1	With prompting and support, ask and answer questions about key details in a text.			X		
RI.K.2	With prompting and support, identify the main topic and retell key details of a text.			X		
RI.K.3	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.			X		
RI.K.4	With prompting and support, ask and answer questions about unknown words in a text.			X		
RI.K.5	Identify the front cover, back cover, and title page of a book.			X		
RI.K.6	Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.			X		
RI.K.7	With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).			X		
RI.K.8	With prompting and support, identify the reasons an author gives to support points in a text.			X		
RI.K.9	With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).			X		
RI.K.10	Actively engage in group reading activities with purpose and understanding.			X		

Unit	Genre	Length	Purpose
Unit 1 Falling in Love with Reading!	Narrative	4 weeks	In this unit, you will fuel scholars' passion for reading. You will inspire their love of characters, words, and knowledge. Through modeling, you will help them to achieve that lost-in-a-book, engaged sort of reading that makes reading fun. Additionally, you will review fundamental reading strategies that scholars learned in kindergarten: previewing, predicting, and visualizing.
Unit 2 Story Elements	Narrative	6 weeks	In this unit, you will drive your scholars to think deeply about the plot of the story. You will guide their understanding that all fiction stories contain certain story elements. You will develop their ability to identify each of the STORY elements and back up their thinking utilizing evidence from the text and pictures.
Unit 3 Reading to Learn	Non-fiction	6 weeks	In this unit, you will expose your students to the idea of reading to learn. Students will deeply engage with non-fiction text. You will help them to fall in love with learning new information, and you will develop their ability to apply reading skills and strategies to informational text.
Unit 4 Getting to Know the Characters	Narrative	7 weeks	In this unit, your scholars will begin to deeply examine the characters in their stories. They will use their actions to help them understand what the characters are like. Additionally, you will expose your students to the genre of Fairy Tales.
Unit 5 Biographies	Non-fiction	4 weeks	In this unit, you will expose your students to the genre of biographies. Your students will learn about the lives of important figures in history. They will apply reading skills and strategies to informational text, and identify the motivations of historical figures.
Unit 6 Comparing Characters	Narrative	6 weeks	This unit builds on what scholars learned in Unit 3. You will guide your students to understand that characters can be different from one another and that recognizing those differences will help them to more deeply understand why characters do the things that they do.



Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RL.1.1	Ask and answer questions about key details in a text.	X	X X		X		X
RL.1.2	Retell stories, including key details, and demonstrate understanding of their central message or lesson.	X			X		
RL.1.3	Describe characters, settings, and major events in a story, using key details.		X X		X X		X
RL.1.4	Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.	X					
RL.1.5	Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	X	X				
RL.1.6	Identify who is telling the story at various points in a text.		X				
RL.1.7	Use illustrations and details in a story to describe its characters, setting, or events.		X		X		X
RL.1.9	Compare and contrast the adventures and experiences of characters in stories.						X
RL.1.10	With prompting and support, read prose and poetry of appropriate complexity for grade 1.	X	X		X		X



Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.1.1	Ask and answer questions about key details in a text.			X X		X	
RI.1.2	Identify the main topic and retell key details of a text.			X X		X	
RI.1.3	Describe the connection between two individuals, events, ideas, or pieces of information in a text.					X	
RI.1.4	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.			X			
RI.1.5	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.			X			
RI.1.6	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.			X			
RI.1.7	Use the illustrations and details in a text to describe its key ideas.			X			
RI.1.8	Identify the reasons an author gives to support points in a text.			X X		X X	
RI.1.9	Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).			X			
RI.1.10	With prompting and support, read informational texts appropriately complex for grade 1.			X		X	



Unit	Genre	Length	Purpose
Unit 1 Falling in Love with Reading	Fiction	6 weeks	In this unit, you will fuel scholars' passion for reading. You will inspire their love of words, characters, and knowledge. You will help them achieve that lost-in-a-book, engaged sort of reading that makes reading fun. This unit will embed your students back in the basic elements of fiction and plot points. You will give them the most priceless gift of all — time to read!
Unit 2 Characters Are Our Best Friends!	Fiction	8 weeks	In this unit, your job is to give students the ticket to understanding fiction texts — paying attention to the characters! Using the foundation built in Unit 1, you will help drive understanding of plot through characters. If you do your job well, your students will understand that characters are the backbone to any story, and that by noticing what characters do and say, they will understand the big idea.
Unit 3 Ask Me, I'm an Expert!	Non-fiction	9 weeks	In this unit, your job is to excite students about exploring subjects they are naturally curious about through reading—showing students that they can teach themselves anything! You will provide students with a toolkit that will allow them to read and understand nonfiction texts. If you knock this out of the park, your students will be eager to get their hands-on nonfiction books to learn more about what interests them most!
Unit 4 Characters Teach Me Lessons!	Fable	4 weeks	In this unit, your task is to fuel a passion and appreciation for a variety of fiction, specifically those that are meant to have a message or leave readers with a lesson. You will use previously developed reading literature skills to support them in understanding the structures and elements of folklores and fables. This will help students better make sense of what the story is trying to teach them.
Unit 5 Showing Off Our Skills: We Love Reading!	Poetry	7 weeks	In this unit, you will wrap up the year by focusing on a new genre while also revisiting genres and skills taught in depth throughout this school year. First, you will build students' knowledge of literature through the art of poetry. Additionally, you will revisit concepts which will provide students a platform to impress you with their all their mastered comprehension skills! You will continue to foster their love for all genres and empower them to use books to grow their knowledge.



Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RL.2.1	Ask and answer such questions as <i>who</i> , <i>what</i> , <i>where</i> , <i>when</i> , <i>why</i> , and <i>how</i> to demonstrate understanding of key details in a text.	X X	X X		X	X
RL.2.2	Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.	X			X	X
RL.2.3	Describe how characters in a story respond to major events and challenges.	X X	X X		X	X X
RL.2.4	Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song.					X
RL.2.5	Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.	X	X		X	X
RL.2.6	Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.		X X			X
RL.2.7	Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.		X X			
RL.2.9	Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.		X		X	
RL.2.10	By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range.	X	X		X	X
RL.1.3	Describe characters, settings, and major events in a story, using key details.	X				



Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RI.2.1	Ask and answer such questions as <i>who</i> , <i>what</i> , <i>where</i> , <i>when</i> , <i>why</i> , and <i>how</i> to demonstrate understanding of key details in a text.			X		
RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.			X X		
RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.			X		
RI.2.4	Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i> .			X X		
RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.			X X		
RI.2.6	Identify the main purpose of a text, including what the author wants to answer, explain, or describe.			X X		
RI.2.7	Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.			X		
RI.2.8	Describe how reasons support specific points the author makes in a text.			X X		
RI.2.9	Compare and contrast the most important points presented by two texts on the same topic.			X		
RI.2.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.			X		

Unit	Genre	Length	Purpose
Unit 1 Falling in Love with Reading	Fiction	7 weeks	<p>There's nothing more important to our students' lifelong success and happiness than inspiring their passion for reading. In this unit, you will fuel students' passion for reading and continue developing their speaking skills. You will inspire their love of words, characters, and knowledge. You will dive back into critical elements of fiction that was developed so deeply in grade 2. You will help them achieve that lost-in-a-book, engaged sort of reading that makes reading fun. You will give them the most priceless gift of all – books! Model your passion for reading and books throughout the day. Enthusiastically recommend books to your students and show your passion every time you read aloud!</p> <p>In this unit, your job is to excite students about exploring subjects they are naturally curious about through reading—showing students that they can teach themselves anything! You will provide students with a skill-based compass that will allow them to read and understand nonfiction texts. If you do your job well, your students will be eager to get their hands on nonfiction texts to learn more about the world around them and what interests them most.</p>
Unit 2 Making Meaning from Our Fascinating World	Non-fiction	7 weeks + interim	<p>In this unit, you have the opportunity to give students the ticket to understanding fiction texts—by paying attention to the characters! In Unit 1, you created a culture of enthusiastic, passionate readers. Now it's time to push students even further as you develop them as readers and thinkers. You'll do this by continuing to help them truly understand characters and how they drive the plot!</p>
Unit 3 Characters Are Just Like Us!	Fiction	9 weeks + interim	<p>In this unit, your job is to continue to excite and reinvest students in nonfiction subjects they are naturally curious about-- showing them that they can teach themselves anything through reading exploration! If you do your job well, your students will be eager to get their hands on more nonfiction texts to learn more about our fascinating world.</p>
Unit 4 Continuing to Make Meaning from Our Fascinating World !	Non-fiction	3 weeks	<p>Fables and folktales are one of the oldest and most powerful genres. You will explore this genre with the wonderful stories that are rooted in ancient cultures from around the world. In this unit, your job is to invite students to fall in love with the magical world of folklore and fables and to become expert interpreters of the big ideas and powerful lessons found in these stories!</p>
Unit 5 Stories from the Past Live On!	Fables	3 weeks	<p>Poetry is magical, and your job is to inspire your students to become avid readers and lovers of poetry! What a great job to have! Poems are a powerful genre through which you can teach your scholars to become great readers. Poems tend to be short, so the process of discerning their meaning is confined and contained. Poems pack a punch, filled with meaning that is transmitted through the poet's choices, including interesting use of language and punctuation. You will build an appreciation in</p>
Unit 6 The Magic of Poetry: Small Packages Filled	Poetry	5 weeks	



with Meaning &
Fictional Wrap-Up

your students for how poets choose words, imagery, and other literary devices to convey big ideas. You will also wrap up the year with a novel. Your job is to tie up their third-grade experience showcasing their brilliance through skill application within an engaging novel; have fun!



Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RL.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	X X		X		X	X
RL.3.2	Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.	X X				X	
RL.3.3	Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events	X X		X X		X	X
RL.3.4	Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.						X
RL.3.5	Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.	X		X		X X	X
RL.3.6	Distinguish their own point of view from that of the narrator or those of the characters.	X		X X			
RL.3.7	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting)			X			X
RL.3.9	Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series)	X					
RL.3.10	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2-3 text complexity band independently and proficiently.	X		X		X	X
L.3.6	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., <i>After dinner that night we went looking for them</i>).	X		X		X	



Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.		X		X		
RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea.		X		X X		
RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.		X		X		
RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 3 topic or subject area</i> .		X X		X		
RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.		X		X		
RI.3.6	Distinguish their own point of view from that of the author of a text.		X		X		
RI.3.7	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).		X				
RI.3.8	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).		X X		X		
RI.3.9	Compare and contrast the most important points and key details presented in two texts on the same topic.				X		
RI.3.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.		X		X		
L.3.6	Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., <i>After dinner that night we went looking for them</i>).		X		X		



Unit	Genre	Length	Purpose
Unit 1 What a Character!	Narrative	6 weeks	In this unit, you will teach your scholars to be close character watchers. They will learn to interpret even subtle clues that will teach readers big ideas about characters and meaning. Students are beginning to encounter complex characters, with real depth, and as readers they must understand character transformation and how that transformation contributes to the theme of a text. You will also continue developing habits that lead to robust classroom discussion.
Unit 2 A Hodgepodge of Information	Non-fiction	7 weeks + interim	In this unit, you will teach students to pay careful attention to the intricacies of informational text. They will learn to uncover the main idea of a text and analyze how the author uses evidence to support that main idea. Students will explore topics learning a great range of information. You will also continue developing habits that lead to robust classroom discussion.
Unit 3 The World of Folklore	Narrative	7 weeks + interim	In this unit, you will instill a love of mythology and other cultural literature in your students and help them become expert interpreters of the big ideas found in these stories. They will continue their character watching by learning to recognize archetypal characters and explaining how those characters influence themes that transcend cultures. You will also continue developing habits that lead to robust classroom discussion.
Unit 4 Inventions	Non-fiction	6 weeks	In this unit, students will continue their work interpreting informational text and determining how the author supports the main ideas developed within the text. They will also learn to navigate text structure and graphic features in order to determine how these components of craft help support the main idea. Students will gather information about important inventors and inventions in history. By exposing students to multiple texts on a similar topic, you are growing your students' ability to synthesize information presented in different formats. You will also continue developing habits that lead to robust classroom discussion.
Unit 5 The Magic of Poetry	Poetry	5 weeks	In this unit, you will help to build an appreciation for how poets choose words, imagery, and other literary devices to convey big ideas. Poems pack a big punch in a little package filled with meaning that is transmitted through the poet's choices, including interesting use of language and structure. You will take your students' ability to interpret poems to the next level! You will also continue developing habits that lead to robust classroom discussion.
Unit 6 Civil Rights	Narrative	3 weeks	In the final unit of the year, students will demonstrate their mastery of key narrative skills, with an emphasis on character development and theme, that will propel them into grade 5. Through rich literature, you will navigate the landscape of civil rights to aid students in understanding history. You will also continue developing habits that lead to robust classroom discussion.



Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RL.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.	X X		X X		X X	X X
RL.4.2	Determine a theme of a story, drama, or poem from details in the text; summarize the text.	X		X		X X	
RL.4.3	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).	X X		X X			X
RL.4.4	Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Hercules).	X X		X		X	
RL.4.5	Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.			X		X	X
RL.4.6	Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.	X					
RL.4.7	Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.			X			
RL.4.9	Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.			X X		X	
RL.4.10	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.	X		X		X	X
L.4.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife conservation</i>), and <i>endangered</i> when discussing animal preservation).	X		X		X	X



Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.		X X		X X		
RI.4.2	Determine the main idea of a text and explain how it is supported by key details; summarize the text.		X X		X X		
RI.4.3	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.				X X		
RI.4.4	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i> .		X X		X		
RI.4.5	Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.				X X		
RI.4.6	Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.		X				
RI.4.7	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.		X X		X		
RI.4.8	Explain how an author uses reasons and evidence to support particular points in a text.		X				
RI.4.9	Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.		X				
RI.4.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.		X		X		
L.4.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., <i>wildlife, conservation</i> , and <i>endangered</i> when discussing animal preservation).		X		X		

Unit	Genre	Length	Purpose
<p>Unit 1 Characters are Dynamic</p>	<p>Narrative</p>	<p>6 weeks</p>	<p>In this unit, you will help your scholars uncover the powerful messages in the works of fiction. They will pay close attention to the characters in the books and how they grow and change. They will pay particular attention to how each character's experiences impact their perspective as events unfold. They will also use their knowledge of character development to uncover the books' big ideas. You will also continue developing habits that lead to robust classroom discussions.</p>
<p>Unit 2 Revolution Hybrid: Part 1: A Nation is Born Part 2: Women Power Forward!</p>	<p>Non-fiction</p>	<p>8 weeks +interim</p>	<p>In this unit, you will pique your students' interest around revolutions. You will start this journey in Part 1 by diving into the American Revolution and people's fight for freedom and close out the unit in Part 2 by exploring the evolution of women's equality. Through texts that present a variety of perspectives, students will become better readers as you develop their expertise on remarkable historical and present-day events. Students will navigate text structures to uncover the main idea of a text. They will make connections between ideas in texts and compare the points of view of multiple texts written about the same event. You will also continue developing habits that lead to robust classroom discussions.</p>
<p>Unit 3 Poetry in Motion</p>	<p>Poetry</p>	<p>4 weeks +interim</p>	<p>In this unit, you will build your students' love of poetry by immersing them in quality texts that are funny, relevant, and thought-provoking. They will practice their interpretive skills using figurative language, text structure, and tone as clues to the overall meaning of the poem. You will also continue developing habits that lead to robust classroom discussions.</p>
<p>Unit 4 Reading to Learn</p>	<p>Non-fiction</p>	<p>6 weeks</p>	<p>In this unit, you will help your students navigate rigorous nonfiction text on a variety of topics. They will compare text structures and authors' points of view, as well as determine the main ideas found in a text and analyze the evidence the authors provide to support that main idea. Of course, you will require them to support all of their thinking with evidence from the text! You will also continue developing habits that lead to robust classroom discussions.</p>
<p>Unit 5 Keeping Up with Characters and Multiple Plots</p>	<p>Narrative</p>	<p>8 weeks</p>	<p>In this unit, you will help your students navigate the rigors of a text with multiple plots. Students will discover how an author crafts a narrative to slowly reveal the theme. They will dig deeper into their analysis of character development and motivation. Students will support all of their thinking with evidence from the text. You will also continue developing habits that lead to robust classroom discussions.</p>

Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RL.5.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	X X		X		X X
RL.5.2	Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.	X		X X		X X
RL.5.3	Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).	X X		X		X
RL.5.4	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.	X X		X X		X
RL.5.5	Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.	X X		X X		X X
RL.5.6	Describe how a narrator's or speaker's point of view influences how events are described.	X				X
RL.5.7	Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).					X
RL.5.9	Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.					X
RL.5.10	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently.	X		X		X
L.5.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., <i>however</i> , <i>although</i> , <i>nevertheless</i> , <i>similarly</i> , <i>moreover</i> , <i>in addition</i>).	X		X		X

Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
RI.5.1	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.		X X		X X	
RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.		X X		X X	
RI.5.3	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.		X X		X X	
RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 5 topic or subject area</i> .		X X		X	
RI.5.5	Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.		X X		X X	
RI.5.6	Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.		X		X X	
RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.		X		X X	
RI.5.8	Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).				X	
RI.5.9	Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.				X	
RI.5.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently.		X		X	
L.5.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., <i>however</i> , <i>although</i> , <i>nevertheless</i> , <i>similarly</i> , <i>moreover</i> , <i>in addition</i>).		X		X	



Yearlong Focus	How do my experiences compare to the experiences of others?
Unit 1 LS: Short Stories W: Constructed Response	Why do I treat some people differently than I treat others? How do authors craft a short story to show the experiences of others?
Unit 2 LS: <i>A Long Walk to Water</i> W: Personal Narrative	How can I use my experiences to better the lives of others? What drives a person to overcome obstacles and move forward in life? How do authors make strategic structure and language choices to develop the storylines and central ideas of texts?
Unit 3 LS: <i>Home of the Brave</i> W: Poetry	How does finding something familiar in a new place help create a sense of home and belonging? How does the author's approach to the topic impact my connection to the story?
Unit 4 LS: <i>Spooked!</i> W: Argument	What influence does the mass media have on the way I respond to information? How does the author develop her argument that people should have known <i>The War of the Worlds</i> was not a real event?
Unit 5 LS: <i>Heart of a Samurai</i> W: Research/Informational	How do others influence my sense of belonging? How do I respond when I feel like I don't belong? How does the author develop the idea that experiences shape perspective?
Unit 6 LS: <i>Refugee</i> W: Literary Analysis	What aspects of the human experience are universal? What experiences connect me to others regardless of where and when we live? How does the author emphasize aspects of the human experience that are common to everyone?

Writing Units and Rounds					
Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	
Personal Narrative Object Haiku Object/Picture Graphic Novel Page Personal Narrative	Poetry Lines of Figurative Language Abecedarian Poem Narrative Poem	Argument Review Social Networking Claim Short Essay	Research/Informational Find and Evaluate Sources Structure Paragraphs Newspaper Article TED Talk	Literary Analysis Art Critique Amazon Review Character Podcast Letter to Principal	



Why are these texts worth reading?

All students need to engage with texts that provide entry into discussion of compelling themes. Students need access and regular opportunities to work with a wide range of texts that are authentic and of varying complexity, structure, and genre.

The texts selected for 6th grade provide students with ample opportunity to debate and discuss the overarching theme of **Personal Experience**. As students grow and begin to consider how their own experiences have molded them into the person they are, it's important for them to have a wide variety of reading experiences featuring young people with different experiences. Each of the chosen texts presents a different cultural perspective that will lead students to see that no matter where we are or what we do, there are key universal emotions – hope, perseverance, fear – that link us together. The core texts for 6th grade are:

Short Stories	Nonfiction Text	Drama/Poetry/Narrative Text
“The Monsters Are Due on Maple Street” by Rod Serling	<i>A Long Walk to Water</i> by Linda Sue Park	<i>Home of the Brave</i> by Katherine Applegate
“Thank You, Ma’am” by Langston Hughes	<i>Spooked!: How a Radio Broadcast and The War of the Worlds Sparked the 1938 Invasion of America</i> by Gail Jarrow	<i>Heart of a Samurai</i> by Margi Preus
“All Summer in a Day” by Ray Bradbury		<i>Refugee</i> by Alan Gratz
“Names/Nombres” by Julia Alvarez		

What makes these texts complex?

In *Reading Reconsidered*, Doug Lemov et al. lay out five plagues of reading that make texts complex. They argue that students must engage with these plagues in order to be prepared for attacking even more complex reading in high school and beyond.

1. Archaic Text – includes vocabulary, syntax, usage, and context for cultural reference that are over 50 years old. Stylistic differences make the text difficult for students to understand.
2. Non-linear Time Structure – time moves within the text in “fits and starts”. The story does not progress seamlessly from one moment to the next.
3. Complexity of Narrator – unreliable narrator, multiple narrators, non-human narrators, multiple plot lines
4. Complexity of Plot – texts that happen on a symbolic or allegorical level
5. Resistant Text – meaning has to be assembled around nuances, hints, uncertainties, and clues

The core texts selected for 6th grade provide students with an opportunity to struggle with the plagues to sharpen their critical thinking and reading skills.

Archaic Text	Non-linear Time Structure	Complexity of Narrator	Complexity of Plot	Resistant Text
“The Monsters Are Due on Maple Street” “All Summer in a Day” <i>Spooked!</i>	“Names/Nombres” <i>A Long Walk to Water</i> <i>Refugee</i>	“Thank You, Ma’am” <i>A Long Walk to Water</i> <i>Refugee</i> <i>Heart of a Samurai</i>	“The Monsters Are Due on Maple Street” “Names/Nombres”	<i>Home of the Brave</i> <i>Heart of a Samurai</i>



Bold indicates explicit instruction related to the standard

Reading Literature		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RL.6.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	X		X		X	X
RL.6.2	Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.	X		X		X	X
RL.6.3	Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.	X		X		X	X
RL.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.	X		X			
RL.6.5	Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.			X		X	X
RL.6.6	Explain how an author develops the point of view of the narrator or speaker in a text.	X		X		X	X
RL.6.7	Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.				X		
RL.6.9	Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.			X			
RL.6.10	By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	*	*	*	*	*	*
Reading Informational		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.6.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		X	X	X	X	X
RI.6.2	Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.		X	X	X	X	X
RI.6.3	Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).		X		X		



		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.		X		X		
RI.6.5	Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.		X		X		
RI.6.6	Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.		X	X	X	X	X
RI.6.7	Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.				X		
RI.6.8	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.				X		
RI.6.9	Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).		X		X		
RI.6.10	By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.		*	*	*	*	*
Language		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
L.6.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	X		X	X		X
L.6.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	X	X			X	X
L.6.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.	*	*	*	*	X	*
L.6.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.	X	X	X	X	X	X
L.6.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	X	X	X	X	X	X
L.6.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.	X	X	X	X	X	X



Writing	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
W.6.1 Write arguments to support claims with clear reasons and relevant evidence.				X		X
W.6.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.					X	
W.6.3 Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.		X	X			
W.6.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)	X	X	X	X	X	X
W.6.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 6 here.)		X	X	X	X	X
W.6.6 Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.		X	X			X
W.6.7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.					X	
W.6.8 Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.				X	X	
W.6.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.	X	*	*	*	*	X
W.6.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	X	X	X
Speaking and Listening	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
SL.6.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.	X	X	X	X	X	X



SL.6.2	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	X	X		X		X		X
SL.6.3	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.		X						
SL.6.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.						X		X
SL.6.5	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.								X
SL.6.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 for specific expectations.)	X	X			X		X	X

* indicates standards that are developed over the course of the year through all reading and writing tasks.



	6 th Grade	7 th Grade	8 th Grade
Week 1	LS: Short Stories	LS: Short Stories	LS: Short Stories
Week 2	W: CR	W: CR	W: CR
Week 3			
Week 4	LS: <i>A Long Walk to Water</i>	LS: <i>I am Malala</i>	LS: <i>Chew on This</i>
Week 5	W: personal narrative	W: informational/research	W: argument
Week 6			
Week 7			
Week 8			
Week 9	Interim 1		
Week 10	LS: <i>Home of the Brave</i>	LS: <i>The Outsiders</i>	
Week 11	W: poetry	W: personal narrative	
Week 12			LS: <i>Chains</i>
Week 13			W: historical narrative
Week 14			
Week 15	LS: <i>Spooked!</i>	LS: <i>Hitler Youth</i>	
Week 16	W: argument	W: argument	
Week 17			
Week 18	Interim 2		
Week 19			LS: excerpts from
Week 20			<i>Narrative of the Life of Frederick Douglass</i>
Week 21	LS: <i>Heart of a Samurai</i>	LS: <i>The Diary of Anne Frank</i>	W: informational/research
Week 22	W: informational/research	W: drama	
Week 23		LS: <i>Brown Girl Dreaming</i>	LS: <i>Animal Farm</i>
Week 24		W: poetry	W: satire
Week 25			
Week 26			
Week 27	LS: <i>Refugee</i>		
Week 28	W: argument/literary analysis		
Week 29		LS: <i>The Giver</i>	
Week 30		W: argument/literary analysis	LS: <i>A Midsummer Night's Dream</i>
Week 31			W: sonnet
Week 32			
Week 33			
Week 34			

Yearlong Focus	What makes me the person that I am?
Unit 1 LS: Short Stories W: Constructed Response	How do I respond to a moral dilemma in my own life? How do authors craft their stories to develop the protagonist's sense of self?
Unit 2 LS: <i>I Am Malala</i> W: Informational/Research	What drives me to overcome adversity? How do my choices impact my life and the lives of others? How does the author develop her central ideas about education and standing up for what you believe in?
Unit 3 LS: <i>The Outsiders</i> W: Personal Narrative	How do the groups I belong to impact my identity? Do the groups I belong to influence my choices? How does the author use the main character's perspective to develop the idea that everyone should think for themselves?
Unit 4 LS: <i>Hitler Youth</i> W: Argument	How can information and images shape the way I think about myself or someone else? What makes a person go along with the crowd, even if they know it's wrong? How does the author support the argument that conformity can be dangerous?
Unit 5 LS: <i>The Diary of Anne Frank</i> W: Drama	How do world events help me understand the person that I want to become? How do the authors combine historical facts with narrative elements to develop the story?
Unit 6 LS: <i>Brown Girl Dreaming</i> W: Poetry	How does my environment influence my sense of belonging? How does my environment influence my sense of self? How does the author's approach to the topic contribute to the development of the theme?
Unit 7 LS: <i>The Giver</i> W: Argument/Literary Analysis	To what extent is everyone's path in life pre-determined? How do my experiences, both good and bad, shape the person that I am? How does the author create a setting that allows me to understand the idea that everyone needs to think for themselves?

Writing Units and Rounds						
Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	
Informational/Research	Personal Narrative	Argument	Drama	Poetry	Literary Analysis	
Research Questions Infographic Informational Article	6-Word Memoir Exploded Moment Narrative	Claims Argument Essay	Scene from Life Storyboard Multi-Scene Drama	Self-Portrait poem First Memory Poem Surroundings Poem	Evaluation Comparison Graphic Goodreads Review	



Why are these texts worth reading?

All students need to engage with texts that provide entry into discussion of compelling themes. Students need access and regular opportunities to work with a wide range of texts that are authentic and of varying complexity, structure, and genre.

The texts selected for 7th grade provide students with ample opportunity to debate and discuss the overarching theme of **Identity**. As students grapple with learning their own place in the world, it is important for them to have a wide variety of reading experiences featuring young people grappling with the same issue. Each of the chosen texts provides a unique look at one or more factors that play a role in determining the people we become. The core texts for 7th grade are:

Short Stories	Nonfiction Text	Drama/Poetry/Narrative Text
“Harrison Bergeron” by Kurt Vonnegut	<i>I Am Malala</i> by Malala Yousafzai and Christina	<i>The Diary of Anne Frank</i> by Albert Hackett and
“Flowers for Algernon” by Daniel Keyes	Lamb	Frances Goodrich
“After Twenty Years” by O. Henry	<i>Hitler Youth</i> by Susan Campbell Bartoletti	<i>The Outsiders</i> by S.E. Hinton
“The Lottery” by Shirley Jackson		<i>Brown Girl Dreaming</i> by Jacqueline Woodson
		<i>The Giver</i> by Lois Lowry

What makes these texts complex?

In *Reading Reconsidered*, Doug Lemov et al. lay out five plagues of reading that make texts complex. They argue that students must engage with these plagues in order to be prepared for attacking even more complex reading in high school and beyond.

1. Archaic Text – includes vocabulary, syntax, usage, and context for cultural reference that are over 50 years old. Stylistic differences make the text difficult for students to understand.
2. Non-linear Time Structure – time moves within the text in “fits and starts”. The story does not progress seamlessly from one moment to the next.
3. Complexity of Narrator – unreliable narrator, multiple narrators, non-human narrators, multiple plot lines
4. Complexity of Plot – texts that happen on a symbolic or allegorical level
5. Resistant Text – meaning has to be assembled around nuances, hints, uncertainties, and clues

The core texts selected for 7th grade provide students with an opportunity to struggle with the plagues to sharpen their critical thinking and reading skills.

Archaic Text	Non-linear Time Structure	Complexity of Narrator	Complexity of Plot	Resistant Text
“Harrison Bergeron” “After Twenty Years” “The Lottery”	<i>I Am Malala</i> <i>The Outsiders</i> <i>The Diary of Anne Frank</i>	“Flowers for Algernon” <i>Brown Girl Dreaming</i> <i>Hitler Youth</i> <i>The Diary of Anne Frank</i>	“Harrison Bergeron” “The Lottery” <i>The Giver</i>	<i>The Diary of Anne Frank</i> <i>Brown Girl Dreaming</i>



Bold indicates explicit instruction related to the standard.

Reading Literature	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
RL.7.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	X		X	X	X	X	X
RL.7.2 Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.	X		X	X	X	X	X
RL.7.3 Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).	X		X		X	X	X
RL.7.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.	X		X	X		X	X
RL.7.5 Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.			X		X	X	X
RL.7.6 Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.	X		X				X
RL.7.7 Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).					X		
RL.7.9 Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.					X		
RL.7.10 By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	*		*	*	*	*	*
Reading Informational	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
RI.7.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		X	X	X	X	X	X
RI.7.2 Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.		X	X		X	X	X
RI.7.3 Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).		X		X			



Writing	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
W.7.1				X			X
W.7.2		X					X
W.7.3			X		X	X	
W.7.4	X	X	X	X	X	X	X
W.7.5		X	X	X	X	X	X
W.7.6			X			X	X
W.7.7		X		X			
W.7.8		X		X			
W.7.9	X	*	*	*	*	*	X
W.7.10	X	X	X	X	X	X	X
Speaking and Listening							
SL.7.1	X	X	X	X	X	X	X



SL.7.2	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.	X	X	X	X	X	X		
SL.7.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.				X				
SL.7.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.		X			X			X
SL.7.5	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.		X				X		X
SL.7.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 here for specific expectations.)		X			X		X	X

* indicates standards that are developed over the course of the year through all reading and writing tasks.



	6 th Grade	7 th Grade	8 th Grade
Week 1	LS: Short Stories	LS: Short Stories	LS: Short Stories
Week 2	W: CR	W: CR	W: CR
Week 3			
Week 4	LS: <i>A Long Walk to Water</i>	LS: <i>I am Malala</i>	LS: <i>Chew on This</i>
Week 5	W: personal narrative	W: informational/research	W: argument
Week 6			
Week 7			
Week 8			
Week 9	Interim 1		
Week 10	LS: <i>Home of the Brave</i>	LS: <i>The Outsiders</i>	
Week 11	W: poetry	W: personal narrative	
Week 12			LS: <i>Chains</i>
Week 13			W: historical narrative
Week 14			
Week 15	LS: <i>Spooked!</i>	LS: <i>Hitler Youth</i>	
Week 16	W: argument	W: argument	
Week 17			
Week 18	Interim 2		
Week 19			LS: excerpts from
Week 20			<i>Narrative of the Life of Frederick Douglass</i>
Week 21	LS: <i>Heart of a Samurai</i>	LS: <i>The Diary of Anne Frank</i>	W: informational/research
Week 22	W: informational/research	W: drama	
Week 23		LS: <i>Brown Girl Dreaming</i>	LS: <i>Animal Farm</i>
Week 24		W: poetry	W: satire
Week 25			
Week 26			
Week 27	LS: <i>Refugee</i>		
Week 28	W: argument/literary analysis		
Week 29		LS: <i>The Giver</i>	
Week 30		W: argument/literary analysis	LS: <i>A Midsummer Night's Dream</i>
Week 31			W: sonnet
Week 32			
Week 33			
Week 34			

Yearlong Focus	How much control do I have over my own life?
Unit 1 LS: Short Stories W: Constructed Response	What happens when people refuse to take responsibility for their actions? How do authors craft their stories to illustrate the control a main character has over a situation?
Unit 2 LS: <i>Chew on This</i> W: Argument	How do information and images consciously or subconsciously influence the choices I make? How does being informed allow me to make a better choice? How does the author make and support the argument that large corporations mislead children and young adults to make money?
Unit 3 LS: <i>Chains</i> W: Historical Narrative	When is it important to take action regardless of the consequences? At what point do I decide to take control of my own situation? How do the varying character perspectives influence the mood and tone for the reader?
Unit 4 LS: excerpts from <i>The Narrative of the Life of Frederick Douglass</i> W: Informational/Research	How does limiting the education of some benefit those in power? To what extent does the past determine your future? How does the author use word choice and paragraph structure to develop his central idea and purpose?
Unit 5 LS: <i>Animal Farm</i> W: Satire	How can the manipulation of power and control influence the lives of others? How do those in power acquire, maintain, and grow their power? How does the author use character types from traditional stories to develop the theme?
Unit 6 LS: <i>A Midsummer Night's Dream</i> W: Poetry	What motivates people to try to control each other's actions? How is Shakespeare's theme still relevant today? How does the author's use of both humans and magical creatures contribute to my understanding of the play?

Writing Units and Rounds					
Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	
Argument	Historical Narrative	Informational/Research	Satire	Poetry	
Claim Tweet	Character Profile	Evaluate Sources	Satirical Cartoon	Rhyming Couplet	
Infographic	Journal Entry	Guide to...	Song Parody	Quatrain	
Editorial	3-Segment Historical Narrative		Children's Book Satire	Shakespearean Sonnet	
Group Video Essay					

Why are these texts worth reading?

All students need to engage with texts that provide entry into discussion of compelling themes. Students need access and regular opportunities to work with a wide range of texts that are authentic and of varying complexity, structure, and genre.

The texts selected for 8th grade provide students with ample opportunity to debate and discuss the overarching theme of **Control**. As students begin to make sense of how much control they have over their own lives through the choices and opportunities they are presented, it is important for them to have a wide variety of reading experiences exploring the issue through various contexts. Each of the chosen texts provides a unique look at the way control is offered or withheld from and by specific groups of people. The core texts for 8th grade are:

Short Stories	Nonfiction Text	Drama/Poetry/Narrative Text
“The Monkey’s Paw” by W.W. Jacobs	<i>Chew on This</i> by Eric Schlosser & Charles Wilson	<i>Chains</i> by Laurie Halse Anderson
“A Sound of Thunder” by Ray Bradbury	excerpts from <i>The Narrative of the Life of Frederick Douglass</i> by Frederick Douglass	<i>Animal Farm</i> by George Orwell
“The Tell-Tale Heart” by Edgar Allan Poe		<i>A Midsummer Night’s Dream</i> by William Shakespeare
“Charles” by Shirley Jackson		

What makes these texts complex?

In *Reading Reconsidered*, Doug Lemov et al. lay out five plagues of reading that make texts complex. They argue that students must engage with these plagues in order to be prepared for attacking even more complex reading in high school and beyond.

1. Archaic Text – includes vocabulary, syntax, usage, and context for cultural reference that are over 50 years old. Stylistic differences make the text difficult for students to understand.
2. Non-linear Time Structure – time moves within the text in “fits and starts”. The story does not progress seamlessly from one moment to the next.
3. Complexity of Narrator – unreliable narrator, multiple narrators, non-human narrators, multiple plot lines
4. Complexity of Plot – texts that happen on a symbolic or allegorical level
5. Resistant Text – meaning has to be assembled around nuances, hints, uncertainties, and clues

The core texts selected for 8th grade provide students with an opportunity to struggle with the plagues to sharpen their critical thinking and reading skills.

Archaic Text	Non-linear Time Structure	Complexity of Narrator	Complexity of Plot	Resistant Text
“The Tell-Tale Heart” excerpts from <i>The Narrative of the Life of Frederick Douglass</i> <i>Animal Farm</i> <i>A Midsummer Night’s Dream</i>	“A Sound of Thunder” <i>Chew on This</i>	“The Tell-Tale Heart” “Charles” <i>Animal Farm</i> <i>A Midsummer Night’s Dream</i>	“A Sound of Thunder” <i>Animal Farm</i>	“Charles” “A Sound of Thunder” <i>Chains</i> <i>Animal Farm</i> <i>A Midsummer Night’s Dream</i>



Reading Literature	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RL.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.	X	X	X	X	X	X
RL.8.2 Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.	X	X	X	X	X	X
RL.8.3 Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.	X		X		X	X
RL.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	X		X		X	X
RL.8.5 Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.			X		X	X
RL.8.6 Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.	X		X			X
RL.8.7 Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.						X
RL.8.9 Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.					X	
RL.8.10 By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	*	*	*	*	*	*
Reading Informational	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
RI.8.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		X	X	X	X	X
RI.8.2 Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.		X	X	X	X	X
RI.8.3 Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).				X		



Writing	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
W.8.1 Write arguments to support claims with clear reasons and relevant evidence.		X				
W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.				X		
W.8.3 Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.			X		X	X
W.8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)	X	X	X	X	X	X
W.8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 7 here.)		X	X	X	X	X
W.8.6 Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.		X				X
W.8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.		X	X	X		
W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.		X	X	X		
W.8.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.	X	*	*	*	*	*
W.8.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	X	X	X	X	X	X



Speaking and Listening		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
SL.8.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.	X	X	X	X	X	X
SL.8.2	Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.	X	X	X	X	X	
SL.8.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.		X		X		
SL.8.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.				X		
SL.8.5	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.		X		X		
SL.8.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 for specific expectations.)		X	X	X	X	X

* Standards that are developed over the course of the year through all reading and writing tasks.



	6 th Grade	7 th Grade	8 th Grade
Week 1	LS: Short Stories	LS: Short Stories	LS: Short Stories
Week 2	W: CR	W: CR	W: CR
Week 3			
Week 4	LS: <i>A Long Walk to Water</i>	LS: <i>I am Malala</i>	LS: <i>Chew on This</i>
Week 5	W: personal narrative	W: informational/research	W: argument
Week 6			
Week 7			
Week 8			
Week 9	Interim 1		
Week 10	LS: <i>Home of the Brave</i>	LS: <i>The Outsiders</i>	
Week 11	W: poetry	W: personal narrative	
Week 12			LS: <i>Chains</i>
Week 13			W: historical narrative
Week 14			
Week 15	LS: <i>Spooked!</i>	LS: <i>Hitler Youth</i>	
Week 16	W: argument	W: argument	
Week 17			
Week 18	Interim 2		
Week 19			LS: excerpts from <i>Narrative of the Life of Frederick Douglass</i>
Week 20			W: informational/research
Week 21	LS: <i>Heart of a Samurai</i>	LS: <i>The Diary of Anne Frank</i>	
Week 22	W: informational/research	W: drama	
Week 23			
Week 24		LS: <i>Brown Girl Dreaming</i>	LS: <i>Animal Farm</i>
Week 25		W: poetry	W: satire
Week 26			
Week 27	LS: <i>Refugee</i>		
Week 28	W: argument/literary analysis		
Week 29		LS: <i>The Giver</i>	
Week 30		W: argument/literary analysis	
Week 31			LS: <i>A Midsummer Night's Dream</i>
Week 32			W: sonnet
Week 33			
Week 34			

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Welcome

Welcome to the Michigan K-12 Standards for English Language Arts, adopted by the State Board of Education in 2010. With the reauthorization of the 2001 Elementary and Secondary Education Act (ESEA), commonly known as No Child Left Behind (NCLB), Michigan embarked on a standards revision process, starting with the K-8 mathematics and ELA standards that resulted in the Grade Level Content Expectations (GLCE). These were intended to lay the framework for the grade level testing in these subject areas required under NCLB. These were followed by GLCE for science and social studies, and by High School Content Expectations (HSCE) for all subject areas. Seven years later the revision cycle continued with Michigan working with other states to build on and refine current state standards that would allow states to work collaboratively to develop a repository of quality resources based on a common set of standards. These standards are the result of that collaboration.

Michigan's K-12 academic standards serve to outline learning expectations for Michigan's students and are intended to guide local curriculum development. Because these English Language Arts standards are shared with other states, local districts have access to a broad set of resources they can call upon as they develop their local curricula and assessments. State standards also serve as a platform for state-level assessments, which are used to measure how well schools are providing opportunities for all students to learn the content required to be career- and college-ready.

Linda Forward, Director,
Office of Education Improvement and Innovation

Vanessa Keesler, Deputy Superintendent,
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Key Design Considerations

CCR and grade-specific standards

The CCR standards anchor the document and define general, cross-disciplinary literacy expectations that must be met for students to be prepared to enter college and workforce training programs ready to succeed. The K-12 grade-specific standards define end-of-year expectations and a cumulative progression designed to enable students to meet college and career readiness expectations no later than the end of high school. The CCR and high school (grades 9–12) standards work in tandem to define the college and career readiness line—the former providing broad standards, the latter providing additional specificity. Hence, both should be considered when developing college and career readiness assessments.

Students advancing through the grades are expected to meet each year's grade-specific standards, retain or further develop skills and understandings mastered in preceding grades, and work steadily toward meeting the more general expectations described by the CCR standards.

Grade levels for K-8; grade bands for 9-10 and 11-12

The Standards use individual grade levels in kindergarten through grade 8 to provide useful specificity; the Standards use two-year bands in grades 9-12 to allow schools, districts, and states flexibility in high school course design.

A focus on results rather than means

By emphasizing required achievements, the Standards leave room for teachers, curriculum developers, and states to determine how those goals should be reached and what additional topics should be addressed. Thus, the Standards do not mandate such things as a particular writing process or the full range of metacognitive strategies that students may need to monitor and direct their thinking and learning. Teachers are thus free to provide students with whatever tools and knowledge their professional judgment and experience identify as most helpful for meeting the goals set out in the Standards.

An integrated model of literacy

Although the Standards are divided into Reading, Writing, Speaking and Listening, and Language strands for conceptual clarity, the processes of communication are closely connected, as reflected throughout this document. For example, Writing standard 9 requires that students be able to write about what they read. Likewise, Speaking and Listening standard 4 sets the expectation that students will share findings from their research.

Research and media skills blended into the Standards as a whole

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new. The need to conduct research and to produce and consume media is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

Shared responsibility for students' literacy development

The Standards insist that instruction in reading, writing, speaking, listening, and language be a shared responsibility within the school. The K-5 standards include expectations for reading, writing, speaking, listening, and language applicable to a range of subjects, including but not limited to ELA. The grades 6-12 standards are divided into two sections, one for ELA and the other for history/social studies, science, and technical subjects. This division reflects the unique, time-honored place of ELA teachers in developing students' literacy skills while at the same time recognizing that teachers in other areas must have a role in this development as well.

Part of the motivation behind the interdisciplinary approach to literacy promulgated by the Standards is extensive research establishing the need for college and career ready students to be proficient in reading complex informational text independently in a variety of content areas. Most of the required reading in college and workforce training programs is informational in structure and challenging in content; postsecondary education programs typically provide students with both a higher volume of such reading than is generally required in K-12 schools and comparatively little scaffolding.

The Standards are not alone in calling for a special emphasis on informational text. The 2009 reading framework of the National Assessment of Educational Progress (NAEP) requires a high and increasing proportion of informational text on its assessment as students advance through the grades.

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

Grade	Literary	Informational
4	50%	50%
8	45%	55%
12	30%	70%

Source: National Assessment Governing Board. (2008). *Reading Framework for the 2009 National Assessment of Educational Progress*. Washington, DC: U.S. Government Printing Office.

The Standards aim to align instruction with this framework so that many more students than at present can meet the requirements of college and career readiness. In K–5, the Standards follow NAEP’s lead in balancing the reading of literature with the reading of informational texts, including texts in history/social studies, science, and technical subjects. In accord with NAEP’s growing emphasis on informational texts in the higher grades, the Standards demand that a significant amount of reading of informational texts take place in and outside the ELA classroom. Fulfilling the Standards for 6–12 ELA requires much greater attention to a specific category of informational text—literary nonfiction—than has been traditional. Because the ELA classroom must focus on literature (stories, drama, and poetry) as well as literary nonfiction, a great deal of informational reading in grades 6–12 must take place in other classes if the NAEP assessment framework is to be matched instructionally.¹ To measure students’ growth toward college and career readiness, assessments aligned with the Standards should adhere to the distribution of texts across grades cited in the NAEP framework.

NAEP likewise outlines a distribution across the grades of the core purposes and types of student writing. The 2011 NAEP framework, like the Standards, cultivates the development of three mutually reinforcing writing capacities: writing to persuade, to explain, and to convey real or imagined experience. Evidence concerning the demands of college and career readiness gathered during development of the Standards concurs with NAEP’s shifting emphases: standards for grades 9–12 describe writing in all three forms, but, consistent with NAEP, the overwhelming focus of writing throughout high school should be on arguments and informative/explanatory texts.²

¹The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.

²As with reading, the percentages in the table reflect the sum of student writing, not just writing in ELA settings.

Distribution of Communicative Purposes by Grade in the 2011 NAEP Writing Framework

Grade	To Persuade	To Explain	To Convey Experience
4	30%	35%	35%
8	35%	35%	30%
12	40%	40%	20%

Source: National Assessment Governing Board. (2007). *Writing Framework for the 2011 National Assessment of Educational Progress, pre-publication edition*. Iowa City, IA: ACT, Inc.

It follows that writing assessments aligned with the Standards should adhere to the distribution of writing purposes across grades outlined by NAEP.

Focus and coherence in instruction and assessment

While the Standards delineate specific expectations in reading, writing, speaking, listening, and language, each standard need not be a separate focus for instruction and assessment. Often, several standards can be addressed by a single rich task. For example, when editing writing, students address Writing standard 5 (“Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach”) as well as Language standards 1–3 (which deal with conventions of standard English and knowledge of language). When drawing evidence from literary and informational texts per Writing standard 9, students are also demonstrating their comprehension skill in relation to specific standards in Reading. When discussing something they have read or written, students are also demonstrating their speaking and listening skills. The CCR anchor standards themselves provide another source of focus and coherence.

The same ten CCR anchor standards for Reading apply to both literary and informational texts, including texts in history/social studies, science, and technical subjects. The ten CCR anchor standards for Writing cover numerous text types and subject areas. This means that students can develop mutually reinforcing skills and exhibit mastery of standards for reading and writing across a range of texts and classrooms.

What is Not Covered by the Standards

The Standards should be recognized for what they are not as well as what they are. The most important intentional design limitations are as follows:

1. The Standards define what all students are expected to know and be able to do, not how teachers should teach. For instance, the use of play with young children is not specified by the Standards, but it is welcome as a valuable activity in its own right and as a way to help students meet the expectations in this document. Furthermore, while the Standards make references to some particular forms of content, including mythology, foundational U.S. documents, and Shakespeare, they do not—indecid, cannot—enumerate all or even most of the content that students should learn. The Standards must therefore be complemented by a well-developed, content-rich curriculum consistent with the expectations laid out in this document.
2. While the Standards focus on what is most essential, they do not describe all that can or should be taught. A great deal is left to the discretion of teachers and curriculum developers. The aim of the Standards is to articulate the fundamentals, not to set out an exhaustive list or a set of restrictions that limits what can be taught beyond what is specified herein.
3. The Standards do not define the nature of advanced work for students who meet the Standards prior to the end of high school. For those students, advanced work in such areas as literature, composition, language, and journalism should be available. This work should provide the next logical step up from the college and career readiness baseline established here.
4. The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.
5. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-high school lives.

Each grade will include students who are still acquiring English. For those students, it is possible to meet the standards in reading, writing, speaking, and listening without displaying native-like control of conventions and vocabulary.

The Standards should also be read as allowing for the widest possible range of students to participate fully from the outset and as permitting appropriate accommodations to ensure maximum participation of students with special education needs. For example, for students with disabilities *reading* should allow for the use of Braille, screen-reader technology, or other assistive devices, while *writing* should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, *speaking* and *listening* should be interpreted broadly to include sign language.
6. While the ELA and content area literacy components described herein are critical to college and career readiness, they do not define the whole of such readiness. Students require a wide-ranging, rigorous academic preparation and, particularly in the early grades, attention to such matters as social, emotional, and physical development and approaches to learning. Similarly, the Standards define literacy expectations in history/social studies, science, and technical subjects, but literacy standards in other areas, such as mathematics and health education, modeled on those in this document are strongly encouraged to facilitate a comprehensive, schoolwide literacy program.

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, and Language

The descriptions that follow are not standards themselves but instead offer a portrait of students who meet the standards set out in this document. As students advance through the grades and master the standards in reading, writing, speaking, listening, and language, they are able to exhibit with increasing fullness and regularity these capacities of the literate individual.

They demonstrate independence.

Students can, without significant scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information. Likewise, students are able independently to discern a speaker's key points, request clarification, and ask relevant questions. They build on others' ideas, articulate their own ideas, and confirm they have been understood. Without prompting, they demonstrate command of standard English and acquire and use a wide-ranging vocabulary. More broadly, they become self-directed learners, effectively seeking out and using resources to assist them, including teachers, peers, and print and digital reference materials.

They build strong content knowledge.

Students establish a base of knowledge across a wide range of subject matter by engaging with works of quality and substance. They become proficient in new areas through research and study. They read purposefully and listen attentively to gain both general knowledge and discipline-specific expertise. They refine and share their knowledge through writing and speaking.

They respond to the varying demands of audience, task, purpose, and discipline.

Students adapt their communication in relation to audience, task, purpose, and discipline. They set and adjust purpose for reading, writing, speaking, listening, and language use as warranted by the task. They appreciate nuances, such as how the composition of an audience should affect tone when speaking and how the connotations of words affect meaning. They also know that different disciplines call for different types of evidence (e.g., documentary evidence in history, experimental evidence in science).

They comprehend as well as critique.

Students are engaged and open-minded—but discerning—readers and listeners. They work diligently to understand precisely what an author or speaker is saying, but they also question an author's or speaker's assumptions and premises and assess the veracity of claims and the soundness of reasoning.

They value evidence.

Students cite specific evidence when offering an oral or written interpretation of a text. They use relevant evidence when supporting their own points in writing and speaking, making their reasoning clear to the reader or listener, and they constructively evaluate others' use of evidence.

They use technology and digital media strategically and capably.

Students employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use. They tailor their searches online to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of various technological tools and mediums and can select and use those best suited to their communication goals.

They come to understand other perspectives and cultures.

Students appreciate that the twenty-first-century classroom and workplace are settings in which people from often widely divergent cultures and who represent diverse experiences and perspectives must learn and work together. Students actively seek to understand other perspectives and cultures through reading and listening, and they are able to communicate effectively with people of varied backgrounds. They evaluate other points of view critically and constructively. Through reading great classic and contemporary works of literature representative of a variety of periods, cultures, and worldviews, students can vicariously inhabit worlds and have experiences much different than their own.

How to Read This Document

Overall Document Organization

The Standards comprise three main sections: a comprehensive K–5 section and two content area-specific sections for grades 6–12, one for ELA and one for history/social studies, science, and technical subjects. Three appendices accompany the main document.

Each section is divided into strands. K–5 and 6–12 ELA have Reading, Writing, Speaking and Listening, and Language strands; the 6–12 history/ social studies, science, and technical subjects section focuses on Reading and Writing. Each strand is headed by a strand-specific set of College and Career Readiness Anchor Standards that is identical across all grades and content areas.

Standards for each grade within K–8 and for grades 9–10 and 11–12 follow the CCR anchor standards in each strand. Each grade-specific standard (as these standards are collectively referred to) corresponds to the same-numbered CCR anchor standard. Put another way, each CCR anchor standard has an accompanying grade-specific standard translating the broader CCR statement into grade-appropriate end-of-year expectations.

Individual CCR anchor standards can be identified by their strand, CCR status, and number (R.CCR.6, for example). Individual grade-specific standards can be identified by their strand, grade, and number (or number and letter, where applicable), so that RI.4.3, for example, stands for Reading, Informational Text, grade 4, standard 3 and W.5.1a stands for Writing, grade 5, standard 1a. Strand designations can be found in brackets alongside the full strand title.

Who is responsible for which portion of the Standards

A single K–5 section lists standards for reading, writing, speaking, listening, and language across the curriculum, reflecting the fact that most or all of the instruction students in these grades receive comes from one teacher. Grades 6–12 are covered in two content area-specific sections, the first for the English language arts teacher and the second for teachers of history/social studies, science, and technical subjects. Each section uses the same CCR anchor standards but also includes grade-specific standards tuned to the literacy requirements of the particular discipline(s).

Key Features of the Standards

Reading: Text complexity and the growth of comprehension

The Reading standards place equal emphasis on the sophistication of what students read and the skill with which they read. Standard 10 defines a grade-by-grade “staircase” of increasing text complexity that rises from beginning reading

to the college and career readiness level. Whatever they are reading, students must also show a steadily growing ability to discern more from and make fuller use of text, including making an increasing number of connections among ideas and between texts, considering a wider range of textual evidence, and becoming more sensitive to inconsistencies, ambiguities, and poor reasoning in texts.

Writing: Text types, responding to reading, and research

The Standards acknowledge the fact that whereas some writing skills, such as the ability to plan, revise, edit, and publish, are applicable to many types of writing, other skills are more properly defined in terms of specific writing types: arguments, informative/explanatory texts, and narratives. Standard 9 stresses the importance of the writing-reading connection by requiring students to draw upon and write about evidence from literary and informational texts. Because of the centrality of writing to most forms of inquiry, research standards are prominently included in this strand, though skills important to research are infused throughout the document.

Speaking and Listening: Flexible communication and collaboration

Including but not limited to skills necessary for formal presentations, the Speaking and Listening standards require students to develop a range of broadly useful oral communication and interpersonal skills. Students must learn to work together, express and listen carefully to ideas, integrate information from oral, visual, quantitative, and media sources, evaluate what they hear, use media and visual displays strategically to help achieve communicative purposes, and adapt speech to context and task.

Language: Conventions, effective use, and vocabulary

The Language standards include the essential “rules” of standard written and spoken English, but they also approach language as a matter of craft and informed choice among alternatives. The vocabulary standards focus on understanding words and phrases, their relationships, and their nuances and on acquiring new vocabulary, particularly general academic and domain-specific words and phrases.

Appendices A, B, and C

Appendix A contains supplementary material on reading, writing, speaking and listening, and language as well as a glossary of key terms. Appendix B consists of text exemplars illustrating the complexity, quality, and range of reading appropriate for various grade levels with accompanying sample performance tasks. Appendix C includes annotated samples demonstrating at least adequate performance in student writing at various grade levels.



STANDARDS FOR

**English Language Arts
&
Literacy in History/Social Studies,
Science, and Technical Subjects**

K-5

College and Career Readiness Anchor Standards for Reading

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

Note on range and content of student reading

To build a foundation for college and career readiness, students must read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts. Through extensive reading of stories, dramas, poems, and myths from diverse cultures and different time periods, students gain literary and cultural knowledge as well as familiarity with various text structures and elements. By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades. Students also acquire the habits of reading independently and closely, which are essential to their future success.

*Please see “Research to Build and Present Knowledge” in Writing and “Comprehension and Collaboration” in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Reading Standards for Literature K-5

RL

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:

Key Ideas and Details

1. With prompting and support, ask and answer questions about key details in a text.
2. With prompting and support, retell familiar stories, including key details.
3. With prompting and support, identify characters, settings, and major events in a story.

Craft and Structure

4. Ask and answer questions about unknown words in a text.
5. Recognize common types of texts (e.g., storybooks, poems).
6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.

Integration of Knowledge and Ideas

7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
8. (Not applicable to literature)
9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories.

Range of Reading and Level of Text Complexity

10. Actively engage in group reading activities with purpose and understanding.

Grade 1 students:

1. Ask and answer questions about key details in a text.
2. Retell stories, including key details, and demonstrate understanding of their central message or lesson.
3. Describe characters, settings, and major events in a story, using key details.

Grade 2 students:

1. Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.
3. Describe how characters in a story respond to major events and challenges.

Grade 3 students:

4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.
5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.
6. Identify who is telling the story at various points in a text.

Grade 4 students:

7. Use illustrations and details in a story to describe its characters, setting, or events.
8. (Not applicable to literature)
9. Compare and contrast the adventures and experiences of characters in stories.

Grade 5 students:

10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Literature K-5

RL

Grade 3 students:

Key Ideas and Details

1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.
3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
6. Distinguish their own point of view from that of the narrator or those of the characters.

Integration of Knowledge and Ideas

7. Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).
8. (Not applicable to literature)
9. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2-3 text complexity band independently and proficiently.

Grade 4 students:

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.
3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).

4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).

5. Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.

6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

7. Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.

8. (Not applicable to literature)

9. Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 5 students:

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.

3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.

6. Describe how a narrator's or speaker's point of view influences how events are described.

7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).

8. (Not applicable to literature)

9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4-5 text complexity band independently and proficiently.

Reading Standards for Informational Text K-5

RI

Kindergartners:

Key Ideas and Details

1. With prompting and support, ask and answer questions about key details in a text.
2. With prompting and support, identify the main topic and retell key details of a text.
3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.

Craft and Structure

4. With prompting and support, ask and answer questions about unknown words in a text.
5. Identify the front cover, back cover, and title page of a book.
6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.

Integration of Knowledge and Ideas

7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
8. With prompting and support, identify the reasons an author gives to support points in a text.
9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Range of Reading and Level of Text Complexity

10. Actively engage in group reading activities with purpose and understanding.

Grade 1 students:

1. Ask and answer questions about key details in a text.
2. Identify the main topic and retell key details of a text.
3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.

4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.

Integration of Knowledge and Ideas

7. Use the illustrations and details in a text to describe its key ideas.
8. Identify the reasons an author gives to support points in a text.
9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).

Grade 2 students:

1. Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
2. Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text relevant to a *grade 2 topic or subject area*.
5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

Integration of Knowledge and Ideas

7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
8. Describe how reasons support specific points the author makes in a text.
9. Compare and contrast the most important points presented by two texts on the same topic.

Range of Reading and Level of Text Complexity

10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Informational Text K-5

RI

Grade 3 students:

Key Ideas and Details

1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2. Determine the main idea of a text; recount the key details and explain how they support the main idea.
3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

Craft and Structure

4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 3 topic or subject area*.
5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
6. Distinguish their own point of view from that of the author of a text.

Integration of Knowledge and Ideas

7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).
9. Compare and contrast the most important points and key details presented in two texts on the same topic.

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently.

Grade 4 students:

1. Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.
3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.
5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.
6. Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.

7. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

8. Explain how an author uses reasons and evidence to support particular points in a text.

9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 5 students:

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.

5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.

6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

8. Explain how an author uses reasons and evidence to support particular points in a text; identifying which reasons and evidence support which point(s).

9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently.

Reading Standards: Foundational Skills (K-5)

RF

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

Note: *In kindergarten, children are expected to demonstrate increasing awareness and competence in the areas that follow.*

Kindergartners:

Print Concepts

1. Demonstrate understanding of the organization and basic features of print.
 - a. Follow words from left to right, top to bottom, and page by page.
 - b. Recognize that spoken words are represented in written language by specific sequences of letters.
 - c. Understand that words are separated by spaces in print.
 - d. Recognize and name all upper- and lowercase letters of the alphabet.

Phonological Awareness

2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
 - a. Recognize and produce rhyming words.
 - b. Count, pronounce, blend, and segment syllables in spoken words.
 - c. Blend and segment onsets and rimes of single-syllable spoken words.
 - d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.* (This does not include CVCs ending with /l/, /r/, or /x/.)
 - e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

Grade 1 students:

1. Demonstrate understanding of the organization and basic features of print.
 - a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).
2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
 - a. Distinguish long from short vowel sounds in spoken single-syllable words.
 - b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
 - c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.
 - d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).

*Words, syllables, or phonemes written in /slashes/refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

Reading Standards: Foundational Skills (K-5)

RF

Note: In kindergarten children are expected to demonstrate increasing awareness and competence in the areas that follow.

Kindergartners: Phonics and Word Recognition

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant.
 - b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels.
 - c. Read common high-frequency words by sight (e.g., *the, of, to, you, she, my, is, are, do, does*).
 - d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

Grade 1 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Know the spelling-sound correspondences for common consonant digraphs.
 - b. Decode regularly spelled one-syllable words.
 - c. Know final -e and common vowel team conventions for representing long vowel sounds.
 - d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word.
 - e. Decode two-syllable words following basic patterns by breaking the words into syllables.
 - f. Read words with inflectional endings.
 - g. Recognize and read grade-appropriate irregularly spelled words.

Grade 2 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Distinguish long and short vowels when reading regularly spelled one-syllable words.
 - b. Know spelling-sound correspondences for additional common vowel teams.
 - c. Decode regularly spelled two-syllable words with long vowels.
 - d. Decode words with common prefixes and suffixes.
 - e. Identify words with inconsistent but common spelling-sound correspondences.
 - f. Recognize and read grade-appropriate irregularly spelled words.

Fluency

4. Read emergent-reader texts with purpose and understanding.
 - a. Read with sufficient accuracy and fluency to support comprehension.
 - b. Read grade-level text with purpose and understanding.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
4. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
4. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level text orally with accuracy, appropriate rate, and expression on successive readings.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Reading Standards: Foundational Skills (K-5)

RF

Grade 3 students:

Phonics and Word Recognition

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Identify and know the meaning of the most common prefixes and derivational suffixes.
 - b. Decode words with common Latin suffixes.
 - c. Decode multisyllable words.
 - d. Read grade-appropriate irregularly spelled words.

Grade 4 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

Grade 5 students:

3. Know and apply grade-level phonics and word analysis skills in decoding words.
 - a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

Fluency

4. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

4. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

4. Read with sufficient accuracy and fluency to support comprehension.
 - a. Read grade-level text with purpose and understanding.
 - b. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
 - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

College and Career Readiness Anchor Standards for Writing

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Note on range and content of student writing

To build a foundation for college and career readiness, students need to learn to use writing as a way of offering and supporting opinions, demonstrating understanding of the subjects they are studying, and conveying real and imagined experiences and events. They learn to appreciate that a key purpose of writing is to communicate clearly to an external, sometimes unfamiliar audience, and they begin to adapt the form and content of their writing to accomplish a particular task and purpose. They develop the capacity to build knowledge on a subject through research projects and to respond analytically to literary and informational sources. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and extended time frames throughout the year.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Writing Standards K-5

W

The following standards for K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

Kindergartners: Text Types and Purposes

1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., *My favorite book is . . .*).
2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

Grade 1 students:

1. Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure.
2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.
3. Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

Grade 2 students:

1. Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because, and, also*) to connect opinion and reasons, and provide a concluding statement or section.
2. Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.
3. Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure.

Production and Distribution of Writing

4. (Begins in grade 3)
5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.
6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

4. (Begins in grade 3)
5. With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

4. (Begins in grade 3)
5. With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.
6. With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Research to Build and Present Knowledge

7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
9. (Begins in grade 4)

7. Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).
8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
9. (Begins in grade 4)

7. Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
8. Recall information from experiences or gather information from provided sources to answer a question.
9. (Begins in grade 4)

Range of Writing

10. (Begins in grade 3)

10. (Begins in grade 3)

10. (Begins in grade 3)

Writing Standards K-5

W

Grade 3 students:

Text Types and Purposes

1. Write opinion pieces on topics or texts, supporting a point of view with reasons.
 - a. Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons.
 - b. Provide reasons that support the opinion.
 - c. Use linking words and phrases (e.g., *because*, *therefore*, *since*, *for example*) to connect opinion and reasons.
 - d. Provide a concluding statement or section.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, and details.
 - c. Use linking words and phrases (e.g., *also*, *another*, *and*, *more*, *but*) to connect ideas within categories of information.
 - d. Provide a concluding statement or section.

Grade 4 students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
 - b. Provide reasons that are supported by facts and details.
 - c. Link opinion and reasons using words and phrases (e.g., *for instance*, *in order to*, *in addition*).
 - d. Provide a concluding statement or section related to the opinion presented.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
 - c. Link ideas within categories of information using words and phrases (e.g., *another*, *for example*, *also*, *because*).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.

Grade 5 students:

1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
 - a. Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
 - b. Provide logically ordered reasons that are supported by facts and details.
 - c. Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*).
 - d. Provide a concluding statement or section related to the opinion presented.
2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
 - a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
 - b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
 - c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast*, *especially*).
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Provide a concluding statement or section related to the information or explanation presented.
3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.
 - c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events or show the response of characters to situations.
 - c. Use temporal words and phrases to signal event order.
 - d. Provide a sense of closure.

3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.
 - a. Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
 - b. Use dialogue and description to develop experiences and events or show the responses of characters to situations.
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 - c. Use a variety of transitional words, phrases, and clauses to manage the sequence of events.
 - d. Use concrete words and phrases and sensory details to convey experiences and events precisely.
 - e. Provide a conclusion that follows from the narrated experiences or events.

Writing Standards K-5

Grade 3 students:

Production and Distribution of Writing

4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 3 on page 29.)
6. With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.

Grade 4 students:

4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 4 on page 29.)
6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

Grade 5 students:

4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)
5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 5 on page 29.)
6. With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

Research to Build and Present Knowledge

7. Conduct short research projects that build knowledge about a topic.
8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
9. (Begins in grade 4)
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 4 Reading standards* to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions]").
 - b. Apply *grade 4 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 5 Reading standards* to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]").
 - b. Apply *grade 5 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text; identifying which reasons and evidence support which point[s]").
7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 5 Reading standards* to literature (e.g., "Compare and contrast two or more characters, settings, or events in a story or a drama, drawing on specific details in the text [e.g., how characters interact]").
 - b. Apply *grade 5 Reading standards* to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text; identifying which reasons and evidence support which point[s]").

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
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College and Career Readiness Anchor Standards for Speaking and Listening

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To build a foundation for college and career readiness, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner. Being productive members of these conversations requires that students contribute accurate, relevant information; respond to and develop what others have said; make comparisons and contrasts; and analyze and synthesize a multitude of ideas in various domains.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.

Speaking and Listening Standards K-5

SL

The following standards for K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Kindergartners:

Comprehension and Collaboration

1. Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).
 - b. Continue a conversation through multiple exchanges.
2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

Grade 1 students:

1. Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
 - b. Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
 - c. Ask questions to clear up any confusion about the topics and texts under discussion.
2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
3. Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

Grade 2 students:

1. Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups.
 - a. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
 - b. Build on others' talk in conversations by linking their comments to the remarks of others.
 - c. Ask for clarification and further explanation as needed about the topics and texts under discussion.
2. Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.
3. Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

Presentation of Knowledge and Ideas

4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
5. Add drawings or other visual displays to descriptions as desired to provide additional detail.
6. Speak audibly and express thoughts, feelings, and ideas clearly.
4. Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
5. Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
6. Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 on page 26 for specific expectations.)
4. Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.
5. Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
6. Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 2 Language standards 1 and 3 on page 26 for specific expectations.)

Speaking and Listening Standards K-5

SL

Grade 3 students:

Comprehension and Collaboration

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
 - c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
 - d. Explain their own ideas and understanding in light of the discussion.

Grade 4 students:

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
 - d. Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

Grade 5 students:

1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5 topics and texts*, building on others' ideas and expressing their own clearly.
 - a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
 - b. Follow agreed-upon rules for discussions and carry out assigned roles.
 - c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
 - d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Identify the reasons and evidence a speaker provides to support particular points.

2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas

4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
5. Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 on page 28 for specific expectations.)

4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 on page 28 for specific expectations.)

College and Career Readiness Anchor Standards for Language

The K-5 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Note on range and content of student language use

To build a foundation for college and career readiness in language, students must gain control over many conventions of standard English grammar, usage, and mechanics as well as learn other ways to use language to convey meaning effectively. They must also be able to determine or clarify the meaning of grade-appropriate words encountered through listening, reading, and media use; come to appreciate that words have nonliteral meanings, shadings of meaning, and relationships to other words; and expand their vocabulary in the course of studying content. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards K-5

The following standards for grades K-5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 30 for a complete list and Appendix A for an example of how these skills develop in sophistication.

Kindergartners: Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Print many upper- and lowercase letters.
 - b. Use frequently occurring nouns and verbs.
 - c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., *dog, dogs; wish, wishes*).
 - d. Understand and use question words (interrogatives) (e.g., *who, what, where, when, why, how*).
 - e. Use the most frequently occurring prepositions (e.g., *to, from, in, out, on, off, for, of, by, with*).
 - f. Produce and expand complete sentences in shared language activities.

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Print all upper- and lowercase letters.
 - b. Use common, proper, and possessive nouns.
 - c. Use singular and plural nouns with matching verbs in basic sentences (e.g., *He hops; We hop*).
 - d. Use personal, possessive, and indefinite pronouns (e.g., *I, me, my, they, them, their; anyone, everything*).
 - e. Use verbs to convey a sense of past, present, and future (e.g., *Yesterday I walked home; Today I walk home; Tomorrow I will walk home*).
 - f. Use frequently occurring adjectives.
 - g. Use frequently occurring conjunctions (e.g., *and, but, or, so, because*).
 - h. Use determiners (e.g., articles, demonstratives).
 - i. Use frequently occurring prepositions (e.g., *during, beyond, toward*).
 - j. Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts.

Grade 1 students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Use collective nouns (e.g., *group*).
 - b. Form and use frequently occurring irregular plural nouns (e.g., *feet, children, teeth, mice, fish*).
 - c. Use reflexive pronouns (e.g., *myself, ourselves*).
 - d. Form and use the past tense of frequently occurring irregular verbs (e.g., *sat, hid, told*).
 - e. Use adjectives and adverbs, and choose between them depending on what is to be modified.
 - f. Produce, expand, and rearrange complete simple and compound sentences (e.g., *The boy watched the movie; The little boy watched the movie; The action movie was watched by the little boy*).

Grade 2 students:

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Capitalize the first word in a sentence and the pronoun *I*.
 - b. Recognize and name end punctuation.
 - c. Write a letter or letters for most consonant and short-vowel sounds (phonemes).
 - d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Capitalize dates and names of people.
 - b. Use end punctuation for sentences.
 - c. Use commas in dates and to separate single words in a series.
 - d. Use conventional spelling for words with common spelling patterns and for frequently occurring irregular words.
 - e. Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Capitalize holidays, product names, and geographic names.
 - b. Use commas in greetings and closings of letters.
 - c. Use an apostrophe to form contractions and frequently occurring possessives.
 - d. Generalize learned spelling patterns when writing words (e.g., *cage* → *badge*; *boy* → *boil*).
 - e. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Language Standards K-5

L

Kindergartners: Knowledge of Language

3. (Begins in grade 2)

3. (Begins in grade 2)

Grade 1 students:

Grade 2 students:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*.
- Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* is a bird and learning the verb *to duck*).
 - Use the most frequently occurring inflections and affixes (e.g., -ed, -s, re-, un-, pre-, -ful, -less) as a clue to the meaning of an unknown word.

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 1 reading and content*, choosing flexibly from an array of strategies.
- Use sentence-level context as a clue to the meaning of a word or phrase.
 - Use frequently occurring affixes as a clue to the meaning of a word.
 - Identify frequently occurring root words (e.g., *look*) and their inflectional forms (e.g., *looks, looked, looking*).

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 2 reading and content*, choosing flexibly from an array of strategies.

- Use sentence-level context as a clue to the meaning of a word or phrase.
- Determine the meaning of the new word formed when a known prefix is added to a known word (e.g., *happy/unhappy, tell/retell*).
- Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *addition, additional*).
- Use knowledge of the meaning of individual words to predict the meaning of compound words (e.g., *birdhouse, lighthouse, housefly; bookshelf, notebook, bookmark*).
- Use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases.

5. With guidance and support from adults, explore word relationships and nuances in word meanings.
- Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.
 - Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms).
 - Identify real-life connections between words and their use (e.g., note places at school that are *colorful*).
 - Distinguish shades of meaning among verbs describing the same general action (e.g., *walk, march, strut, prance*) by acting out the meanings.

5. With guidance and support from adults, demonstrate understanding of word relationships and nuances in word meanings.
- Sort words into categories (e.g., colors, clothing) to gain a sense of the concepts the categories represent.
 - Define words by category and by one or more key attributes (e.g., a *duck* is a bird that swims; a *tiger* is a large cat with stripes).
 - Identify real-life connections between words and their use (e.g., note places at home that are *cozy*).
 - Distinguish shades of meaning among verbs differing in manner (e.g., *look, peek, glance, stare, glare, scowl*) and adjectives differing in intensity (e.g., *large, gigantic*) by defining or choosing them or by acting out the meanings.

5. Demonstrate understanding of word relationships and nuances in word meanings.
- Identify real-life connections between words and their use (e.g., describe foods that are *spicy* or *juicy*).
 - Distinguish shades of meaning among closely related verbs (e.g., *toss, throw, hurl*) and closely related adjectives (e.g., *thin, slender, skinny, scrawny*).

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*).

6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., *When other kids are happy that makes me happy*).

Language Standards K-5

L

Grade 3 students:

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their function in particular sentences.
 - b. Form and use regular and irregular plural nouns.
 - c. Use abstract nouns (e.g., *childhood*).
 - d. Form and use regular and irregular verbs.
 - e. Form and use the simple (e.g., *I walk*; *I will walk*) verb tenses.
 - f. Ensure subject-verb and pronoun-antecedent agreement.*
 - g. Form and use comparative and superlative adjectives and adverbs, and choose between them depending on what is to be modified.
 - h. Use coordinating and subordinating conjunctions.
 - i. Produce simple, compound, and complex sentences.

Grade 4 students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Use relative pronouns (*who, whose, whom, which, that*) and relative adverbs (*where, when, why*).
 - b. Form and use the progressive (e.g., *I was walking*; *I am walking*; *I will be walking*) verb tenses.
 - c. Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions.
 - d. Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).
 - e. Form and use prepositional phrases.
 - f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.*
 - g. Correctly use frequently confused words (e.g., *to, too, two; there, their*).*

Grade 5 students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.
 - b. Form and use the perfect (e.g., *I had walked*; *I have walked*; *I will have walked*) verb tenses.
 - c. Use verb tense to convey various times, sequences, states, and conditions.
 - d. Recognize and correct inappropriate shifts in verb tense.*
 - e. Use correlative conjunctions (e.g., *either/or, neither/nor*).
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use correct capitalization.
 - b. Use commas and quotation marks to mark direct speech and quotations from a text.
 - c. Use a comma before a coordinating conjunction in a compound sentence.
 - d. Spell grade-appropriate words correctly, consulting references as needed.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use punctuation to separate items in a series.*
 - b. Use a comma to separate an introductory element from the rest of the sentence.
 - c. Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
 - d. Use underlining, quotation marks, or italics to indicate titles of works.
 - e. Spell grade-appropriate words correctly, consulting references as needed.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Capitalize appropriate words in titles.
 - b. Use commas in addresses.
 - c. Use commas and quotation marks in dialogue.
 - d. Form and use possessives.
 - e. Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
 - f. Use spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.
 - g. Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Language Standards K-5

L

Grade 3 students:

Knowledge of Language

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Choose words and phrases for effect.*
 - b. Recognize and observe differences between the conventions of spoken and written standard English.
4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content*, choosing flexibly from a range of strategies.
 - a. Use sentence-level context as a clue to the meaning of a word or phrase.
 - b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat*).
 - c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*).
 - d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on *grade 3 reading and content*, choosing flexibly from a range of strategies.
 - a. Use sentence-level context as a clue to the meaning of a word or phrase.
 - b. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., *agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat*).
 - c. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., *company, companion*).
 - d. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

Grade 4 students:

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Choose words and phrases to convey ideas precisely.*
 - b. Choose punctuation for effect.*
 - c. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

5. Demonstrate understanding of word relationships and nuances in word meanings.
 - a. Distinguish the literal and nonliteral meanings of words and phrases in context (e.g., *take steps*).
 - b. Identify real-life connections between words and their use (e.g., describe people who are *friendly* or *helpful*).
 - c. Distinguish shades of meaning among related words that describe states of mind or degrees of certainty (e.g., *knew, believed, suspected, heard, wondered*).

6. Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships (e.g., *After dinner that night we went looking for them*).

Grade 5 students:

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
 - b. Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 5 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Interpret figurative language, including similes and metaphors, in context.
 - b. Recognize and explain the meaning of common idioms, adages, and proverbs.
 - c. Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).

Language Progressive Skills, by Grade

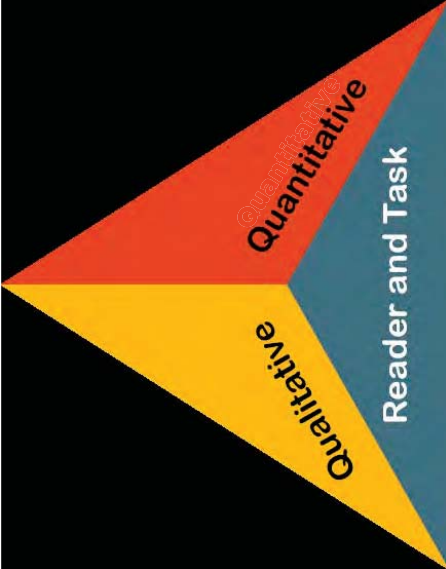
The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)										
	3	4	5	6	7	8	9–10	11–12			
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.	*	*	*	*	*	*	*	*	*	*	*
L.3.3a. Choose words and phrases for effect.	*	*	*	*	*	*	*	*	*	*	*
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.											
L.4.1g. Correctly use frequently confused words (e.g., to/too/two; there/their).											
L.4.3a. Choose words and phrases to convey ideas precisely.*											
L.4.3b. Choose punctuation for effect.											
L.5.1d. Recognize and correct inappropriate shifts in verb tense.											
L.5.2a. Use punctuation to separate items in a series.†											
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.											
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).											
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.											
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.											
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.‡											
L.6.3b. Maintain consistency in style and tone.											
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.											
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.											
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.											
L.9–10.1a. Use parallel structure.											

*Subsumed by L.7.3a
 †Subsumed by L.9–10.1a
 ‡Subsumed by L.11–12.3a

Standard 10: Range, Quality, and Complexity of Student Reading K-5

Measuring Text Complexity: Three Factors



- Qualitative evaluation of the text:** Levels of meaning, structure, language conventionality and clarity, and knowledge demands
- Quantitative evaluation of the text:** Readability measures and other scores of text complexity
- Matching reader to text and task:** Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for K-5

Students in K-5 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature		Informational Text	
Stories	Includes children’s adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Dramas	Includes staged dialogue and brief familiar scenes
Stories	Includes children’s adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Poetry	Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem
		Literary Nonfiction and Historical, Scientific, and Technical Texts	Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms, and information displayed in graphs, charts, or maps; and digital sources on a range of topics

Texts Illustrating the Complexity, Quality, and Range of Student Reading K-5

	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts
K*	<ul style="list-style-type: none"> Over in the Meadow by John Langstaff (traditional) (c1800)* A Boy, a Dog, and a Frog by Mercer Mayer (1967) Pancakes for Breakfast by Tomie DePaola (1978) A Story. A Story by Gail E. Haley (1970)* Kitten's First Full Moon by Kevin Henkes (2004)* 	<ul style="list-style-type: none"> My Five Senses by Aliki (1962)** Truck by Donald Crews (1980) I Read Signs by Tana Hoban (1987) What Do You Do With a Tail Like This? by Steve Jenkins and Robin Page (2003)* Amazing Whales! by Sarah L. Thomson (2005)*
1*	<ul style="list-style-type: none"> "Mix a Pancake" by Christina G. Rossetti (1893)** Mr. Popper's Penguins by Richard Atwater (1938)* Little Bear by Else Holmelund Minarik, illustrated by Maurice Sendak (1957)** Frog and Toad Together by Arnold Lobel (1971)** Hi! Fly Guy by Tedd Arnold (2006) 	<ul style="list-style-type: none"> A Tree Is a Plant by Clyde Robert Bulla, illustrated by Stacey Schuett (1960)** Starfish by Edith Thacher Hurd (1962) Follow the Water from Brook to Ocean by Arthur Dorros (1991)** From Seed to Pumpkin by Wendy Pfeffer, illustrated by James Graham Hale (2004)* How People Learned to Fly by Fran Hodgkins and True Kelley (2007)*
2-3	<ul style="list-style-type: none"> "Who Has Seen the Wind?" by Christina G. Rossetti (1893) Charlotte's Web by E. B. White (1952)* Sarah, Plain and Tall by Patricia MacLachlan (1985) Tops and Bottoms by Janet Stevens (1995) Poppleton in Winter by Cynthia Rylant, illustrated by Mark Teague (2001) 	<ul style="list-style-type: none"> A Medieval Feast by Aliki (1983) From Seed to Plant by Gail Gibbons (1991) The Story of Ruby Bridges by Robert Coles (1995)* A Drop of Water: A Book of Science and Wonder by Walter Wick (1997) Moonshot: The Flight of Apollo 11 by Brian Floca (2009)
4-5	<ul style="list-style-type: none"> Alice's Adventures in Wonderland by Lewis Carroll (1865) "Casey at the Bat" by Ernest Lawrence Thayer (1888) The Black Stallion by Walter Farley (1941) "Zlateh the Goat" by Isaac Bashevis Singer (1984) Where the Mountain Meets the Moon by Grace Lin (2009) 	<ul style="list-style-type: none"> Discovering Mars: The Amazing Story of the Red Planet by Melvin Berger (1992) Hurricanes: Earth's Mightiest Storms by Patricia Lauber (1996) A History of US by Joy Hakim (2005) Horses by Seymour Simon (2006) Quest for the Tree Kangaroo: An Expedition to the Cloud Forest of New Guinea by Sy Montgomery (2006)

Note:

Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a wide range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of K-5 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth. On the next page is an example of progressions of texts building knowledge across grade levels.

*Children at the kindergarten and grade 1 levels should be expected to read texts independently that have been specifically written to correlate to their reading level and their word knowledge. Many of the titles listed above are meant to supplement carefully structured independent reading with books to read along with a teacher or that are read aloud to students to build knowledge and cultivate a joy in reading.

Staying on Topic Within a Grade and Across Grades: How to Build Knowledge Systematically in English Language Arts K-5

Building knowledge systematically in English language arts is like giving children various pieces of a puzzle in each grade that, over time, will form one big picture. At a curricular or instructional level, texts—within and across grade levels—need to be selected around topics or themes that systematically develop the knowledge base of students. Within a grade level, there should be an adequate number of titles on a single topic that would allow children to study that topic for a sustained period. The knowledge children have learned about particular topics in early grade levels should then be expanded and developed in subsequent grade levels to ensure an increasingly deeper understanding of these topics. Children in the upper elementary grades will generally be expected to read these texts independently and reflect on them in writing. However, children in the early grades (particularly K-2) should participate in rich, structured conversations with an adult in response to the written texts that are read aloud, orally comparing and contrasting as well as analyzing and synthesizing, in the manner called for by the *Standards*.

Preparation for reading complex informational texts should begin at the very earliest elementary school grades. What follows is one example that uses domain-specific nonfiction titles across grade levels to illustrate how curriculum designers and classroom teachers can infuse the English language arts block with rich, age-appropriate content knowledge and vocabulary in history/social studies, science, and the arts. Having students listen to informational read-alouds in the early grades helps lay the necessary foundation for students' reading and understanding of increasingly complex texts on their own in subsequent grades.

Exemplar Texts on a Topic Across Grades

	K	1	2-3	4-5
The Human Body				
Students can begin learning about the human body and then review and extend their learning during each subsequent grade.	<p>The five senses and associated body parts</p> <ul style="list-style-type: none"> • <i>My Five Senses</i> by Ailiki (1989) • <i>Hearing</i> by Maria Rius (1985) • <i>Sight</i> by Maria Rius (1985) • <i>Smell</i> by Maria Rius (1985) • <i>Taste</i> by Maria Rius (1985) • <i>Touch</i> by Maria Rius (1985) <p>Taking care of your body: Overview (hygiene, diet, exercise, rest)</p> <ul style="list-style-type: none"> • <i>My Amazing Body: A First Look at Health & Fitness</i> by Pat Thomas (2001) • <i>Get Up and Go!</i> by Nancy Carlson (2008) • <i>Go Wash Up</i> by Doering Tourville (2008) • <i>Sleep</i> by Paul Showers (1997) • <i>Fuel the Body</i> by Doering Tourville (2008) 	<p>Introduction to the systems of the human body and associated body parts</p> <ul style="list-style-type: none"> • <i>Under Your Skin: Your Amazing Body</i> by Mick Manning (2007) • <i>Me and My Amazing Body</i> by Joan Sweeney (1999) • <i>The Human Body</i> by Gallimard Jeunesse (2007) • <i>The Busy Body Book</i> by Lizzy Rockwell (2008) • <i>First Encyclopedia of the Human Body</i> by Fiona Chandler (2004) <p>Taking care of your body: Germs, diseases, and preventing illness</p> <ul style="list-style-type: none"> • <i>Germs Make Me Sick</i> by Marilyn Berger (1995) • <i>Tiny Life on Your Body</i> by Christine Taylor-Butler (2005) • <i>Germ Stories</i> by Arthur Kornberg (2007) • <i>All About Scabs</i> by GenichiroYagu (1998) 	<p>Digestive and excretory systems</p> <ul style="list-style-type: none"> • <i>What Happens to a Hamburger</i> by Paul Showers (1985) • <i>The Digestive System</i> by Christine Taylor-Butler (2008) • <i>The Digestive System</i> by Rebecca L. Johnson (2006) • <i>The Digestive System</i> by Kristin Petrie (2007) <p>Healthy eating and nutrition</p> <ul style="list-style-type: none"> • <i>Good Enough to Eat</i> by Lizzy Rockwell (1999) • <i>Showdown at the Food Pyramid</i> by Rex Barron (2004) <p>Muscular, skeletal, and nervous systems</p> <ul style="list-style-type: none"> • <i>The Mighty Muscular and Skeletal Systems</i> Crabtree Publishing (2009) • <i>Muscles</i> by Seymour Simon (1998) • <i>Bones</i> by Seymour Simon (1998) • <i>The Astounding Nervous System</i> Crabtree Publishing (2009) • <i>The Nervous System</i> by Joelle Riley (2004) 	<p>Circulatory system</p> <ul style="list-style-type: none"> • <i>The Heart</i> by Seymour Simon (2006) • <i>The Heart and Circulation</i> by Carol Ballard (2005) • <i>The Circulatory System</i> by Kristin Petrie (2007) • <i>The Amazing Circulatory System</i> by John Burstein (2009) <p>Respiratory system</p> <ul style="list-style-type: none"> • <i>The Lungs</i> by Seymour Simon (2007) • <i>The Respiratory System</i> by Susan Glass (2004) • <i>The Respiratory System</i> by Kristin Petrie (2007) • <i>The Remarkable Respiratory System</i> by John Burstein (2009) <p>Endocrine system</p> <ul style="list-style-type: none"> • <i>The Endocrine System</i> by Rebecca Ollen (2006) • <i>The Exciting Endocrine System</i> by John Burstein (2009)



STANDARDS FOR

English Language Arts

6-12

College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts.

*Please see "Research to Build Knowledge" in Writing and "Comprehension and Collaboration" in Speaking and Listening for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Reading Standards for Literature 6–12

RL

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Grade 6 students:

Key Ideas and Details

1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text; including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.
5. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
6. Explain how an author develops the point of view of the narrator or speaker in a text.

Grade 7 students:

1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.
3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text; including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.
5. Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning.
6. Analyze how an author develops and contrasts the points of view of different characters or narrators in a text.

Grade 8 students:

1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.
3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.
4. Determine the meaning of words and phrases as they are used in a text; including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.
5. Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.
6. Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.

Reading Standards for Literature 6–12

RL

Grade 6 students:

Integration of Knowledge and Ideas

7. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they “see” and “hear” when reading the text to what they perceive when they listen or watch.

8. (Not applicable to literature)

9. Compare and contrast texts in different forms or genres (e.g., stories and poems; historical novels and fantasy stories) in terms of their approaches to similar themes and topics.

Grade 7 students:

7. Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).

8. (Not applicable to literature)

9. Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.

Grade 8 students:

7. Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

8. (Not applicable to literature)

9. Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

10. By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of grades 6–8 text complexity band independently and proficiently.

Reading Standards for Literature 6–12

RL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
3. Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

Craft and Structure

4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language evokes a sense of time and place; how it sets a formal or informal tone).
5. Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.
6. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.

Integration of Knowledge and Ideas

7. Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment (e.g., Auden's "Musée des Beaux Arts" and Breughel's *Landscape with the Fall of Icarus*).
8. (Not applicable to literature)
9. Analyze how an author draws on and transforms source material in a specific work (e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare).

Range of Reading and Level of Text Complexity

10. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.
By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9–10 text complexity band independently and proficiently.

Grades 11–12 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
3. Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).

Craft and Structure

4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
5. Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
6. Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).

Integration of Knowledge and Ideas

7. Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)
8. (Not applicable to literature)
9. Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.

Range of Reading and Level of Text Complexity

10. By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.
By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11–CCR text complexity band independently and proficiently.

Reading Standards for Informational Text 6-12

RI

Grade 6 students:

Key Ideas and Details

1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.
3. Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.
5. Analyze how a particular sentence, paragraph, chapter, or section fits into the overall structure of a text and contributes to the development of the ideas.
6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

Integration of Knowledge and Ideas

7. Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
8. Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not.
9. Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).

Range of Reading and Level of Text Complexity

10. By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 7 students:

1. Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.
3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of a specific word choice on meaning and tone.

5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to the development of the ideas.

6. Determine an author's point of view or purpose in a text and analyze how the author distinguishes his or her position from that of others.

7. Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).

8. Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims.

9. Analyze how two or more authors writing about the same topic shape their presentations of key information by emphasizing different evidence or advancing different interpretations of facts.

10. By the end of the year, read and comprehend literary nonfiction in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Grade 8 students:

1. Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

2. Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

3. Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).

4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.

5. Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.

6. Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.

7. Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.

9. Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.

10. By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6-8 text complexity band independently and proficiently.

Reading Standards for Informational Text 6-12

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

RI

Grades 9-10 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
5. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).
6. Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.

Integration of Knowledge and Ideas

7. Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.
9. Analyze seminal U.S. documents of historical and literary significance (e.g., Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.

Range of Reading and Level of Text Complexity

10. By the end of grade 9, read and comprehend literary nonfiction in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range.
By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9-10 text complexity band independently and proficiently.

Grades 11-12 students:

Key Ideas and Details

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).
5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.

Craft and Structure

7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
8. Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist*, presidential addresses).
9. Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.

Integration of Knowledge and Ideas

10. By the end of grade 11, read and comprehend literary nonfiction in the grades 11-CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.
By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11-CCR text complexity band independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it.

Writing Standards 6–12

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

W

Grade 6 students: Text Types and Purposes

1. Write arguments to support claims with clear reasons and relevant evidence.
 - a. Introduce claim(s) and organize the reasons and evidence clearly.
 - b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.
 - c. Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.
 - d. Establish and maintain a formal style.
 - e. Provide a concluding statement or section that follows from the argument presented.

Grade 7 students:

1. Write arguments to support claims with clear reasons and relevant evidence.
 - a. Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.
 - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
 - c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.
 - d. Establish and maintain a formal style.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.

Grade 8 students:

1. Write arguments to support claims with clear reasons and relevant evidence.
 - a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
 - b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
 - c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
 - d. Establish and maintain a formal style.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
 - a. Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
 - c. Use appropriate transitions to clarify the relationships among ideas and concepts.
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Establish and maintain a formal style.
 - f. Provide a concluding statement or section that follows from the information or explanation presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
 - a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
 - c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Establish and maintain a formal style.
 - f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
 - a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
 - c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Establish and maintain a formal style.
 - f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Writing Standards 6–12

Grade 6 students:

Text Types and Purposes (continued)

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
 - a. Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
 - b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
 - c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
 - d. Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.
 - e. Provide a conclusion that follows from the narrated experiences or events.

Grade 7 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
 - a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
 - b. Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
 - c. Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
 - d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
 - e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

Grade 8 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
 - a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.
 - b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop experiences, events, and/or characters.
 - c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.
 - d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events.
 - e. Provide a conclusion that follows from and reflects on the narrated experiences or events.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 6 on page 53.)
6. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 7 on page 53.)

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)

5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 8 on page 53.)

6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

Writing Standards 6–12

W

Grade 6 students:

Research to Build and Present Knowledge

7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
8. Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 6 Reading standards* to literature (e.g., “Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics”).
 - b. Apply *grade 6 Reading standards* to literary nonfiction (e.g., “Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not”).

Grade 7 students:

7. Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 7 Reading standards* to literature (e.g., “Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history”).
 - b. Apply *grade 7 Reading standards* to literary nonfiction (e.g., “Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims”).

Grade 8 students:

7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grade 8 Reading standards* to literature (e.g., “Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new”).
 - b. Apply *grade 8 Reading standards* to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced”).

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Writing Standards 6–12

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

W

Grades 9–10 students:

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
 - a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence.
 - b. Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.
 - c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
 - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.

Grades 11–12 students:

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
 - a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
 - b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
 - c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
 - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
 - a. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
 - c. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
 - d. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
 - e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Writing Standards 6–12

W

Grades 9–10 students:

Text Types and Purposes (continued)

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
 - a. Engage and orient the reader by setting out a problem, situation, or observation, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
 - b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
 - c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole.
 - d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
 - e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 9–10 on page 55.)
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Grades 11–12 students:

3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
 - a. Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
 - b. Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
 - c. Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).
 - d. Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
 - e. Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative.

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grades 11–12 on page 55.)
6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Writing Standards 6–12

W

Grades 9–10 students:

Research to Build and Present Knowledge (continued)

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grades 9–10 Reading standards* to literature (e.g., “Analyze how an author draws on and transforms source material in a specific work [e.g., how Shakespeare treats a theme or topic from Ovid or the Bible or how a later author draws on a play by Shakespeare]”).
 - b. Apply *grades 9–10 Reading standards* to literary nonfiction (e.g., “Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning”).

Grades 11–12 students:

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
 - a. Apply *grades 11–12 Reading standards* to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).
 - b. Apply *grades 11–12 Reading standards* to literary nonfiction (e.g., “Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning [e.g., in U.S. Supreme Court Case majority opinions and dissents] and the premises, purposes, and arguments in works of public advocacy [e.g., *The Federalist*, presidential addresses]”).

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Note on range and content of student speaking and listening

To become college and career ready, students must have ample opportunities to take part in a variety of rich, structured conversations—as part of a whole class, in small groups, and with a partner—built around important content in various domains. They must be able to contribute appropriately to these conversations, to make comparisons and contrasts, and to analyze and synthesize a multitude of ideas in accordance with the standards of evidence appropriate to a particular discipline. Whatever their intended major or profession, high school graduates will depend heavily on their ability to listen attentively to others so that they are able to build on others' meritorious ideas while expressing their own clearly and persuasively.

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. The Internet has accelerated the speed at which connections between speaking, listening, reading, and writing can be made, requiring that students be ready to use these modalities nearly simultaneously. Technology itself is changing quickly, creating a new urgency for students to be adaptable in response to change.

Speaking and Listening Standards 6-12

The following standards for grades 6-12 offer a focus for instruction in each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

SL

Grade 6 students: Comprehension and Collaboration

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 6 topics, texts, and issues*, building on others' ideas and expressing their own clearly.
 - Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
 - Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
 - Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
 - Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.

Grade 7 students:

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 7 topics, texts, and issues*, building on others' ideas and expressing their own clearly.
 - Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
 - Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.
 - Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.
 - Acknowledge new information expressed by others and, when warranted, modify their own views.

Grade 8 students:

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 8 topics, texts, and issues*, building on others' ideas and expressing their own clearly.
 - Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
 - Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.
 - Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas.
 - Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.

- Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
- Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.

Presentation of Knowledge and Ideas

- Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
- Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 6 Language standards 1 and 3 on page 53 for specific expectations.)

- Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

- Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.

Presentation of Knowledge and Ideas

- Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
- Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 7 Language standards 1 and 3 on page 53 for specific expectations.)

- Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.

- Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.

Presentation of Knowledge and Ideas

- Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.
- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 on page 53 for specific expectations.)

Speaking and Listening Standards 6-12

SL

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9-10 students:

Comprehension and Collaboration

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9-10 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.
 - a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
 - b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.
 - c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
 - d. Respond thoughtfully to diverse perspectives; summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

Grades 11-12 students:

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 11-12 topics, texts, and issues*, building on others' ideas and expressing their own clearly and persuasively.
 - a. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
 - b. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
 - c. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
 - d. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.
2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grades 9-10 Language standards 1 and 3 on page 54 for specific expectations.)

3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.

4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate. (See grades 11-12 Language standards 1 and 3 on page 54 for specific expectations.)

College and Career Readiness Anchor Standards for Language

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Note on range and content of student language use

To be college and career ready in language, students must have firm control over the conventions of standard English. At the same time, they must come to appreciate that language is as at least as much a matter of craft as of rules and be able to choose words, syntax, and punctuation to express themselves and achieve particular functions and rhetorical effects. They must also have extensive vocabularies, built through reading and study, enabling them to comprehend complex texts and engage in purposeful writing about and conversations around content. They need to become skilled in determining or clarifying the meaning of words and phrases they encounter, choosing flexibly from an array of strategies to aid them. They must learn to see an individual word as part of a network of other words—words, for example, that have similar denotations but different connotations. The inclusion of Language standards in their own strand should not be taken as an indication that skills related to conventions, effective language use, and vocabulary are unimportant to reading, writing, speaking, and listening; indeed, they are inseparable from such contexts.

Language Standards 6–12

The following standards for grades 6–12 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year’s grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 56 for a complete listing and Appendix A for an example of how these skills develop in sophistication.

Grade 6 students: Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Ensure that pronouns are in the proper case (subjective, objective, possessive).
 - b. Use intensive pronouns (e.g., *myself*, *ourself/ves*).
 - c. Recognize and correct inappropriate shifts in pronoun number and person.*
 - d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents)*
 - e. Recognize variations from standard English in their own and others’ writing and speaking, and identify and use strategies to improve expression in conventional language.*

Grade 7 students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Explain the function of phrases and clauses in general and their function in specific sentences.
 - b. Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas.
 - c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.*

Grade 8 students:

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.
 - b. Form and use verbs in the active and passive voice.
 - c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood.
 - d. Recognize and correct inappropriate shifts in verb voice and mood.*

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.*
 - b. Spell correctly.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use a comma to separate coordinate adjectives (e.g., *It was a fascinating, enjoyable movie* but not *He wore an old[,] green shirt*).
 - b. Spell correctly.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.
 - b. Use an ellipsis to indicate an omission.
 - c. Spell correctly.

Knowledge of Language

3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Vary sentence patterns for meaning, reader/listener interest, and style.*
 - b. Maintain consistency in style and tone.*
3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
 - a. Use verbs in the active and passive voice and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).

Language Standards 6–12

L

Grade 6 students:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 6 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *audience, auditory, audible*).
 - c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
 - d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Grade 7 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 7 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *belligerent, bellicose, rebel*).
 - c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
 - d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Grade 8 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on *grade 8 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
 - b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., *precede, recede, secede*).
 - c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.
 - d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Interpret figures of speech (e.g., verbal irony, personification) in context.
 - b. Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words.
 - c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *stingy, scrimping, economical, unwasteful, thrifty*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Interpret figures of speech (e.g., literary, biblical, and mythological allusions) in context.
 - b. Use the relationship between particular words (e.g., synonym/antonym, analogy) to better understand each of the words.
 - c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *refined, respectful, polite, diplomatic, condescending*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Interpret figures of speech (e.g., verbal irony, puns) in context.
 - b. Use the relationship between particular words to better understand each of the words.
 - c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., *bullheaded, willful, firm, persistent, resolute*).
6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Language Standards 6–12

L

The CCR anchor standards and high school grade-specific standards work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 9–10 students:

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Use parallel structure.*
 - b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses.
 - b. Use a colon to introduce a list or quotation.
 - c. Spell correctly.

Grades 11–12 students:

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
 - a. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.
 - b. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage*, *Garner's Modern American Usage*) as needed.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
 - a. Observe hyphenation conventions.
 - b. Spell correctly.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
 - a. Write and edit work so that it conforms to the guidelines in a style manual (e.g., *MLA Handbook*, *Turabian's Manual for Writers*) appropriate for the discipline and writing type.

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
 - a. Vary syntax for effect, consulting references (e.g., *Tufte's Artful Sentences*) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.

Language Standards 6–12

L

Grades 9–10 students:

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
 - b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *analyze, analysis, analytical, advocate, advocacy*).
 - c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.
 - d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

Grades 11–12 students:

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies.
 - a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
 - b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*).
 - c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.
 - d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
 - a. Interpret figures of speech (e.g., hyperbole, paradox) in context and analyze their role in the text.
 - b. Analyze nuances in the meaning of words with similar denotations.
6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Language Progressive Skills, by Grade

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)										
	3	4	5	6	7	8	9–10	11–12			
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.	*	*	*	*	*	*	*	*	*	*	
L.3.3a. Choose words and phrases for effect.	*	*	*	*	*	*	*	*	*	*	
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.		*	*	*	*	*	*	*	*	*	
L.4.1g. Correctly use frequently confused words (e.g., to/too/two; there/their).		*	*	*	*	*	*	*	*	*	
L.4.3a. Choose words and phrases to convey ideas precisely.*		*	*	*	*	*	*	*	*	*	
L.4.3b. Choose punctuation for effect.		*	*	*	*	*	*	*	*	*	
L.5.1d. Recognize and correct inappropriate shifts in verb tense.			*	*	*	*	*	*	*	*	
L.5.2a. Use punctuation to separate items in a series.†			*	*	*	*	*	*	*	*	
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.				*	*	*	*	*	*	*	
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).				*	*	*	*	*	*	*	
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.				*	*	*	*	*	*	*	
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.				*	*	*	*	*	*	*	
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.‡				*	*	*	*	*	*	*	
L.6.3b. Maintain consistency in style and tone.				*	*	*	*	*	*	*	
L.7.1c. Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.					*	*	*	*	*	*	
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.					*	*	*	*	*	*	
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.					*	*	*	*	*	*	
L.9–10.1a. Use parallel structure.										*	

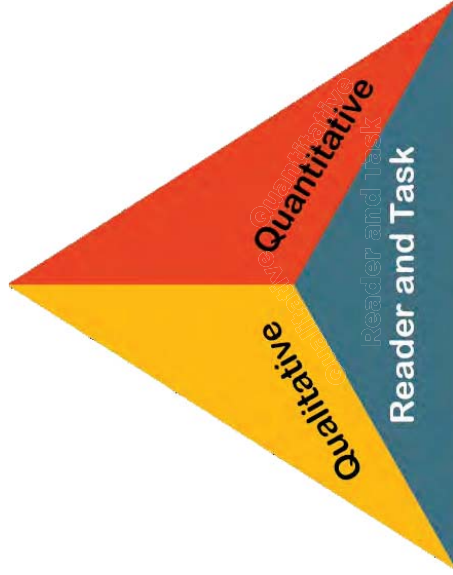
* Subsumed by L.7.3a

† Subsumed by L.9–10.1a

‡ Subsumed by L.11–12.3a

Standard 10: Range, Quality, and Complexity of Student Reading 6-12

Measuring Text Complexity: Three Factors



Qualitative evaluation of the text: Levels of meaning, structure, language conventionality and clarity, and knowledge demands

Quantitative evaluation of the text: Readability measures and other scores of text complexity

Matching reader to text and task: Reader variables (such as motivation, knowledge, and experiences) and task variables (such as purpose and the complexity generated by the task assigned and the questions posed)

Note: More detailed information on text complexity and how it is measured is contained in Appendix A.

Range of Text Types for 6-12

Students in grades 6-12 apply the Reading standards to the following range of text types, with texts selected from a broad range of cultures and periods.

Literature		Informational Text	
Stories	Includes the subgenres of adventure stories, historical fiction, mysteries, myths, science fiction, realistic fiction, allegories, parodies, satire, and graphic novels	Poetry	Includes the subgenres of narrative poems, lyrical poems, free verse poems, sonnets, odes, ballads, and epics
Drama	Includes one-act and multi-act plays, both in written form and on film	Literary Nonfiction	Includes the subgenres of exposition, argument, and functional text in the form of personal essays, speeches, opinion pieces, essays about art or literature, biographies, memoirs, journalism, and historical, scientific, technical, or economic accounts (including digital sources) written for a broad audience

Texts Illustrating the Complexity, Quality, and Range of Student Reading 6–12

	Literature: Stories, Dramas, Poetry	Informational Texts: Literary Nonfiction
6–8	<ul style="list-style-type: none"> <i>Little Women</i> by Louisa May Alcott (1869) <i>The Adventures of Tom Sawyer</i> by Mark Twain (1876) “The Road Not Taken” by Robert Frost (1915) <i>The Dark Is Rising</i> by Susan Cooper (1973) <i>Dragonwings</i> by Laurence Yep (1975) <i>Roll of Thunder, Hear My Cry</i> by Mildred Taylor (1976) 	<ul style="list-style-type: none"> “Letter on Thomas Jefferson” by John Adams (1776) <i>Narrative of the Life of Frederick Douglass, an American Slave</i> by Frederick Douglass (1845) “Blood, Toil, Tears and Sweat: Address to Parliament on May 13th, 1940” by Winston Churchill (1940) <i>Harriet Tubman: Conductor on the Underground Railroad</i> by Ann Petry (1955) <i>Travels with Charley: In Search of America</i> by John Steinbeck (1962)
9–10	<ul style="list-style-type: none"> <i>The Tragedy of Macbeth</i> by William Shakespeare (1592) “Ozymandias” by Percy Bysshe Shelley (1817) “The Raven” by Edgar Allan Poe (1845) “The Gift of the Magi” by O. Henry (1906) <i>The Grapes of Wrath</i> by John Steinbeck (1939) <i>Fahrenheit 451</i> by Ray Bradbury (1953) <i>The Killer Angels</i> by Michael Shaara (1975) 	<ul style="list-style-type: none"> “Speech to the Second Virginia Convention” by Patrick Henry (1775) “Farewell Address” by George Washington (1796) “Gettysburg Address” by Abraham Lincoln (1863) “State of the Union Address” by Franklin Delano Roosevelt (1941) “Letter from Birmingham Jail” by Martin Luther King, Jr. (1964) “Hope, Despair and Memory” by Elie Wiesel (1997)
11–CCR	<ul style="list-style-type: none"> “Ode on a Grecian Urn” by John Keats (1820) <i>Jane Eyre</i> by Charlotte Brontë (1848) “Because I Could Not Stop for Death” by Emily Dickinson (1890) <i>The Great Gatsby</i> by F. Scott Fitzgerald (1925) <i>Their Eyes Were Watching God</i> by Zora Neale Hurston (1937) <i>A Raisin in the Sun</i> by Lorraine Hansberry (1959) <i>The Namesake</i> by Jhumpa Lahiri (2003) 	<ul style="list-style-type: none"> <i>Common Sense</i> by Thomas Paine (1776) <i>Walden</i> by Henry David Thoreau (1854) “Society and Solitude” by Ralph Waldo Emerson (1857) “The Fallacy of Success” by G. K. Chesterton (1909) <i>Black Boy</i> by Richard Wright (1945) “Politics and the English Language” by George Orwell (1946) “Take the Tortillas Out of Your Poetry” by Rudolfo Anaya (1995)

Note: Given space limitations, the illustrative texts listed above are meant only to show individual titles that are representative of a range of topics and genres. (See Appendix B for excerpts of these and other texts illustrative of grades 6–12 text complexity, quality, and range.) At a curricular or instructional level, within and across grade levels, texts need to be selected around topics or themes that generate knowledge and allow students to study those topics or themes in depth.



STANDARDS FOR

**Literacy in
History/Social Studies,
Science, and Technical Subjects**

6-12

College and Career Readiness Anchor Standards for Reading

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade span. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.*
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

*Please see “Research to Build and Present Knowledge” in Writing for additional standards relevant to gathering, assessing, and applying information from print and digital sources.

Note on range and content of student reading

Reading is critical to building knowledge in history/social studies as well as in science and technical subjects. College and career ready reading in these fields requires an appreciation of the norms and conventions of each discipline, such as the kinds of evidence used in history and science; an understanding of domain-specific words and phrases; an attention to precise details; and the capacity to evaluate intricate arguments, synthesize complex information, and follow detailed descriptions of events and concepts. In history/social studies, for example, students need to be able to analyze, evaluate, and differentiate primary and secondary sources. When reading scientific and technical texts, students need to be able to gain knowledge from challenging texts that often make extensive use of elaborate diagrams and data to convey information and illustrate concepts. Students must be able to read complex informational texts in these fields with independence and confidence because the vast majority of reading in college and workforce training programs will be sophisticated nonfiction. It is important to note that these Reading standards are meant to complement the specific content demands of the disciplines, not replace them.

Reading Standards for Literacy in History/Social Studies 6–12

RH

The standards below begin at grade 6; standards for K–5 reading in history/social studies, science, and technical subjects are integrated into the K–5 Reading standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6–8 students:

Key Ideas and Details

1. Cite specific textual evidence to support analysis of primary and secondary sources.
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).

Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).

6. Identify aspects of a text that reveal an author's point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).

Integration of Knowledge and Ideas

7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
8. Distinguish among fact, opinion, and reasoned judgment in a text.
9. Analyze the relationship between a primary and secondary source on the same topic.

Range of Reading and Level of Text Complexity

10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.

Grades 9–10 students:

1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

4. Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies.

5. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.

6. Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

7. Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

8. Assess the extent to which the reasoning and evidence in a text support the author's claims.

9. Compare and contrast treatments of the same topic in several primary and secondary sources.

10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.

Grades 11–12 students:

1. Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.

2. Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).

5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.

6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.

7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.

9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11–CCR text complexity band independently and proficiently.

Reading Standards for Literacy in Science and Technical Subjects 6–12

RST

Grades 6–8 students:

Grades 9–10 students:

Grades 11–12 students:

Key Ideas and Details

1. Cite specific textual evidence to support analysis of science and technical texts.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

Craft and Structure

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.
5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text; defining the question the author seeks to address.

4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.

Integration of Knowledge and Ideas

7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.

7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

Range of Reading and Level of Text Complexity

10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

10. By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

College and Career Readiness Anchor Standards for Writing

The grades 6–12 standards on the following pages define what students should understand and be able to do by the end of each grade span. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Text Types and Purposes*

1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college and career ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have the flexibility, concentration, and fluency to produce high-quality first-draft text under a tight deadline and the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. To meet these goals, students must devote significant time and effort to writing, producing numerous pieces over short and long time frames throughout the year.

*These broad types of writing include many subgenres. See Appendix A for definitions of key writing types.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

The standards below begin at grade 6; standards for K–5 writing in history/social studies, science, and technical subjects are integrated into the K–5 Writing standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

WHST

Grades 6–8 students:

Text Types and Purposes

1. Write arguments focused on *discipline-specific content*.
 - a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
 - b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
 - c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
 - d. Establish and maintain a formal style.
 - e. Provide a concluding statement or section that follows from and supports the argument presented.

Grades 9–10 students:

1. Write arguments focused on *discipline-specific content*.
 - a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.
 - b. Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.
 - c. Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
 - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - e. Provide a concluding statement or section that follows from or supports the argument presented.

Grades 11–12 students:

1. Write arguments focused on *discipline-specific content*.
 - a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.
 - b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.
 - c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
 - d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - e. Provide a concluding statement or section that follows from or supports the argument presented.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

Grades 6–8 students:

Text Types and Purposes (continued)

2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
 - a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
 - c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
 - d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
 - e. Establish and maintain a formal style and objective tone.
 - f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

Grades 9–10 students:

2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
 - a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
 - c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.
 - d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.
 - e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
 - f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

Grades 11–12 students:

2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
 - a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
 - b. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
 - c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
 - d. Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.
 - e. Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

3. (See note; not applicable as a separate requirement)

3. (See note; not applicable as a separate requirement)

3. (See note; not applicable as a separate requirement)

Note:

Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import. In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.

Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects 6–12

WHST

Grades 6–8 students:

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

Research to Build and Present Knowledge

7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

9. Draw evidence from informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Grades 9–10 students:

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

9. Draw evidence from informational texts to support analysis, reflection, and research.

Grades 11–12 students:

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

9. Draw evidence from informational texts to support analysis, reflection, and research.

10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.



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HIV and Sexually Transmitted Infection (HIV/STI) Prevention Curriculum Information for Michigan

The following are key points with points #2-#4 listed in the order of implementation. **If you have additional questions or concerns, please contact Doug Maurer (dmaurer@nhaschools.com).**

Point #1: HIV/STI prevention must be taught and must be in compliance with [state law](#). Note that schools are only required to teach HIV/STI prevention (§380.1169). Schools interested in also teaching sex education (§380.1507) should work with your DSQ as it is a school-based decision.

Point #2: The teachers designated to teach the HIV/STI prevention lesson must be [fully qualified](#) and attend an approved training course in the content. A list of contacts for Michigan schools is provided on the following pages. If training isn't possible, another option is to have a [guest presenter](#).

Point #3: The HIV/STI Prevention Lesson Plans must be approved by the School Board. They must be re-approved in the event of any revisions following an approval.

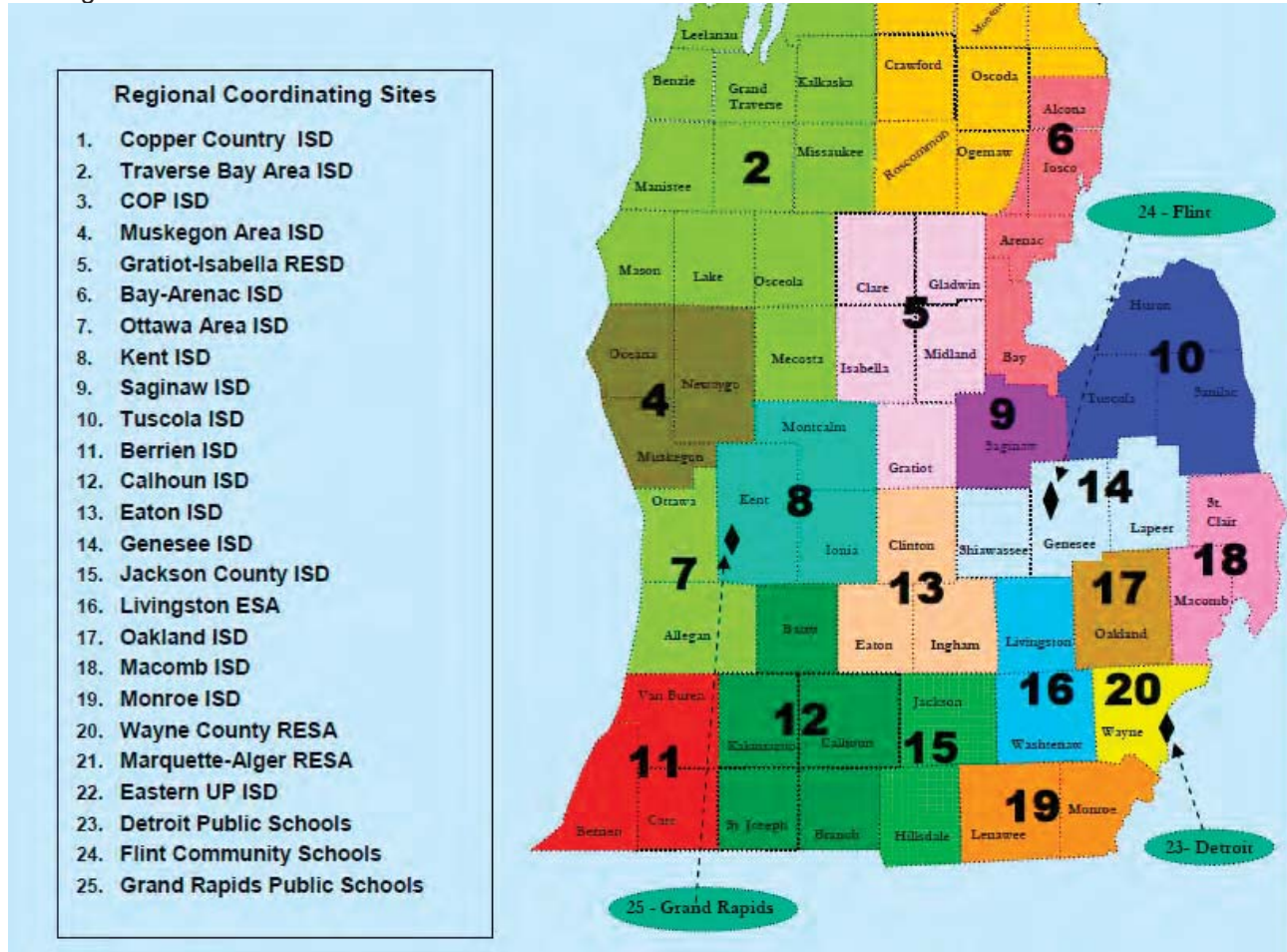
Point #4: The School must facilitate two public hearings, one week apart, in the manner required under section 1201 for board meetings whereby the HIV/STI Prevention curriculum is presented to parents.

Point #5: For HIV/AIDS and sex education instruction, parents and/or legal guardians must be notified in advance of:

- The content of the instruction.
- Their right to review materials in advance.
- Their right to observe instruction.
- Their right to excuse their child without penalty if it conflicts with their sincerely held religious beliefs. Exemption requires the signing of a notification form which must be kept on file in the school's office. (See sample notification form below.)

Michigan ISD Coordinators for HIV/STI Prevention Training

The following information may provide some direction when looking for HIV/STI Prevention training for your teachers. The following map and contacts below should be able to provide you with HIV/STI Prevention training schedules.



<p>Calhoun I.S.D. Angela Blood 17111 G Drive North Marshall, MI 49068 P: 269-789-2413 F: 269-789-9584 blooda@calhounisd.org Barry, Branch, Calhoun, Kalamazoo, St. Joseph</p>	<p>Eaton R.E.S.A. Wendy Sellers 1790 E. Packard Highway Charlotte, MI 48813 P: 517-541-8768 F: 517-543-4870 wsellers@eatonresa.org Clinton, Eaton, Ingham</p>	<p>Genesee I.S.D. Judy Fridline Health, Safety and Nutrition Services 2413 W. Maple Ave. Flint, MI 48507-3909 P: 810-591-5592 F: 810-591-4940 jfridlin@geneseeisd.org Genesee, Lapeer, Shiawassee</p>
<p>Jackson County I.S.D. Steve Sukta 6700 Browns Lake Road Jackson, MI 49201 P: 517-768-5189 F: 517-768-5265 steve.sukta@jcsisd.org Hillsdale, Jackson</p>	<p>Kent I.S.D. Cheryl Blair 2930 Knapp, N.E. Grand Rapids, MI 49525 P: 616-365-2269 F: 616-364-1489 cherylblair@kentisd.org Ionia, Kent, Montcalm</p>	<p>Livingston E.S.A. Mary Beno 1425 W. Grand River Avenue Howell, MI 48843 P: 517-540-6838 F: 517-546-7047 marybeno@livingstonesa.org Livingston, Washtenaw</p>



<p>Macomb I.S.D. Mary Lebioda 44001 Garfield Road Clinton Township, MI 48038 P: 586-228-3490 F: 586-286-2809 mlebioda@misd.net <i>Macomb, St. Clair</i></p>	<p>Monroe I.S.D. Jean Foster 1101 S. Raisinville Road Monroe, MI 48161 P: 734-242-5799 x 1335 F: 734-242-1363 jean.foster@monroeisd.us <i>Lenawee, Monroe</i></p>	<p>Muskegon Area I.S.D. Jennifer Nelson Regional Mathematics and Science Center 1001 Wesley Avenue Muskegon, MI 49442-2142 P: 231-767-7333 F: 231-773-0505 jnelson@muskegonisd.org <i>Muskegon, Newaygo, Oceana</i></p>
<p>Oakland Schools Christina Harvey 2111 Pontiac Lake Road Waterford, MI 48328-2736 P: 248-209-2413 F: 248-209-2429 Christina.Harvey@oakland.k12.mi.us <i>Oakland</i></p>	<p>Ottawa Area ISD <i>Allegan, Ottawa</i></p>	<p>Saginaw I.S.D. Amy Wassmann 3860 Fashion Square Blvd. P.O. Box 5679 Saginaw, MI 48603-0679 P: 989-399-7462 F: 989-399-7475 wassmanna@sisd.cc <i>Saginaw</i></p>
<p>Wayne R.E.S.A. Cynthia Cook 33500 Van Born Road PO Box 807 Wayne, MI 48184-2497 P: 734-334-1608 F: 734-334-1218 cookc@resa.net <i>Wayne</i></p>		



Dear Parents –

According to Michigan Law, students in fifth and eighth grade must be taught about HIV and the prevention of sexually transmitted infections. These lessons will take approximately 2-3 hours and will consist of information on HIV/STI symptoms and prevention. Boys and girls will be separated and the information will be presented separately to each group. I will be presenting and assessing the students on the information presented, as well as addressing questions that the students may have.

You have the right to opt your child out of the lesson for religious reasons. Any students not participating in this lesson with parent permission will not be penalized and their Science grade will not be affected. Students not involved in the HIV/STI Prevention lesson will be in a separate classroom doing an activity that is not associated with the lesson.

These lessons are planned for the following dates: _____.

Please check one option below, sign, and return the lower portion of this letter by _____. All students must return this permission form.

If you have any questions, please feel free to contact me.

Sincerely,

_____ Yes – my child will participate in the HIV/STI Prevention lesson

_____ No – my child will NOT participate in the HIV/STI Prevention lesson due to our religious beliefs

Student Name: _____

Parent Name: _____

Parent Signature: _____

5th Grade HIV, AIDS, and STI Lesson

MI Law: School districts are **required** to teach about dangerous communicable diseases, including, but not limited to, HIV/AIDS. (§380.1169) Instruction regarding dangerous communicable diseases, including, but not limited to, HIV/AIDS, must be offered at least **once a year at every building level** (elementary, middle/junior, senior high).

Instruction in HIV/AIDS must include the principal modes by which dangerous communicable diseases are spread and the **best methods for the restriction and prevention** of these diseases. (§380.1169)

Before you start work on HIV/STI

HIV/STI is a potentially sensitive subject and discussion about it can provoke strong views as well as highlighting the need for additional information. People working with young people need to be aware of the legal and cultural context in which they operate and how it might support their plans and affect young people.

- Check out your own attitudes and values;
- Check out your knowledge; As necessary, check out additional information on this website (www.avert.org) which you can use to learn more about HIV/STI.
- Complete all pre-teaching requirements as explained here: [HIV/STI Teaching Information](#)

Starting HIV/STI work with groups

Effective teaching and learning involves open discussion, interaction between teachers and learners, and critical evaluation of points of view as well as the acquisition of new knowledge. In order to engage with groups in this kind of learning and on a potentially sensitive subject like HIV/STI, you need to think about how to make the group a safe place for you and young people to talk and interact together. You can think about the following:

- Advantages and disadvantages of working in single-sex and mixed sex groups
- Agreeing on ground rules with a group on confidentiality, behavior, challenging and disagreeing with others, asking personal questions and so on



HIV/STI Prevention Lesson

Objective: To distinguish between facts and misinformation about HIV, AIDS, and STI and correct misinformation.

Materials: Quiz for each student

Time: 30- 45 minutes.

Procedure:

1. Hand out the quiz for students to take individually.
2. Review quiz answers, telling students information about each as they correct their quizzes.
3. Students then take the notes page below and try to fill out as many blanks as possible from memory.
4. Teacher re-reads answers as students correct their notes.

The HIV/AIDS/STI Quiz

This quiz covers key basic information for the prevention of HIV/AIDS/STI

1. What is HIV?
 - A virus
 - A bacterium
 - A fungus
2. What is the difference between HIV and AIDS?
 - HIV is a virus and AIDS is a bacterial disease
 - HIV is the virus that causes AIDS
 - There is no difference between HIV and AIDS
3. Is there a cure for AIDS?
 - Yes
 - No
 - Only available on prescription
4. Can you get AIDS from sharing the cup of someone with HIV?
 - Yes
 - No
 - Only if you don't wash the cup
5. Can insects transmit HIV?
 - yes
 - No
 - Only mosquitoes
6. How can you tell if somebody has HIV?
 - Because of the way they act
 - They look tired and ill
 - There is no easy way to tell
7. What does HIV stand for?
 - Human Immunodeficiency Virus
 - Harmful Intravenous Vaccine
 - Humongous Injury Volition
8. What does STI stand for?
 - Sexually Transmitted Infection
 - Special Treatment Immunization
 - Standard Transmission Infection
9. Which practice puts you most at risk of becoming infected with HIV/STI?
 - Kissing
 - Using the same toilet as an infected person
 - Sexual contact
10. What is abstinence?
 - To not have sex
 - To only have sex with one partner
 - Not being married

Teacher Quiz Questions Answer Sheet

1. HIV is a virus. Like all viruses, HIV cannot grow or reproduce on its own. In order to make new copies of itself it must infect the cells of a living organism.
2. HIV is the virus that causes AIDS. A person diagnosed with HIV can live a healthy life, if they have access to antiretroviral treatment. A person living with HIV are said to have AIDS when they develop an AIDS defining illness. This usually occurs in people not taking antiretroviral treatment.
3. There is no cure for AIDS. This means it is important to be aware of prevention methods such as abstinence to protect yourself.
4. It is not possible to become infected with HIV from everyday casual contact such as sharing food, shaking hands or touching the same objects. You are only at risk from HIV if you are exposed to infected blood or bodily fluids other than saliva, sweat, or tears.
5. Insects cannot transmit HIV. When taking blood from someone mosquitoes do not inject blood from any previous person. The only thing that a mosquito injects is saliva, which acts as a lubricant and enables it to feed more efficiently.
6. There is no easy way to tell if a person has HIV. There are no specific symptoms of HIV. The only way to know if a person is infected with HIV is by them taking an HIV test.
7. Human Immunodeficiency Virus is the full term for HIV, which means that HIV weakens the body's immune system.
8. STI stands for Sexually Transmitted Infection. These can be passed on during sex. The only guaranteed way to avoid transmission is abstinence.
9. The only way to acquire HIV/STI is through sexual contact. You can't become infected with HIV through kissing or through everyday contact such as using the toilet.
10. Abstinence means to refrain from sex, or in other words, to refrain from sex. Abstinence is the absolute best way to prevent the transmission and spread of HIV/STI.

HIV/STI NOTES

1. HIV is a _____. Like all _____, HIV cannot grow or reproduce on its own. In order to make new copies of itself it must infect the _____ of a living organism.
2. HIV is the virus that causes _____. A person diagnosed with HIV can live a _____ life, if they have access to antiretroviral treatment. A person living with HIV are said to have AIDS when they develop an AIDS defining _____. This usually occurs in people not taking antiretroviral treatment.
3. There is no _____ for AIDS. This means it is important to be aware of prevention methods such as abstinence to protect yourself.
4. It is not possible to become infected with HIV from everyday _____ such as sharing food, shaking hands or touching the same objects. You are only at risk from HIV if you are exposed to _____ or bodily fluids other than _____, _____, or _____.
5. _____ cannot transmit HIV. When taking blood from someone mosquitoes do not _____ blood from any previous person. The only thing that a mosquito injects is saliva, which acts as a lubricant and enables it to _____ more efficiently.
6. There is no easy way to tell if someone has _____. There are no specific symptoms of HIV. The only way to know if a person is infected with HIV is by them taking an HIV test.
7. _____ is the full term for HIV, which means that HIV weakens the body's immune system.
8. STI stands for Sexually Transmitted _____. These can be passed on during sex. The only guaranteed way to avoid transmission is abstinence.
9. The _____ way to acquire HIV/STI is through sexual contact. You can't become infected with HIV through kissing or through everyday contact such as using the toilet.
10. Abstinence means to _____ from sex, or in other words, to not have sex. Abstinence is the absolute _____ way to prevent the transmission and spread of HIV/STI.

Lesson 2: Handling Peer Pressure

Objective: This exercise will help to enable young people to find ways of saying no to peer pressure,

Materials: Chart paper, Scenarios, Ways to Handle Peer Pressure sheet, Pens and paper.

Time: about 30-40 minutes, depending on the size of the group.

Procedure:

1. Tell students that this activity will give them ideas of ways to handle pressure from peers.
2. Hand out the **Ways to Handle Peer Pressure** sheet. Have students read silently and add any other ideas they have. Have students share out any they have added and make a group chart paper with their additions.
3. Pose the following prompts and ask students to use their sheets as a resource and to share out responses they might suggest for that situation. Have whole group discussion on the responses.
 - Examples of things people might say if they're trying to pressure a peer.
 1. "Come into this room quick, I just want to be alone with you."
 2. "If you were really my friend you would do this with me."
 3. "No one will find out and I've done this before; you'll be fine."
 4. "Everyone else is doing it."
 5. "You said you would, you can't back out now!"



WAYS TO HANDLE PEER PRESSURE

AVOID RISKY SITUATIONS:

- Follow the rules of the school and stay out of areas that are off-limits.
- Spend time with groups of friends instead of alone with a person who makes you feel uncomfortable.

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USE VERBAL SKILLS:

- Say “No”
- Tell the person pressuring you that you don’t feel good about what is happening and are leaving
- Communicate with an adult if you are feeling threatened, uncomfortable or frightened by the actions of a peer.

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USE BODY LANGUAGE:

- Use serious facial expressions
- Create distance between you and the person
- Cross your arms

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USE DELAY TACTICS:

- Tell the person you have to call home

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BUILD THE RELATIONSHIP:

- Explain your feelings about what is happening and why it makes you uncomfortable

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OTHER:

8th Grade

Preparing for Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STI) Instruction (lessons begin on page 3)

MI Law: School districts are **required** to teach about dangerous communicable diseases, including, but not limited to, HIV/AIDS. (§380.1169) Instruction regarding dangerous communicable diseases, including, but not limited to, HIV/AIDS, must be offered at least **once** a year **at every building level** (elementary, middle/junior, senior high).
Instruction in HIV/AIDS must include the principal modes by which dangerous communicable diseases are spread and the **best methods for the restriction and prevention** of these diseases. (§380.1169)

Before you start work on HIV/STI

HIV/STI is a potentially sensitive subject and discussion about it can provoke strong views as well as highlighting the need for additional information. People working with young people need to be aware of the legal and cultural context in which they operate and how it might support their plans and affect young people.

- Check out your own attitudes and values;
- Check out your knowledge; As necessary, check out additional information on this website (www.avert.org) which you can use to learn more about HIV/STI.
- Complete all pre-teaching requirements as explained here: [HIV/STI Teaching Information](#)

Starting HIV/STI work with groups

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- Advantages and disadvantages of working in single-sex and mixed sex groups
- Agreeing on ground rules with a group on confidentiality, behavior, challenging and disagreeing with others, asking personal questions and so on



HIV, AIDS, and STI Overview Lesson

Objective: To distinguish between facts and misinformation about HIV, AIDS, and STI and correct misinformation.

Materials: Quiz for each student

Time: 30- 45 minutes.

Procedure:

1. Hand out the quiz for students to take individually.
2. Review quiz answers, telling students information about each as they correct their quizzes.
3. Students then take the notes page below and try to fill out as many blanks as possible from memory.
4. Teacher re-reads answers as students correct their notes.

The HIV/AIDS/STI Quiz

This quiz covers key basic information for the prevention of HIV/AIDS/STI

1. What is HIV?
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 - Yes
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Teacher Quiz Questions Answer Sheet

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HIV/STI NOTES

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Materials: Chart paper, Scenarios, Ways to Handle Peer Pressure sheet, Pens and paper.

Time: about 30-40 minutes, depending on the size of the group.

Procedure:

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 - Examples of things people might say if they're trying to pressure a peer.
 1. "Come into this room quick, I just want to be alone with you."
 2. "If you really cared about me you would do this with me."
 3. "No one will find out and I've done this before; you'll be fine."
 4. "Everyone else is doing it."
 5. "What did you think we were going to do? You can't back out now!"



WAYS TO HANDLE PEER PRESSURE

AVOID RISKY SITUATIONS:

- Follow the rules of the school and stay out of areas that are off-limits.
- Spend time with groups of friends instead of alone with a person you are attracted to, or a person who makes you feel uncomfortable.

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USE VERBAL SKILLS:

- Say “No”
- Tell the person pressuring you that you don’t feel good about what is happening and are leaving
- Communicate with an adult if you are feeling threatened, uncomfortable or frightened by the actions of a peer.

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USE BODY LANGUAGE:

- Use serious facial expressions
- Create distance between you and the person
- Cross your arms

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USE DELAY TACTICS:

- Tell the person you have to call home

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BUILD THE RELATIONSHIP:

- Explain your feelings about what is happening and why it makes you uncomfortable

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OTHER:

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2020-2021

KINDERGARTEN YEAR LONG SCOPE & SEQUENCE

Adjusted for Learning Loss

Math Story Focus		Bridges in Mathematics		Week
0	Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar. Focus: Classroom Culture & Schoolwide Routines & Procedures			0
1	Volume 1	Exploring Manipulatives & Counting Principles K.CC.3, K.CC.4a, K.CC.4b, K.CC.5	Unit 1 Numbers to Five & Ten	Module 1: Sorting Shoes K.CC.1, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.CC.6, K.CC.7, K.MD.2, K.MD.3, K.G.1, K.G.2, K.G.4, K.G.6
2		Exploring Manipulatives & Counting Principles K.CC.3, K.CC.4a, K.CC.4b, K.CC.5		Module 2: Friendly Fives K.CC.3, K.CC.4a, K.CC.4b, K.CC.5, K.OA.3, K.MD.3
3		Exploring Manipulatives & Counting Principles K.CC.3, K.CC.4a, K.CC.4b, K.CC.5		Module 3: Friendly Tens K.CC.3, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.CC.6, K.OA.3, K.MD.3
4		Exploring Manipulatives & Counting Principles K.CC.3, K.CC.4a, K.CC.4b, K.CC.5		Module 4: Using Structures & Patterns K.CC.3, K.CC.5
5	Fall Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 5. Bridges Work Places from Previous Unit are recommended during math block.			
6	Volume 1	Add To, Put Together/Take Apart, Take From Problems – within 5 K.OA.1, K.OA.2	Unit 2 Numbers to Ten	Module 1: Dots to Ten K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.CC.6, K.OA.1, K.OA.3, K.OA.4
7		Add To, Put Together/Take Apart, Take From Problems – within 5 K.OA.1, K.OA.2		Module 2: Introducing the Number Rack K.CC.3, K.CC.4a, K.CC.4b, K.CC.5, K.OA.1, K.OA.3
8		Add To, Put Together/Take Apart, Take From Problems – within 5 K.OA.1, K.OA.2		Module 3: Five & Some More K.CC.1, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5, K.CC.6, K.OA.1, K.OA.2, K.OA.3, K.MD.3
9		Add To, Put Together/Take Apart, Take From Problems – within 5 K.OA.1, K.OA.2		Module 4: Composing & Decomposing Shapes K.G.1, K.G.2, K.G.4, K.G.6 <i>*This module is recommended as an extension of learning for supporting standards. If needed, it can be replaced with reteaching suggestions found in the Scoring Guide portion of your Unit Assessment.</i>
10	Volume 2	Add To, Put Together Problems – within 10 K.OA.1, K.OA.2	Unit 3 Bikes & Bugs: Double, Add & Subtract	Module 1: Bicycle Doubles K.CC.1, K.CC.4a, K.CC.4b, K.CC.5, K.OA.1, K.OA.3, K.G.5
11		Add To, Put Together Problems – within 10 K.OA.1, K.OA.2		Module 2: Adding & Subtracting Ones K.CC.2, K.CC.3, K.CC.4b, K.CC.5, K.OA.1, K.OA.2, K.OA.3, K.OA.4
12		Add To, Put Together Problems – within 10 K.OA.1, K.OA.2		Module 3: Add, Subtract, Double It! K.CC.2, K.CC.3, K.CC.4b, K.CC.5, K.CC.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.MD.1, K.MD.2

Week	Math Story Focus	Unit 3	Bridges in Mathematics	Week	
13	Add To, Put Together Problems – within 10 K.OA.1, K.OA.2	Unit 3	Module 4: Put Them in Order K.CC.2, K.CC.3, K.CC.4a, K.CC.4c, K.CC.6, K.CC.7, K.OA.3, K.OA.4	13	
14	Add To, Put Together/Take Apart, Take From Problems – within 10 K.OA.1, K.OA.2	Unit 4	Module 1: Paths: The Number Line K.CC.1, K.CC.2, K.CC.3, K.CC.5, K.CC.7, K.MD.1	14	
15	Add To, Put Together/Take Apart, Take From Problems – within 10 K.OA.1, K.OA.2			Module 2: Counting, Adding & Subtracting with Forest Animals K.CC.2, K.CC.3, K.CC.4a, K.CC.4b, K.CC.5, K.OA.1, K.OA.2, K.OA.5	15
16	Add To, Put Together/Take Apart, Take From Problems – within 10 K.OA.1, K.OA.2			Module 3: Comparing & Measuring Length K.CC.1, K.CC.2, K.CC.3, K.CC.4, K.CC.6, K.OA.5, K.MD.1, K.MD.2	16
17	Add To, Put Together/Take Apart, Take From Problems – within 10 K.OA.1, K.OA.2			Module 4: Fives & Ones with Money K.CC.1, K.CC.2, K.CC.6, K.OA.1, K.OA.2, K.OA.5, K.MD.3	17
18	Winter Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 18. Bridges Work Places from Previous Units are recommended during math block.				
19	Change/Addend Unknown Problems – within 10 K.OA.1, K.OA.2, K.NBT.4	Unit 5	Module 1: Exploring Shapes K.CC.1, K.CC.3, K.CC.6, K.CC.7, K.OA.3, K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5	19	
20	Change/Addend Unknown Problems – within 10 K.OA.1, K.OA.2, K.NBT.4			Module 2: Circles, Squares, Triangles & Rectangles K.CC.1, K.CC.6, K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5	20
21	Change/Addend Unknown Problems – within 10 K.OA.1, K.OA.2, K.NBT.4			Module 3: Constructing & Drawing Shapes K.CC.3, K.CC.6, K.OA.4, K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5, K.G.6	21
22	Change/Addend Unknown Problems – within 10 K.OA.1, K.OA.2, K.NBT.4			Module 4: Sorting, Comparing, Composing & Decomposing Shapes K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5, K.G.6 <i>*This module is recommended as an extension of learning for supporting standards. If needed, it can be replaced with reteaching suggestions found in the Scoring Guide portion of your Unit Assessment.</i>	22
23	Add To, Put Together Problems – within 20 K.OA.1, K.OA.2, K.NBT.1, Intro to 1.OA.1			Unit 6	Module 1: What Do You Know About Three- Dimensional Shapes? K.CC.1, K.CC.2, K.CC.4a, K.CC.4b, K.CC.5, K.CC.6, K.CC.7, K.OA.1, K.OA.2, K.NBT.1, K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5
24	Add To, Put Together Problems – within 20 K.OA.1, K.OA.2, K.NBT.1, Intro to 1.OA.1	Module 2: More Three- Dimensional Shapes K.CC.1, K.CC.2, K.CC.3, K.CC.4a–b, K.CC.5, K.CC.6, K.OA.3, K.OA.5, K.MD.3, K.G.1, K.G.2, K.G.3, K.G.4, K.G.5	24		

Math Story Focus		Bridges in Mathematics		Week		
25	Volume 3	Add To, Put Together Problems – within 20 K.OA.1, K.OA.2, K.NBT.1, Intro to 1.OA.1	Unit 6	Three-Dimensional Shapes & Numbers Beyond	Module 3: Exploring the Teen Numbers K.CC.1, K.CC.2, K.CC.3, K.CC.4c, K.CC.5, K.CC.6, K.CC.7, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5, K.NBT.1	25
26		Add To, Put Together Problems – within 20 K.OA.1, K.OA.2, K.NBT.1, Intro to 1.OA.1				Module 4: Combinations to Ten K.CC.3, K.CC.4a, K.CC.4b, K.CC.5, K.OA.1, K.OA.2, K.OA.3, K.OA.5
27	Volume 4	Add To, Put Together/Take Apart, Take From Problems – within 20 K.OA.1, K.OA.2, K.OA.3, K.NBT.1, Intro to 1.OA.1	Unit 7	Weight & Place Value	Module 1: How Heavy? Weight & Number K.CC.1, K.CC.3, K.CC.5, K.OA.1, K.OA.2, K.OA.3, K.NBT.1, K.MD.1, K.MD.2, K.MD.3	
28		Add To, Put Together/Take Apart, Take From Problems – within 20 K.OA.1, K.OA.2, K.OA.3, K.NBT.1, Intro to 1.OA.1				Module 2: Tens & Ones to Twenty K.CC.1, K.CC.3, K.CC.5, K.CC.6, K.CC.7, K.OA.1, K.OA.2, K.OA.5, K.NBT.1
29	Add To, Put Together/Take Apart, Take From Problems – within 20 K.OA.1, K.OA.2, K.OA.3, K.NBT.1, Intro to 1.OA.1	Unit 8	Computing & Measuring with Frogs & Bugs	Module 3: Addition & Subtraction Story Problems K.CC.3, K.CC.5, K.CC.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5, K.MD.1	Module 4: Counting by Tens & Ones K.CC.1, K.CC.3, K.CC.5, K.CC.6, K.CC.7, K.OA.1, K.OA.2, K.OA.5, K.NBT.1	
30	Add To, Put Together/Take Apart, Take From Problems – within 20 K.OA.1, K.OA.2, K.OA.3, K.NBT.1, Intro to 1.OA.1					Module 1: Catching, Counting & Comparing K.CC.1, K.CC.2, K.CC.3, K.CC.5, K.CC.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5, K.NBT.1
31	Volume 4	Add To, Put Together Problems – within 50 K.CC.1, K.OA.1, K.OA.2, Intro to 1.NBT.4	Unit 8	Computing & Measuring with Frogs & Bugs	Module 2: Frogs: Estimating & Measuring K.CC.1, K.CC.3, K.CC.5, K.CC.6, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.NBT.1, K.MD.1, K.MD.2, K.MD.3	
32		Add To, Put Together Problems – within 50 K.CC.1, K.OA.1, K.OA.2, Intro to 1.NBT.4				Module 3: Tens & Ones K.CC.2, K.CC.3, K.CC.4c, K.CC.6, K.OA.2, K.OA.3, K.OA.4, K.OA.5, K.NBT.1
33	Add To, Put Together Problems – within 50 K.CC.1, K.OA.1, K.OA.2, Intro to 1.NBT.4	Unit 8	Computing & Measuring with Frogs & Bugs	Module 4: Addition & Subtraction Equations K.CC.3, K.CC.5, K.OA.1, K.OA.2, K.OA.3, K.OA.4, K.OA.5, K.NBT.1	33	
34	Add To, Put Together Problems – within 50 K.CC.1, K.OA.1, K.OA.2, Intro to 1.NBT.4				34	
35	Spring Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 35/36. Bridges Work Places from Previous Units are recommended during math block.					35
36	Additional Learning Opportunities for Schools with Flex Time at the End of the Year to the Scoring Guide portion of your assessments for reteaching opportunities				Refer	36

2020-2021

1ST GRADE YEAR LONG SCOPE & SEQUENCE

Adjusted for Learning Loss

Math Story Focus		Bridges in Mathematics		Week
0	Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar. Focus: Classroom Culture & Schoolwide Routines & Procedures			0
1	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 10 1.OA.1	Unit 1	Numbers All Around Us	1
2	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 10 1.OA.1			2
3	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 10 1.OA.1			3
4	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 10 1.OA.1			4
5	Fall Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 5. Bridges Work Places from Previous Unit are recommended during math block.			5
6	See Learning Loss Supplemental Resource Guide Unit A: Add To, Put Together/Take Apart K.OA.1, K.OA.2, K.OA.3, K.NBT.1	Unit 2	Developing Strategies with Dice & Dominoes	6
7	See Learning Loss Supplemental Resource Guide Unit A: Add To, Put Together/Take Apart K.OA.1, K.OA.2, K.OA.3, K.NBT.1			7
8	See Learning Loss Supplemental Resource Guide Unit A: Add To, Put Together/Take Apart K.OA.1, K.OA.2, K.OA.3, K.NBT.1			8
9	See Learning Loss Supplemental Resource Guide Unit A: Add To, Put Together/Take Apart K.OA.1, K.OA.2, K.OA.3, K.NBT.1			9
10	Change/Addend Unknown Problems – within 10 1.OA.1			10
11	Change/Addend Unknown Problems – within 10 1.OA.1	11		

Math Story Focus		Bridges in Mathematics		Week
12	Change/Addend Unknown Problems – within 10 1.OA.1	Unit 2	Developing Strategies with Dice & Dominoes	12
13	Change/Addend Unknown Problems – within 10 1.OA.1			13
14	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 20 1.OA.1, 1.OA.6	Unit 3	Adding, Subtracting, Counting & Comparing	14
15	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 20 1.OA.1, 1.OA.6			15
16	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 20 1.OA.1, 1.OA.6			16
17	Add To, Put Together/Take Apart, Take From Result Unknown Problems – within 20 1.OA.1, 1.OA.6			17
18	Winter Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 18. Bridges Work Places from Previous Units are recommended during math block.			18
19	Change/Addend Unknown Problems – within 20 1.OA.1, 1.OA.6	Unit 4	Leapfrogs on the Number Line	19
20	Change/Addend Unknown Problems – within 20 1.OA.1, 1.OA.6			20
21	Change/Addend Unknown Problems – within 20 1.OA.1, 1.OA.6			21
22	Change/Addend Unknown Problems – within 20 1.OA.1, 1.OA.6			22
23	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6	Unit 5	Geometry	23
24	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6			24

Math Story Focus		Bridges in Mathematics		Week
25	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6	Unit 5	Geometry	25
26	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6			<p>Module 3: Putting Shapes Together & Taking Them Apart 1.OA.6, 1.NBT.1, 1.NBT.4, 1.NBT.6, 1.G.1, 1.G.2, 1.G.3</p> <p>*Module 4: Sorting & Graphing Shapes 1.MD.4, 1.G.1</p> <p><i>*This module is recommended as an extension of learning for supporting standards. If needed, it can be replaced with reteaching suggestions found in the Scoring Guide portion of your Unit Assessment.</i></p>
27	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6	Unit 6	Figure the Facts with Penguins	27
28	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6			<p>Module 1: Story Problems for Basic Addition & Subtraction 1.OA.1, 1.OA.4, 1.OA.5, 1.OA.6, 1.OA.7, 1.OA.8, 1.NBT.1, 1.NBT.2b</p> <p>Module 2: Combinations & Story Problems 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.4, 1.OA.6, 1.OA.8, 1.NBT.2b</p>
29	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6			<p>Module 3: Solving for the Unknown in Penguin Stories 1.OA.1, 1.OA.4, 1.OA.6, 1.OA.7, 1.OA.8</p>
30	Comparison Problems – within 10 and 20 1.OA.1, 1.OA.6			<p>*Module 4: Measuring & Comparing Emperor & Little Blue Penguins 1.OA.1, 1.OA.2, 1.OA.6, 1.NBT.1, 1.NBT.3, 1.NBT.4, 1.MD.1, 1.MD.2</p> <p><i>*This module is recommended as an extension of learning for priority standards. If needed, it can be replaced with reteaching suggestions found in the Scoring Guide portion of your Unit Assessment.</i></p>
31	Tell Time on Digital and Analog Clock- to the hour and half hour 1.MD.B3			Unit 7
32	Tell Time on Digital and Analog Clock- to the hour and half hour 1.MD.B3	<p>Module 1: Grouping Sticks & Bundles Beyond One Hundred 1.OA.6, 1.NBT.1, 1.NBT.2, 1.NBT.2a, 1.NBT.2b, 1.NBT.2c, 1.NBT.3, 1.NBT.4, 1.NBT.6</p> <p>Module 2: Hansel & Gretel's Path on the Number Line 1.NBT.1, 1.NBT.2, 1.NBT.4, 1.NBT.5, 1.NBT.6</p>		
33	Start Unknown Problems – within 10 and 20 1.OA.1, 1.OA.6	<p>Module 3: Adding & Subtracting Two-Digit Numbers with Hansel & Gretel 1.OA.1, 1.OA.2, 1.OA.3, 1.OA.6, 1.OA.8, 1.NBT.1, 1.NBT.4, 1.NBT.5, 1.NBT.6, 1.MD.2, 1.G.3</p>		
34	Start Unknown Problems – within 10 and 20 1.OA.1, 1.OA.6	<p>Module 4: Place Value with Money 1.NBT.1, 1.NBT.2, 1.NBT.3, 1.NBT.4, 1.NBT.5, 1.MD.3, 1.MD.4</p>	34	
35	<p>Spring Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 35/36. Bridges Work Places from Previous Units are recommended during math block.</p>			
36	<p>Additional Learning Opportunities for Schools with Flex Time at the End of the Year Extension Option: See Bridges Unit 8: Changes, Changes Build Strategies with Math Stories: Volume 4, Unit 8, Add To/Put Together Problems - within 100</p>			

2020-2021

2ND GRADE YEAR LONG SCOPE & SEQUENCE

Adjusted for Learning Loss

Math Story Focus		Bridges in Mathematics		Week
0	Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar. Focus: Classroom Culture & Schoolwide Routines & Procedures			0
1	Place Value Understanding 1.NBT.2A, 1.NBT.2B, 1.NBT.2C, 1.NBT.4, supports 2.NBT.1	Unit 1	Figure the Facts	Module 1: Sorting & Graphing K.MD.3, 1.MD.4, 2.MD.10
2	Place Value Understanding 1.NBT.2A, 1.NBT.2B, 1.NBT.2C, 1.NBT.4, supports 2.NBT.1			Module 2: Number Facts with the Number Rack K.CC.4A, K.CC.5, 1.OA.1, 1.OA.4, 1.OA.6, 1.NBT.3, 2.OA.1, 2.OA.2, 2.OA.4, 2.NBT.2, 2.MD.8
3	Place Value Understanding 1.NBT.2A, 1.NBT.2B, 1.NBT.2C, 1.NBT.4, supports 2.NBT.1			Module 3: Introducing Addition & Subtraction Strategies 1.OA.1, 1.OA.2, 1.NBT, 2.OA.1, 2.OA.2, 2.OA.3, 2.MD.10
4	Place Value Understanding 1.NBT.2A, 1.NBT.2B, 1.NBT.2C, 1.NBT.4, supports 2.NBT.1			Module 4: Fluency with Addition Facts to Twenty 1.OA.6, 2.OA.1, 2.OA.2, 2.OA.3, 2.MD.6
5	Fall Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 5. Bridges Work Places from Previous Unit are recommended during math block.			
6	See Learning Loss Supplemental Resource Guide Unit A: Telling Time 1.MD.B3			6
7	See Learning Loss Supplemental Resource Guide Unit A: Telling Time 1.MD.B3			7
8	See Learning Loss Supplemental Resource Guide Unit A: Start Unknown Problems – within 10 and 20 1.OA.1, 1.OA.6			8
9	See Learning Loss Supplemental Resource Guide Unit A: Start Unknown Problems – within 10 and 20 1.OA.1, 1.OA.6			9
10	Put Together/Add To – Result Unknown Problems 2.OA.1, 2.NBT.7	Unit 2	Place Value & Measurement	Module 1: Counting & Modeling Two- & Three-Digit Numbers 2.OA.1, 2.OA.2, 2.NBT.1, 2.NBT.1A, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.7, 2.MD.4, 2.MD.6
11	Put Together/Add To – Result Unknown Problems 2.OA.1, 2.NBT.7			Module 2: Measuring Jack's Giant Beans with Tens 2.OA.2, 2.OA.4, 2.NBT.1, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.NBT.7, 2.MD.4, 2.MD.6

Math Story Focus		Bridges in Mathematics			Week
12	Volume 1	Put Together/Add To – Result Unknown Problems 2.OA.1, 2.NBT.7	Unit 2	Place Value & Measurement	12
13		Put Together/Add To – Result Unknown Problems 2.OA.1, 2.NBT.7			
14	Volume 2	Take Away – Result Unknown Problems 2.OA.1	Unit 3	Addition & Subtraction Within 100	14
15		Take Away – Result Unknown Problems 2.OA.1			
16		Take Away – Result Unknown Problems 2.OA.1			
17		Take Away – Result Unknown Problems 2.OA.1			
18	Winter Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 18. Bridges Work Places from Previous Units are recommended during math block.				
19	Volume 2	Addend Unknown Problems 2.OA.1, 2.NBT.7	Unit 4	Addition & Subtraction	19
20		Addend Unknown Problems 2.OA.1, 2.NBT.7			
21		Addend Unknown Problems 2.OA.1, 2.NBT.7			
22		Addend Unknown Problems 2.OA.1, 2.NBT.7			

Math Story Focus		Bridges in Mathematics		Week
23	Start Unknown Problems & Mixed Review 2.OA.1	Unit 5	Place Value to One Thousand	23
24	Start Unknown Problems & Mixed Review 2.OA.1			24
25	Start Unknown Problems & Mixed Review 2.OA.1			25
26	Start Unknown Problems & Mixed Review 2.OA.1			26
27	Two-Step Problems 2.OA.1	Unit 6	Geometry	27
28	Two-Step Problems 2.OA.1			28
29	Two-Step Problems 2.OA.1			29
30	Two-Step Problems 2.OA.1	Unit 7	Measurement, Fractions & Multi-Digit Computation with Hungry Ants	30
31	Digital and Analog Clocks - Determining time to the nearest 5 minutes 2.MD.C.7			31
32	Digital and Analog Clocks - Determining time to the nearest 5 minutes 2.MD.C.7			32
33	Comparison Problems 2.OA.1			33
34	Comparison Problems 2.OA.1	Volume 4	Digit Computation with Hungry Ants	34
35	Spring Numeracy Assessment Window - No Bridges Sessions/Math Stories Planned During Week 35/36. Bridges Work Places from Previous Units are recommended during math block.			35
36	Additional Learning Opportunities for Schools with Flex Time at the End of the Year Extension Option: See Bridges Unit 8: Measurement, Data & Multi-Digit Computation with Marble Rolls Build Strategies with Math Stories: Volume 4, Unit 8, Three-Digit Computation			36

2020-2021
3RD GRADE YEAR LONG SCOPE & SEQUENCE
Adjusted for Learning Loss

Week	Math Story Focus	Bridges in Mathematics	Week
0	<i>Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar.</i> Focus: Classroom Culture & Schoolwide Routines & Procedures		0
1	Weeks 1-4 have no Math Stories Focus: Classroom Culture, Mathematics Routines & Procedures, Instructional Pacing of Bridges sessions	Unit 1 Addition and Subtraction Patterns	1
2			2
3			3
4	Volume 1 Double-Digit Addition within 100 2.OA.1, 2.NBT.5, 3.NBT.2 Double-Digit Subtraction within 100 2.OA.1, 2.NBT.5, 3.NBT.2 Efficient Ways to Count Objects 3.OA.1 Equal Groups Story Problems 3.OA.1 Introduction to Array Story Problems 3.OA.1, 3.OA.3	Unit 2 Introduction to Multiplication	4
5			5
6			6
7			7
8			8
9	Volume 2 Using Known Facts to Solve Problems 3.OA.3, 3.OA.5, 3.OA.7 Using Known Facts to Solve Problems 3.OA.3, 3.OA.5, 3.OA.7 Two Step Word Problems 3.OA.8 Two Step Word Problems 3.OA.8	Unit 3 Multi-Digit Addition and Subtraction	9
10			10
11			11
12			12
13			13
14	Review & Interim 1 Testing Window		14
15			15

Week	Math Story Focus	Bridges in Mathematics	Week
16	Multiplying by Multiples of 10 3.OA.3, *3.NBT.3 <i>*Math Stories used to introduce 3.NBT.3 skills</i>	Unit 4 Measurement and Fractions	16
17	Multiplying by Multiples of 10 3.OA.3, 3.OA.8, *3.NBT.3 <i>*Math Stories used to introduce 3.NBT.3 skills</i>		17
18	Time 3.MD.1		18
19	Time 3.MD.1		19
20	Introduction to Fractions 3.NF.1	Unit 5 Multiplication, Division and Area	20
21	Fractions on a Number Line 3.NF.2a, 3.NF.2b		21
22	Grouping and Sharing Division 3.OA.2		22
23	Multiplication and Division with Arrays 3.OA.2, 3.OA.3		23
24	Review & Interim2 Testing Window		24
25	Division within Measurement Situations 3.OA.1, 3.OA.2, 3.OA.3	Unit 7 Extending Fractions	25
26	Using Grid Shapes to Find Area 3.MD.6, 3.MD.7a, 3.MD.7b		26
27	Area as Additive 3.MD.7c	Unit 6 Geometry	27
28	Decomposing to Find Area 3.MD.7d		28
29	Finding Perimeter 3.MD.8	Unit 6 Geometry Continued	29
30	Mass and Liquid Volume 3.MD.2		30
31	Mass and Liquid Volume 3.MD.2	Unit 7 Extending Multiplication	31
32	Mixed Review Multistep Problems with Multiplication, Division, and Fractions		32
33	No Math Stories Bridges Unit 8	Unit 8 Bridge Design and Construction: Data Collection & Analysis	33
34			33
35			34
36			35
36		Module 1: Measuring Time and Mass 3.MD.1, 3.MD.2	16
		Module 2: Measuring Volume & Solving Measurement Problems 3.OA.8, 3.NBT.2, 3.MD.1, 3.MD.2	17
		See Supplemental Resource Guide Unit C 2.G.3	18
		Module 3: Fractions as Fair Shares 3.NF.1, 3.NF.2a-b, 3.NF.3a-d	19
		Module 4: Fractions on a Line Plot 3.NF.1, 3.NF.3a-d, 3.G.2	19
		Module 1: Linking Multiplication and Division 3.OA.1, 3.OA.2, 3.OA.3, 3.OA.6, 3.OA.9	20
		Module 2: Multiplication and Division Families 3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4, 3.OA.6, 3.OA.7	21
		Module 3: Division Practice 3.OA.2, 3.OA.3, 3.OA.5, 3.OA.7, 3.OA.8	22
		Module 4: Introducing Area 3.MD.5a-b, 3.MD.6, 3.MD.7a-b	23
		Module 3: Fractions as Parts of a Whole & Parts of a Set 3.NF.1, 3.NF.2, 3.NF.3a-b, 3.G.2	25
		Module 4: Fractions at Work 3.NF.1, 3.NF.2, 3.NF.3a-b, 3.G.2, 3.MD.3	26
		Module 1: Investigating Polygons 3.G.1	27
		Module 2: Quadrilaterals 3.G.1	28
		Module 3: Perimeter & Area 3.OA.3, 3.NF.1, 3.NF.3b, 3.NF.3d, 3.MD.5a-b, 3.MD.7a-b, 3.MD.8 3.G.1	29
		Module 4: Shapes and Fractions 3.G.2	30
		Module 1: Multiplication Beyond the Basics 3.OA.8, 3.NBT.3	31
		Module 2: One by Two Digit Multiplication 3.OA.5, 3.NBT.3	32
		Module 1: Introducing Bridges 3.MD.2, 3.MD.3, 3.MD.4, 3.MD.6, 3.MD.7	33
		Module 2: Investigating Structures in Bridges 3.NF.1, 3.MD.1, 3.MD.2, 3.MD.4, 3.MD.8, 3.G.1, 3.G.2	34
		Module 3: Planning, Building, & Analyzing Bridges 3.MD.1, 3.MD.2, 3.MD.4, 3.MD.8, 3.G.1, 3.G.2	35
		Module 4: Demonstrating Our Learning About Bridges 3.NF.1, 3.MD.1, 3.MD.2, 3.MD.4, 3.MD.6, 3.MD.7, 3.MD.8, 3.G.1, 3.G.2	36

2020-2021

4TH GRADE YEAR LONG SCOPE & SEQUENCE

Adjusted for Learning Loss

Math Story Focus		Bridges in Mathematics		Week	
0	Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar. Focus: Classroom Culture & Schoolwide Routines & Procedures			0	
1	Weeks 1-3 have no Math Stories		See Learning Loss Supplemental Resource Guide Unit A: Multiplication and Division 3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4, 3.OA.5, 3.OA.6, 3.OA.7, 3.OA.8, 3.OA.9	1	
2	Focus: Classroom Culture, Mathematics Routines & Procedures, & Instructional Pacing of Bridges sessions			2	
3	See Learning Loss Supplemental Resource Snap Facts			3	
4	See Learning Loss Supplemental Resource Snap Facts	Unit 1	Module 1: Models for Multiplication & Division 3.OA, 4.OA.1, 4.OA.2, 4.NBT.5, 4.NBT.6	4	
5	See Learning Loss Supplemental Resource Snap Facts			Module 2: Primes & Composites 3.OA, 4.OA.4	5
6	See Learning Loss Supplemental Resource Snap Facts			Module 3: Multiplicative Comparisons and Equations 3.OA, 4.OA.1, 4.OA.2, 4.OA.3, 4.OA.4	6
7	Multiplicative Comparisons 4.OA.1, 4.OA.2			Module 4: Measurement Experiences 4.OA.2, 4.MD.1, 4.MD.2	7
8	Multi-digit Multiplication 4.NBT.5	Unit 2	Early Division with Remainders 4.NBT.5, 4.NBT.6	8	
9	Multi-digit Multiplication 4.NBT.5			Module 1: Building Multiplication Arrays 4.NBT.1, 4.NBT.5, 4.MD.1, 4.MD.3	9
10	Multi-digit Multiplication 4.NBT.5			Module 2: Arrays & Ratio Tables 4.OA.3, 4.OA.4, 4.NBT.1, 4.NBT.5	10
11	Multi-digit Multiplication 4.NBT.5			Module 3: Multiplication Stories and Strategies 4.OA.3, 4.NBT.5, 4.MD.2	11
12		Review & Interim 1 Testing Window		12	
13	See Learning Loss Supplemental Resource Guide Unit B: Fractions as Fair Shares 3.NF.1, 3.NF.2a, 3.NF.3a, 3.NF.3b, 3.NF.3c, 3.NF.3d, 3.G.2			13	
14	Fractions Equivalence & Comparing 4.NF.1, 4.NF.2	Unit 3	Fractions and Decimals Fractions and Decimals	14	
15	Composing and Decomposing Fractions & Mixed Numbers 4.NF.3, 4.NF.4, 4.MD.4			Module 1: Equivalent Fractions 4.NF.1, 4.NF.2, 4.NF.3	15
16	Fractions & Decimals 4.NF.5, 4.NF.6, 4.NF.7			Module 2: Comparing, Composing & Decomposing Fractions and Mixed Numbers 4.NF.1, 4.NF.2, 4.NF.3a-d, 4.NF.4a-b	16
17	Fractions & Decimals 4.NF.5, 4.NF.6, 4.NF.7			Module 3: Introducing Decimals 4.NF.5, 4.NF.6, 4.NF.7	17
18	See Learning Loss Supplemental Resource Guide Unit C: Rounding and Multi-Digit Addition 3.NBT.1, 3.NBT.2, 3.OA.8			18	

Math Story Focus		Bridges in Mathematics			Week
19	Composing and Decomposing Fractions & Mixed Numbers 4.NF.3, 4.NF.4	Unit 4	Addition & Subtraction	Module 1: Place Value & the Standard Algorithm 4.NBT.1, 4.NBT.2, 4.NBT.3, 4.NBT.4	19
21	Adding, Subtracting & Multiplying Fractions 4.NF.3, 4.NF.4	Unit 6	Multiplication & Division	Module 3: Area and Perimeter 4.NBT.5, 4.MD.3, 4.G.1, 4.G.2, 4.G.3	21
23	Division 4.NBT.6	Multiplication & Division	Module 2: Revisiting Area and Perimeter 4.NBT.5, 4.NBT.6, 4.MD.1, 4.MD.2, 4.MD.3	23	
					24
25	Division 4.NBT.6	Fractions & Data	Module 3: Line Plots, Fractions & Division 4.OA.3, 4.OA.4, 4.NBT.6, 4.NF.1, 4.MD.4	25	
					26
27	Measurement, Data & Geometry 4.MD.5, 4.MD.6, 4.MD.7, 4.G.1, 4.G.2, 4.G.3	Geometry & Measurement	Module 1: Measuring Angles 4.MD.5, 4.MD.6, 4.MD.7, 4.G.1, 4.G.2	27	
					28
29	Equivalence & Comparing Fractions 4.NF.1, 4.NF.2	Extending & Reviewing	Module 1: Multiplication & Division Strategies 4.NBT.5, 4.NBT.6	29	
					30
31	Comparing Decimals & Fractions 4.NF.5, 4.NF.6, 4.NF.7	Reviewing & Extending	Module 3: Introducing the Standard Multiplication Algorithm 4.OA.3, 4.NBT.5	31	
					32
33	Solving Multi-step Word Problems 4.OA.3	Measurement	Module 3: Measurement Module 4: Measurement & Data Displays 4.MD.1, 4.MD.2	33	
					34
35	Number and Operations-Base Ten 4.NBT.1, 4.NBT.2, 4.NBT.3	Unit 8 [Optional]	Patterns & Problems	Module 1: Introducing Playground Design 4.MD.1, 4.MD.2, 4.MD.3, 4.MD.5, 4.MD.6, 4.MD.7, 4.G.1	
					36
36	Number and Operations-Base Ten 4.NBT.1, 4.NBT.2, 4.NBT.3	Patterns & Problems	Module 3: Using Scale Models for Our Playground & Field 4.MD.1, 4.MD.2, 4.MD.3, 4.MD.4, 4.G.1	36	
					36

2020-2021
5TH GRADE YEAR LONG SCOPE & SEQUENCE
Adjusted for Learning Loss

Week	Math Story Focus	Bridges in Mathematics	Week
0	Week 0 represents the initial week of school, which is often a partial week. The length of week 0 will depend on your school calendar. Focus: Classroom Culture & Schoolwide Routines & Procedures		0
1	Volume 1	Unit 1	1
2			2
3			3
4			4
5			5
6	Unit A	Unit A	6
7			7
8			8
9	Unit 2	Unit 2	9
10			10
11			11
12			12
Review & Interim 1 Testing Window			
13	See Learning Loss Supplemental Resource Guide Unit B: Place Value Review and Ramp Up to Visual Models 4.NBT.1, 4.NBT.5		13

Week	Math Story Focus	Bridges in Mathematics			Week
14	Add & Subtract Fractions & Mixed Numbers 5.NF.1, 5.NF.2	Unit 3	Place Value & Decimals	Module 1: Whole Number & Decimal Place Value 5.NBT.1, 5.NBT.2, 5.NBT.7 Module 2: Adding & Subtracting Decimals 5.NBT.1, 5.NBT.3a, 5.NBT.3b, 5.NBT.4, 5.NBT.7 Module 3: Conversions 5.NBT.2, 5.NBT.4, 5.NBT.6, 5.NBT.7, 5.MD.1 Module 4: Division & the Area Model 5.NBT.6	14
15	Add & Subtract Fractions - Distance 5.NF.1, 5.NF.2				15
16	Add & Subtract Fractions - Multi-Step Problems 5.NF.1, 5.NF.2, 5.MD.2				16
17	Mixed Review - Add & Subtract Fractions 5.NF.1, 5.NF.2, 5.MD.2				17
18	Naming & Comparing Decimals 5.NBT.3	Unit 4	Whole Numbers & Dividing Decimals	Module 1: Multiplication & Division Strategies 5.OA.2, 5.NBT.5, 5.NBT.6, 5.NBT.7, 5.NF.4a Module 2: More Multiplication & Division Strategies 5.OA.1, 5.NBT.5, 5.NBT.7, 5.NF.4a Module 3: From Array to Algorithm 5.NBT.5, 5.NBT.6, 5.NBT.7, 5.MD.5b Module 4: Multiplying to Divide 5.NBT.5, 5.NBT.6	18
19	Decimal Base 10 Concepts 5.NBT.1				19
20	Add & Subtract Decimals 5.NBT.7				20
21	Add & Subtract Decimals 5.NBT.7				21
22	Multiply a Whole Number by a Fraction 5.NF.4	Unit 5	Multiplying & Dividing Fractions	Module 1: Multiplying Whole Numbers by Fractions 5.NF.1, 5.NF.4a–b, 5.NF.5b, 5.NF.6, 5.MD.1 Module 2: Multiplying Fractions by Fractions 5.NF.1, 5.NF.4a–b, 5.NF.5a–b, 5.NF.6	22
23	Find a Fraction of a Whole Number 5.NF.4				23
24	Review & Interim 2 Testing Window				24
25	Multiply Fractions by Fractions 5.NF.4, 5.NF.6	Unit 5	Multiplying & Dividing Fractions	Module 3: More Fraction-by-Fraction Multiplication 5.NF.4a–b, 5.NF.5b, 5.NF.6 Module 4: Dividing Fractions & Whole Numbers 5.NBT.6, 5.NF.7a–c	25
26	Divide a Whole Number by a Fraction 5.NF.7				26
27	Divide a Fraction by a Whole Number 5.NF.7				27
28	Mixed Review*	Unit 7	Division & Decimals	Module 1: Division of Fractions & Whole Numbers 5.OA.1, 5.NBT.2, 5.NBT.6, 5.NF.3, 5.NF.7a–c Module 2: Division Interpretations & Strategies 5.NBT.6, 5.NF.3, 5.NF.7a–c Module 3: Powers of Ten 5.NBT.2, 5.NBT.6, 5.NBT.7 Module 4: Decimal Multiplication & Division 5.NBT.2, 5.NBT.7	28
29	Mixed Review*				29
30	Mixed Review*				30
31	Mixed Review - Place Value 5.NBT.1, 5.NBT.2, 5.NBT.7				31
32	Mixed Review - Fractions 5.NF.1, 5.NF.2, 5.NF.3, 5.NF.4	Unit 6	Graphing & Geometry	Module 1: Graphing Ordered Pairs 5.OA.3, 5.G.1, 5.G.2 Module 2: Classifying Polygons 5.MD.3a, 5.G.1, 5.G.3, 5.G.4 Module 4: Banners & Flags 5.NF.4b, 5.NF.5a–b, 5.NF.6	32
33	Mixed Review - Fractions 5.NF.2, 5.NF.4, 5.NF.5, 5.NF.6, 5.NF.7				33

Week	Math Story Focus	Bridges in Mathematics	Week
34	No Math Stories Bridges Unit 8	Unit 8 Solar Design	34
35			35
36			36

*Weeks 28-30 Mixed Review is intended for reviewing specific skills based on Interim 2 data. See Volume 4 for more guidance on the Mixed Review weeks.

6th Grade Scope and Sequence 2020-2021

Adjusted for Learning Loss

Week	
0	Routines and Procedures – Administer Unit 1 Preassessment
1	Unit 1: Area and Surface Area 6.G.A.1 • 6.G.A.4 • 6.EE.A.1 • 6.EE.A.2 - 6.EE.A.2a • 6.EE.A.2c
2	
3	
4	Unit 2: Introducing Ratios 6.RP.A.1 • 6.RP.A.2 • 6.RP.A.3 - 6.RP.A.3a • 6.RP.A.3b
5	
6	
7	Unit 3: Unit Rates and Percentages 6.RP.A.2 • 6.RP.A.3 - 6.RP.A.3b • 6.RP.A.3c • 6.RP.A.3d
8	
9	
10	
11	
12	Interim Review – Interim 1 Testing
13	Unit 4: Dividing Fractions 6.NS.A.1 • 6.G.A.1 • 6.G.A.2
14	
15	
16	Unit 5: Arithmetic in Base Ten 6.EE.A.4 • 6.NS.B.2 • 6.NS.B.3
17	
18	
19	Unit 6: Expressions and Equations 6.EE.A.1 • 6.EE.A.2 - 6.EE.A.2a • 6.EE.A.2c • 6.EE.A.3 • 6.EE.A.4 • 6.EE.B.5 • 6.EE.B.6 • 6.EE.B.7 • 6.EE.C.9 • 6.NS.B.3 • 6.RP.A.3 - 6.RP.A.3b • 6.RP.A.3c
20	
21	
22	
23	
24	Interim Review - Interim 2 Testing
25	Unit 7: Rational Numbers 6.NS.B.4 • 6.NS.C.5 • 6.NS.C.6 - 6.NS.C.6a • 6.NS.C.6b • 6.NS.C.6c • 6.NS.C.7 - 6.NS.C.7a • 6.NS.C.7b • 6.NS.C.7c • 6.NS.C.7d • 6.NS.C.8 • 6.EE.A.2 - 6.EE.A.2b • 6.EE.B.5 • 6.EE.B.6 • 6.EE.B.8 • 6.G.A.3
26	
27	
28	
29	Unit 8: Data Sets and Distribution 6.SP.A.1 • 6.SP.A.2 • 6.SP.A.3 • 6.SP.B.4 • 6.SP.B.5 - 6.SP.B.5a • 6.SP.B.5b • 6.SP.B.5c • 6.SP.B.5d • 6.NS.B.3
30	
31	
32	
33 - EOY	Unit 9: Putting it All Together

7th Grade Scope and Sequence 2020-2021

Adjusted for Learning Loss

Week	
0	Routines and Procedures – Administer Unit 1 Preassessment
1	Unit 1: Scale Drawings
2	7.G.A.1
3	
4	Unit 2: Introducing Proportional Relationships
5	7.RP.A.1 • 7.RP.A.2 • 7.G.B.6 • 7.RP.A.2.a • 7.RP.A.2.b • 7.RP.A.2.c • 7.RP.A.2.d
6	
7	
8	Unit 4: Proportional Relationships and Percentages
9	7.RP.A.1 • 7.RP.A.2 • 7.RP.A.3 • 7.G.A.1 • 7.NS.A.2.d
10	Unit 5: Rational Number Arithmetic • Topic A & B
11	7.NS.A.1 • 7.NS.A.2 • 7.NS.A.3 • 7.NS.A.1.a • 7.NS.A.1.b • 7.NS.A.1.c • 7.NS.A.1.d • 7.NS.A.2.d
12	Interim Review – Interim 1 Testing
13	Unit 5: Rational Number Arithmetic • Topic C, D, & E
14	7.NS.A.2 • 7.NS.A.3 • 7.EE.B.3 • 7.EE.B.4 • 7.RP.A.2 • 7.NS.A.2.a • 7.NS.A.2.b • 7.NS.A.2.c • 7.EE.B.4.a
15	
16	Unit 6: Expressions, Equations, Inequalities
17	7.EE.A.1 • 7.EE.A.2 • 7.EE.B.3 • 7.EE.B.4 • 7.NS.A.1 • 7.EE.B.4.a • 7.EE.B.4.b • 7.NS.A.1.c
18	
19	
20	
21	Unit 7: Angles, Triangles, and Prisms
22	7.G.A.2 • 7.G.A.3 • 7.G.B.5 • 7.G.B.6 • 7.NS.A.1 • 7.EE.B.4
23	
24	Interim Review - Interim 2 Testing
25	Unit 3: Measuring Circles
26	7.G.A.1 • 7.G.A.2 • 7.G.B.4 • 7.G.B.6 • 7.RP.A.2 • 7.RP.A.3 • 7.RP.A.2.a • 7.RP.A.2.c
27	
28	Unit 8: Probability and Sampling Topic A & B
29	7.SP.A.1 • 7.SP.A.2 • 7.SP.B.3 • 7.SP.B.4 • 7.SP.C.7 • 7.SP.C.5 • 7.SP.C.6 •
30	7.SP.C.7 • 7.SP.C.8 • 7.NS.A.2 • 7.NS.A.2.d • 7.SP.C.7.a • 7.SP.C.7.b • 7.SP.C.8.a • 7.SP.C.8.b • 7.SP.C.8.c
31- EOY	Unit 9: Putting it All Together

8th Grade Scope and Sequence 2020-2021

Adjusted for Learning Loss

Week	
0	Routines and Procedures – Administer Unit 1 Preassessment
1	
2	Unit 1: Rigid Transformations and Congruence
3	8.G.A.1 • 8.G.A.2 • 8.G.A.3 • 8.G.A.5
4	
5	Unit 2: Dilations, Similarity, and Introducing Slope
6	8.G.A. • 8.G.A.2 • 8.G.A.3 • 8.G.A.4 • 8.G.A.5 • 8.EE.B.6
7	
8	
9	Unit 3: Linear Relationships
10	8.EE.B • 8.EE.B.5 • 8.EE.B.6 • 8.EE.C (8.EE.C.8a) • 8.G.A1
11	
12	Interim Review – Interim 1 Testing
13	
14	Unit 4: Linear Equations and Linear Systems
15	8.EE.C • 8.EE.C.7 (8.EE.C.7a, 8.EE.C.7b) • 8.EE.C.8 (8.EE.C.8a, 8.EE.C.8b, 8.EE.C.8c)
16	
17	Unit 5: Functions and Volume
18	8.F.A.1 • 8.F.A.2 • 8.F.A.3 • 8.F.B • 8.F.B.4 • 8.F.B.5 • 8.G.C • 8.G.C.9
19	
20	
21	Unit 6: Associations in Data
22	8.SP.A • 8.SP.A.1 • 8.SP.A.2 • 8.SP.A.3 • 8.SP.A.4
23	
24	Interim Review- Interim 2 Testing
25	
26	Unit 7: Exponents and Scientific Notation
27	8.EE.A.1 • 8.EE.A.3 • 8.EE.A.4
28	
29	
30	Unit 8: Pythagorean Theorem and Irrational Numbers
31	8.NS.A • 8.NS.A.1 • 8.NS.A.2 • 8.EE.A • 8.EE.A.2 • 8.F.B • 8.G.B • 8.G.B.6 • 8.G.B.7 • 8.G.B.8
32	
33-EOY	Unit 9: Putting it All Together



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Welcome

Welcome to the Michigan K-12 Standards for Mathematics, adopted by the State Board of Education in 2010. With the reauthorization of the 2001 Elementary and Secondary Education Act (ESEA), commonly known as No Child Left Behind (NCLB), Michigan embarked on a standards revision process, starting with the K-8 mathematics and ELA standards that resulted in the Grade Level Content Expectations (GLCE). These were intended to lay the framework for the grade level testing in these subject areas required under NCLB. These were followed by GLCE for science and social studies, and by High School Content Expectations (HSCE) for all subject areas. Seven years later the revision cycle continued with Michigan working with other states to build on and refine current state standards that would allow states to work collaboratively to develop a repository of quality resources based on a common set of standards. These standards are the result of that collaboration.

Michigan's K–12 academic standards serve to outline learning expectations for Michigan's students and are intended to guide local curriculum development. Because these Mathematics standards are shared with other states, local districts have access to a broad set of resources they can call upon as they develop their local curricula and assessments. State standards also serve as a platform for state-level assessments, which are used to measure how well schools are providing opportunities for all students to learn the content required to be career– and college–ready.

Linda Forward, Director,
Office of Education Improvement and Innovation

Vanessa Keesler, Deputy Superintendent,
Division of Education Services

Mike Flanagan, Superintendent of Public Instruction

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Introduction

Toward greater focus and coherence

Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. Mathematical process goals should be integrated in these content areas.

— Mathematics Learning in Early Childhood, National Research Council, 2009

The composite standards [of Hong Kong, Korea and Singapore] have a number of features that can inform an international benchmarking process for the development of K-6 mathematics standards in the U.S. First, the composite standards concentrate the early learning of mathematics on the number, measurement, and geometry strands with less emphasis on data analysis and little exposure to algebra. The Hong Kong standards for grades 1-3 devote approximately half the targeted time to numbers and almost all the time remaining to geometry and measurement.

— Ginsburg, Leinwand and Decker, 2009

Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found this conceptual weakness in both.

— Ginsburg et al., 2005

There are many ways to organize curricula. The challenge, now rarely met, is to avoid those that distort mathematics and turn off students.

— Steen, 2007

For over a decade, research studies of mathematics education in high-performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country. To deliver on the promise of common standards, the standards must address the problem of a curriculum that is “a mile wide and an inch deep.” These Standards are a substantial answer to that challenge.

It is important to recognize that “fewer standards” are no substitute for focused standards. Achieving “fewer standards” would be easy to do by resorting to broad, general statements. Instead, these Standards aim for clarity and specificity.

Assessing the coherence of a set of standards is more difficult than assessing their focus. William Schmidt and Richard Houang (2002) have said that content standards and curricula are coherent if they are:

*articulated over time as a sequence of topics and performances that are logical and reflect, where appropriate, the sequential or hierarchical nature of the disciplinary content from which the subject matter derives. That is, what and how students are taught should reflect not only the topics that fall within a certain academic discipline, **but also the key ideas** that determine how knowledge is organized and generated within that discipline. This implies*

that to be coherent, a set of content standards must evolve from particulars (e.g., the meaning and operations of whole numbers, including simple math facts and routine computational procedures associated with whole numbers and fractions) to deeper structures inherent in the discipline. These deeper structures then serve as a means for connecting the particulars (such as an understanding of the rational number system and its properties). (emphasis added)

These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas.

In addition, the “sequence of topics and performances” that is outlined in a body of mathematics standards must also respect what is known about how students learn. As Confrey (2007) points out, developing “sequenced obstacles and challenges for students...absent the insights about meaning that derive from careful study of learning, would be unfortunate and unwise.” In recognition of this, the development of these Standards began with research-based learning progressions detailing what is known today about how students’ mathematical knowledge, skill, and understanding develop over time.

Understanding mathematics

These Standards define what students should understand and be able to do in their study of mathematics. Asking a student to understand something means asking a teacher to assess whether the student has understood it. But what does mathematical understanding look like? One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student’s mathematical maturity, *why* a particular mathematical statement is true or where a mathematical rule comes from. There is a world of difference between a student who can summon a mnemonic device to expand a product such as $(a + b)(x + y)$ and a student who can explain where the mnemonic comes from. The student who can explain the rule understands the mathematics, and may have a better chance to succeed at a less familiar task such as expanding $(a + b + c)(x + y)$. Mathematical understanding and procedural skill are equally important, and both are assessable using mathematical tasks of sufficient richness.

The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations. It is also beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participation of students with special education needs. For example, for students with disabilities reading should allow for use of Braille, screen reader technology, or other assistive devices, while writing should include the use of a scribe, computer, or speech-to-text technology. In a similar vein, speaking and listening should be interpreted broadly to include sign language. No set of grade-specific standards can fully reflect the great variety in abilities, needs, learning rates, and achievement levels of students in any given classroom. However, the Standards do provide clear signposts along the way to the goal of college and career readiness for all students.

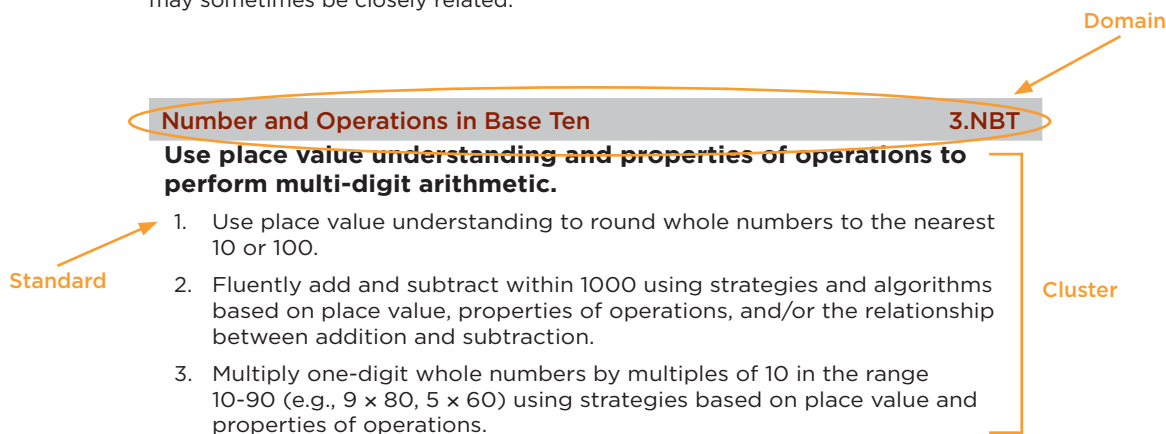
The Standards begin on page 6 with eight Standards for Mathematical Practice.

How to read the standards

Standards define what students should understand and be able to do.

Clusters are groups of related standards. Note that standards from different clusters may sometimes be closely related, because mathematics is a connected subject.

Domains are larger groups of related standards. Standards from different domains may sometimes be closely related.



These Standards do not dictate curriculum or teaching methods. For example, just because topic A appears before topic B in the standards for a given grade, it does not necessarily mean that topic A must be taught before topic B. A teacher might prefer to teach topic B before topic A, or might choose to highlight connections by teaching topic A and topic B at the same time. Or, a teacher might prefer to teach a topic of his or her own choosing that leads, as a byproduct, to students reaching the standards for topics A and B.

What students can learn at any particular grade level depends upon what they have learned before. Ideally then, each standard in this document might have been phrased in the form, “Students who already know ... should next come to learn ...” But at present this approach is unrealistic—not least because existing education research cannot specify all such learning pathways. Of necessity therefore, grade placements for specific topics have been made on the basis of state and international comparisons and the collective experience and collective professional judgment of educators, researchers and mathematicians. One promise of common state standards is that over time they will allow research on learning progressions to inform and improve the design of standards to a much greater extent than is possible today. Learning opportunities will continue to vary across schools and school systems, and educators should make every effort to meet the needs of individual students based on their current understanding.

These Standards are not intended to be new names for old ways of doing business. They are a call to take the next step. It is time for states to work together to build on lessons learned from two decades of standards based reforms. It is time to recognize that standards are not just promises to our children, but promises we intend to keep.

Mathematics | Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy).

1 Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2 Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3 Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions,

communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4 Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5 Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7 Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y .

8 Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Mathematics | Kindergarten

In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

(1) Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

(2) Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Grade K Overview

Counting and Cardinality

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

- Work with numbers 11–19 to gain foundations for place value.

Measurement and Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Know number names and the count sequence.

1. Count to 100 by ones and by tens.
2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Count to tell the number of objects.

4. Understand the relationship between numbers and quantities; connect counting to cardinality.
 - a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
 - b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
 - c. Understand that each successive number name refers to a quantity that is one larger.
5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Compare numbers.

6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.¹
7. Compare two numbers between 1 and 10 presented as written numerals.

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

1. Represent addition and subtraction with objects, fingers, mental images, drawings², sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
5. Fluently add and subtract within 5.

¹Include groups with up to ten objects.

²Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

Number and Operations in Base Ten

K.NBT

Work with numbers 11–19 to gain foundations for place value.

1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement and Data

K.MD

Describe and compare measurable attributes.

1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*

Classify objects and count the number of objects in each category.

3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.³

Geometry

K.G

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind, and next to*.
2. Correctly name shapes regardless of their orientations or overall size.
3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

Analyze, compare, create, and compose shapes.

4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).
5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
6. Compose simple shapes to form larger shapes. *For example, “Can you join these two triangles with full sides touching to make a rectangle?”*

³Limit category counts to be less than or equal to 10.

Mathematics | Grade 1

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.

(1) Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart, and compare situations to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., “making tens”) to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

(2) Students develop, discuss, and use efficient, accurate, and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

(3) Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.¹

(4) Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes, and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

¹Students should apply the principle of transitivity of measurement to make indirect comparisons, but they need not use this technical term.

Grade 1 Overview

Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Understand and apply properties of operations and the relationship between addition and subtraction.
- Add and subtract within 20.
- Work with addition and subtraction equations.

Number and Operations in Base Ten

- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data

- Measure lengths indirectly and by iterating length units.
- Tell and write time.
- Represent and interpret data.

Geometry

- Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.²
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Understand and apply properties of operations and the relationship between addition and subtraction.

3. Apply properties of operations as strategies to add and subtract.³ *Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.)*
4. Understand subtraction as an unknown-addend problem. *For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.*

Add and subtract within 20.

5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Work with addition and subtraction equations.

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.*
8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = [] - 3$, $6 + 6 = []$.*

Extend the counting sequence.

1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Understand place value.

2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
 - a. 10 can be thought of as a bundle of ten ones — called a “ten.”
 - b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

²See Glossary, Table 1.³Students need not use formal terms for these properties.

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

Use place value understanding and properties of operations to add and subtract.

4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Measurement and Data

1.MD

Measure lengths indirectly and by iterating length units.

1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Geometry

1.G

Reason with shapes and their attributes.

1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.⁴
3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

⁴Students do not need to learn formal names such as “right rectangular prism.”

Mathematics | Grade 2

In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

(1) Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).

(2) Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.

(3) Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves an iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.

(4) Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Grade 2 Overview

Operations and Algebraic Thinking

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.
- Work with equal groups of objects to gain foundations for multiplication.

Number and Operations in Base Ten

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

Measurement and Data

- Measure and estimate lengths in standard units.
- Relate addition and subtraction to length.
- Work with time and money.
- Represent and interpret data.

Geometry

- Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Represent and solve problems involving addition and subtraction.

1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹

Add and subtract within 20.

2. Fluently add and subtract within 20 using mental strategies.² By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Understand place value.

1. Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
 - a. 100 can be thought of as a bundle of ten tens — called a “hundred.”
 - b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2. Count within 1000; skip-count by 5s, 10s, and 100s.
3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Use place value understanding and properties of operations to add and subtract.

5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
6. Add up to four two-digit numbers using strategies based on place value and properties of operations.
7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
9. Explain why addition and subtraction strategies work, using place value and the properties of operations.³

¹See Glossary, Table 1.

²See standard 1.OA.6 for a list of mental strategies.

³Explanations may be supported by drawings or objects.

Measure and estimate lengths in standard units.

1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
3. Estimate lengths using units of inches, feet, centimeters, and meters.
4. Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

Work with time and money.

7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems⁴ using information presented in a bar graph.

Reason with shapes and their attributes.

1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.⁵ Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
3. Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

⁴See Glossary, Table 1.

⁵Sizes are compared directly or visually, not compared by measuring.

Mathematics | Grade 3

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes.

(1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.

(2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a fractional part is relative to the size of the whole. For example, $\frac{1}{2}$ of the paint in a small bucket could be less paint than $\frac{1}{3}$ of the paint in a larger bucket, but $\frac{1}{3}$ of a ribbon is longer than $\frac{1}{5}$ of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

(3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same-size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.

(4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

Grade 3 Overview

Operations and Algebraic Thinking

- Represent and solve problems involving multiplication and division.
- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.

Number and Operations in Base Ten

- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- Develop understanding of fractions as numbers.

Measurement and Data

- Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- Represent and interpret data.
- Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
- Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

Geometry

- Reason with shapes and their attributes.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Represent and solve problems involving multiplication and division.

1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5×7 .*
2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.*
3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹
4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \square \div 3$, $6 \times 6 = ?$.*

Understand properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide.² *Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)*
6. Understand division as an unknown-factor problem. *For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.*

Multiply and divide within 100.

7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

8. Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.³
9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*

¹See Glossary, Table 2.

²Students need not use formal terms for these properties.

³This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Use place value understanding and properties of operations to perform multi-digit arithmetic.⁴

1. Use place value understanding to round whole numbers to the nearest 10 or 100.
2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

Develop understanding of fractions as numbers.

1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.
 - a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.
 - b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
 - a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
 - b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
 - c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.*
 - d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

⁴A range of algorithms may be used.

⁵Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8.

2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).⁶ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.⁷

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
 - a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
 - b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
7. Relate area to the operations of multiplication and addition.
 - a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
 - b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
 - c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
 - d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

⁶Excludes compound units such as cm^3 and finding the geometric volume of a container.

⁷Excludes multiplicative comparison problems (problems involving notions of “times as much”; see Glossary, Table 2).

Reason with shapes and their attributes.

1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.*

Mathematics | Grade 4

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

Grade 4 Overview

Operations and Algebraic Thinking

- Use the four operations with whole numbers to solve problems.
- Gain familiarity with factors and multiples.
- Generate and analyze patterns.

Number and Operations in Base Ten

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Number and Operations—Fractions

- Extend understanding of fraction equivalence and ordering.
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- Understand decimal notation for fractions, and compare decimal fractions.

Measurement and Data

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- Represent and interpret data.
- Geometric measurement: understand concepts of angle and measure angles.

Geometry

- Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
2. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.¹
3. Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain familiarity with factors and multiples.

4. Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.*
2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.
5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

¹See Glossary, Table 2.

²Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.

6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations—Fractions³

4.NF

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
2. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
 - a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
 - b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples:* $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$.
 - c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
 - d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
 - a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.*
 - b. Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)*
 - c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

³Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.⁴ For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.
6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.

Measurement and Data

4.MD

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...
2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Geometric measurement: understand concepts of angle and measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
 - a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles.
 - b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

⁴Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Geometry

4.G

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Mathematics | Grade 5

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Grade 5 Overview

Operations and Algebraic Thinking

- Write and interpret numerical expressions.
- Analyze patterns and relationships.

Number and Operations in Base Ten

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions

- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths.
 - a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
 - b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently multiply multi-digit whole numbers using the standard algorithm.
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)*
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.*

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
 - a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. *For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)*
 - b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
5. Interpret multiplication as scaling (resizing), by:
 - a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
 - b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.¹
 - a. Interpret division of a unit fraction by a non-zero whole number,

¹Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

and compute such quotients. *For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.*

- b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.*
- c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?*

Measurement and Data

5.MD

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit ($1/2$, $1/4$, $1/8$). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
 - a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
 - b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
 - a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
 - b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
 - c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x -axis and x -coordinate, y -axis and y -coordinate).
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematics | Grade 6

In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

(1) Students use reasoning about multiplication and division to solve ratio and rate problems about quantities. By viewing equivalent ratios and rates as deriving from, and extending, pairs of rows (or columns) in the multiplication table, and by analyzing simple drawings that indicate the relative size of quantities, students connect their understanding of multiplication and division with ratios and rates. Thus students expand the scope of problems for which they can use multiplication and division to solve problems, and they connect ratios and fractions. Students solve a wide variety of problems involving ratios and rates.

(2) Students use the meaning of fractions, the meanings of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for dividing fractions make sense. Students use these operations to solve problems. Students extend their previous understandings of number and the ordering of numbers to the full system of rational numbers, which includes negative rational numbers, and in particular negative integers. They reason about the order and absolute value of rational numbers and about the location of points in all four quadrants of the coordinate plane.

(3) Students understand the use of variables in mathematical expressions. They write expressions and equations that correspond to given situations, evaluate expressions, and use expressions and formulas to solve problems. Students understand that expressions in different forms can be equivalent, and they use the properties of operations to rewrite expressions in equivalent forms. Students know that the solutions of an equation are the values of the variables that make the equation true. Students use properties of operations and the idea of maintaining the equality of both sides of an equation to solve simple one-step equations. Students construct and analyze tables, such as tables of quantities that are in equivalent ratios, and they use equations (such as $3x = y$) to describe relationships between quantities.

(4) Building on and reinforcing their understanding of number, students begin to develop their ability to think statistically. Students recognize that a data distribution may not have a definite center and that different ways to measure center yield different values. The median measures center in the sense that it is roughly the middle value. The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students recognize that a measure of variability (interquartile range or mean absolute deviation) can also be useful for summarizing data because two very different sets of data can have the same mean and

median yet be distinguished by their variability. Students learn to describe and summarize numerical data sets, identifying clusters, peaks, gaps, and symmetry, considering the context in which the data were collected.

Students in Grade 6 also build on their work with area in elementary school by reasoning about relationships among shapes to determine area, surface area, and volume. They find areas of right triangles, other triangles, and special quadrilaterals by decomposing these shapes, rearranging or removing pieces, and relating the shapes to rectangles. Using these methods, students discuss, develop, and justify formulas for areas of triangles and parallelograms. Students find areas of polygons and surface areas of prisms and pyramids by decomposing them into pieces whose area they can determine. They reason about right rectangular prisms with fractional side lengths to extend formulas for the volume of a right rectangular prism to fractional side lengths. They prepare for work on scale drawings and constructions in Grade 7 by drawing polygons in the coordinate plane.

Grade 6 Overview

Ratios and Proportional Relationships

- Understand ratio concepts and use ratio reasoning to solve problems.

The Number System

- Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
- Compute fluently with multi-digit numbers and find common factors and multiples.
- Apply and extend previous understandings of numbers to the system of rational numbers.

Expressions and Equations

- Apply and extend previous understandings of arithmetic to algebraic expressions.
- Reason about and solve one-variable equations and inequalities.
- Represent and analyze quantitative relationships between dependent and independent variables.

Geometry

- Solve real-world and mathematical problems involving area, surface area, and volume.

Statistics and Probability

- Develop understanding of statistical variability.
- Summarize and describe distributions.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Understand ratio concepts and use ratio reasoning to solve problems.

1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*
2. Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is $3/4$ cup of flour for each cup of sugar." "We paid \$75 for 15 hamburgers, which is a rate of \$5 per hamburger."*
3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
 - a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.
 - b. Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*
 - c. Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means $30/100$ times the quantity); solve problems involving finding the whole, given a part and the percent.
 - d. Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $3/4$ -cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi?*

Compute fluently with multi-digit numbers and find common factors and multiples.

2. Fluently divide multi-digit numbers using the standard algorithm.
3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9 + 2)$.*

¹Expectations for unit rates in this grade are limited to non-complex fractions.

Apply and extend previous understandings of numbers to the system of rational numbers.

5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
 - a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite.
 - b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
 - c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
7. Understand ordering and absolute value of rational numbers.
 - a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.*
 - b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C .*
 - c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.*
 - d. Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.*
8. Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

Expressions and Equations

6.EE

Apply and extend previous understandings of arithmetic to algebraic expressions.

1. Write and evaluate numerical expressions involving whole-number exponents.
2. Write, read, and evaluate expressions in which letters stand for numbers.
 - a. Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as $5 - y$.*

- b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression $2(8 + 7)$ as a product of two factors; view $(8 + 7)$ as both a single entity and a sum of two terms.*
 - c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.*
3. Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$; apply the distributive property to the expression $24x + 18y$ to produce the equivalent expression $6(4x + 3y)$; apply properties of operations to $y + y + y$ to produce the equivalent expression $3y$.*
 4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.*

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
7. Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers.
8. Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

Represent and analyze quantitative relationships between dependent and independent variables.

9. Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation $d = 65t$ to represent the relationship between distance and time.*

Geometry

6.G

Solve real-world and mathematical problems involving area, surface area, and volume.

1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

2. Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
3. Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
4. Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Statistics and Probability

6.SP

Develop understanding of statistical variability.

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*
2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

Summarize and describe distributions.

4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
5. Summarize numerical data sets in relation to their context, such as by:
 - a. Reporting the number of observations.
 - b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.
 - c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
 - d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Mathematics | Grade 7

In Grade 7, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

(1) Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

(2) Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

(3) Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

(4) Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

Grade 7 Overview

Ratios and Proportional Relationships

- Analyze proportional relationships and use them to solve real-world and mathematical problems.

The Number System

- Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

Expressions and Equations

- Use properties of operations to generate equivalent expressions.
- Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

Geometry

- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

Statistics and Probability

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.*
2. Recognize and represent proportional relationships between quantities.
 - a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
 - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
 - c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p , the relationship between the total cost and the number of items can be expressed as $t = pn$.*
 - d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
 - a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
 - b. Understand $p + q$ as the number located a distance $|q|$ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
 - c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
 - d. Apply properties of operations as strategies to add and subtract rational numbers.
2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
 - a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

- b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
 - c. Apply properties of operations as strategies to multiply and divide rational numbers.
 - d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
3. Solve real-world and mathematical problems involving the four operations with rational numbers.¹

Expressions and Equations

7.EE

Use properties of operations to generate equivalent expressions.

- 1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- 2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.”*

Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

- 3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
- 4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
 - a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
 - b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.*

Geometry

7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

- 1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

¹Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.

Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Statistics and Probability

7.SP

Use random sampling to draw inferences about a population.

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*

Draw informal comparative inferences about two populations.

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*

Investigate chance processes and develop, use, and evaluate probability models.

5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.

6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
 - a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*
 - b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
 - a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
 - b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., “rolling double sixes”), identify the outcomes in the sample space which compose the event.
 - c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Mathematics | Grade 8

In Grade 8, instructional time should focus on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

(1) Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y = mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x -coordinate changes by an amount A , the output or y -coordinate changes by the amount $m \cdot A$. Students also use a linear equation to describe the association between two quantities in bivariate data (such as arm span vs. height for students in a classroom). At this grade, fitting the model, and assessing its fit to the data are done informally. Interpreting the model in the context of the data requires students to express a relationship between the two quantities in question and to interpret components of the relationship (such as slope and y -intercept) in terms of the situation.

Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation. Students solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane; these intersect, are parallel, or are the same line. Students use linear equations, systems of linear equations, linear functions, and their understanding of slope of a line to analyze situations and solve problems.

(2) Students grasp the concept of a function as a rule that assigns to each input exactly one output. They understand that functions describe situations where one quantity determines another. They can translate among representations and partial representations of functions (noting that tabular and graphical representations may be partial representations), and they describe how aspects of the function are reflected in the different representations.

(3) Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students understand the statement of the Pythagorean Theorem and its converse, and can explain why the Pythagorean Theorem holds, for example, by decomposing a square in two different ways. They apply the Pythagorean Theorem to find distances between points on the coordinate plane, to find lengths, and to analyze polygons. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

Grade 8 Overview

The Number System

- Know that there are numbers that are not rational, and approximate them by rational numbers.

Expressions and Equations

- Work with radicals and integer exponents.
- Understand the connections between proportional relationships, lines, and linear equations.
- Analyze and solve linear equations and pairs of simultaneous linear equations.

Functions

- Define, evaluate, and compare functions.
- Use functions to model relationships between quantities.

Geometry

- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.

Statistics and Probability

- Investigate patterns of association in bivariate data.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Know that there are numbers that are not rational, and approximate them by rational numbers.

1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*

Work with radicals and integer exponents.

1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.*
2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
3. Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9 , and determine that the world population is more than 20 times larger.*
4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Understand the connections between proportional relationships, lines, and linear equations.

5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*
6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

Analyze and solve linear equations and pairs of simultaneous linear equations.

7. Solve linear equations in one variable.
 - a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
 - b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

8. Analyze and solve pairs of simultaneous linear equations.
 - a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.
 - b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.*
 - c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Functions

8.F

Define, evaluate, and compare functions.

1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.¹
2. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.*
3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.*

Use functions to model relationships between quantities.

4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Geometry

8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.

1. Verify experimentally the properties of rotations, reflections, and translations:
 - a. Lines are taken to lines, and line segments to line segments of the same length.
 - b. Angles are taken to angles of the same measure.
 - c. Parallel lines are taken to parallel lines.
2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

¹Function notation is not required in Grade 8.

3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
4. Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*

Understand and apply the Pythagorean Theorem.

6. Explain a proof of the Pythagorean Theorem and its converse.
7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

9. Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

Statistics and Probability

8.SP

Investigate patterns of association in bivariate data.

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*
4. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*

Mathematics Standards for High School

The high school standards specify the mathematics that all students should study in order to be college and career ready. Additional mathematics that students should learn in order to take advanced courses such as calculus, advanced statistics, or discrete mathematics is indicated by (+), as in this example:

(+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers).

All standards without a (+) symbol should be in the common mathematics curriculum for all college and career ready students. Standards with a (+) symbol may also appear in courses intended for all students.

The high school standards are listed in conceptual categories:

- Number and Quantity
- Algebra
- Functions
- Modeling
- Geometry
- Statistics and Probability

Conceptual categories portray a coherent view of high school mathematics; a student's work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus.

Modeling is best interpreted not as a collection of isolated topics but in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*). The star symbol sometimes appears on the heading for a group of standards; in that case, it should be understood to apply to all standards in that group.

Mathematics | High School—Number and Quantity

Numbers and Number Systems. During the years from kindergarten to eighth grade, students must repeatedly extend their conception of number. At first, “number” means “counting number”: 1, 2, 3... Soon after that, 0 is used to represent “none” and the whole numbers are formed by the counting numbers together with zero. The next extension is fractions. At first, fractions are barely numbers and tied strongly to pictorial representations. Yet by the time students understand division of fractions, they have a strong concept of fractions as numbers and have connected them, via their decimal representations, with the base-ten system used to represent the whole numbers. During middle school, fractions are augmented by negative fractions to form the rational numbers. In Grade 8, students extend this system once more, augmenting the rational numbers with the irrational numbers to form the real numbers. In high school, students will be exposed to yet another extension of number, when the real numbers are augmented by the imaginary numbers to form the complex numbers.

With each extension of number, the meanings of addition, subtraction, multiplication, and division are extended. In each new number system—integers, rational numbers, real numbers, and complex numbers—the four operations stay the same in two important ways: They have the commutative, associative, and distributive properties and their new meanings are consistent with their previous meanings.

Extending the properties of whole-number exponents leads to new and productive notation. For example, properties of whole-number exponents suggest that $(5^{1/3})^3$ should be $5^{(1/3)3} = 5^1 = 5$ and that $5^{1/3}$ should be the cube root of 5.

Calculators, spreadsheets, and computer algebra systems can provide ways for students to become better acquainted with these new number systems and their notation. They can be used to generate data for numerical experiments, to help understand the workings of matrix, vector, and complex number algebra, and to experiment with non-integer exponents.

Quantities. In real world problems, the answers are usually not numbers but quantities: numbers with units, which involves measurement. In their work in measurement up through Grade 8, students primarily measure commonly used attributes such as length, area, and volume. In high school, students encounter a wider variety of units in modeling, e.g., acceleration, currency conversions, derived quantities such as person-hours and heating degree days, social science rates such as per-capita income, and rates in everyday life such as points scored per game or batting averages. They also encounter novel situations in which they themselves must conceive the attributes of interest. For example, to find a good measure of overall highway safety, they might propose measures such as fatalities per year, fatalities per year per driver, or fatalities per vehicle-mile traveled. Such a conceptual process is sometimes called quantification. Quantification is important for science, as when surface area suddenly “stands out” as an important variable in evaporation. Quantification is also important for companies, which must conceptualize relevant attributes and create or choose suitable measures for them.

Number and Quantity Overview

The Real Number System

- Extend the properties of exponents to rational exponents
- Use properties of rational and irrational numbers.

Quantities

- Reason quantitatively and use units to solve problems

The Complex Number System

- Perform arithmetic operations with complex numbers
- Represent complex numbers and their operations on the complex plane
- Use complex numbers in polynomial identities and equations

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on vectors.
- Perform operations on matrices and use matrices in applications.

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Extend the properties of exponents to rational exponents.

1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*
2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Reason quantitatively and use units to solve problems.

1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Perform arithmetic operations with complex numbers.

1. Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.
2. Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
3. (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

Represent complex numbers and their operations on the complex plane.

4. (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5. (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. *For example, $(-1 + \sqrt{3}i)^3 = 8$ because $(-1 + \sqrt{3}i)$ has modulus 2 and argument 120° .*
6. (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Use complex numbers in polynomial identities and equations.

7. Solve quadratic equations with real coefficients that have complex solutions.
8. (+) Extend polynomial identities to the complex numbers. *For example, rewrite $x^2 + 4$ as $(x + 2i)(x - 2i)$.*
9. (+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Represent and model with vector quantities.

1. (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., \mathbf{v} , $|\mathbf{v}|$, $\|\mathbf{v}\|$, v).
2. (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.
3. (+) Solve problems involving velocity and other quantities that can be represented by vectors.

Perform operations on vectors.

4. (+) Add and subtract vectors.
 - a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
 - b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
 - c. Understand vector subtraction $\mathbf{v} - \mathbf{w}$ as $\mathbf{v} + (-\mathbf{w})$, where $-\mathbf{w}$ is the additive inverse of \mathbf{w} , with the same magnitude as \mathbf{w} and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.
5. (+) Multiply a vector by a scalar.
 - a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.
 - b. Compute the magnitude of a scalar multiple $c\mathbf{v}$ using $\|c\mathbf{v}\| = |c|v$. Compute the direction of $c\mathbf{v}$ knowing that when $|c|v \neq 0$, the direction of $c\mathbf{v}$ is either along \mathbf{v} (for $c > 0$) or against \mathbf{v} (for $c < 0$).

Perform operations on matrices and use matrices in applications.

6. (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
7. (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
8. (+) Add, subtract, and multiply matrices of appropriate dimensions.
9. (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
10. (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
11. (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.
12. (+) Work with 2×2 matrices as transformations of the plane, and interpret the absolute value of the determinant in terms of area.

Mathematics | High School—Algebra

Expressions. An expression is a record of a computation with numbers, symbols that represent numbers, arithmetic operations, exponentiation, and, at more advanced levels, the operation of evaluating a function. Conventions about the use of parentheses and the order of operations assure that each expression is unambiguous. Creating an expression that describes a computation involving a general quantity requires the ability to express the computation in general terms, abstracting from specific instances.

Reading an expression with comprehension involves analysis of its underlying structure. This may suggest a different but equivalent way of writing the expression that exhibits some different aspect of its meaning. For example, $p + 0.05p$ can be interpreted as the addition of a 5% tax to a price p . Rewriting $p + 0.05p$ as $1.05p$ shows that adding a tax is the same as multiplying the price by a constant factor.

Algebraic manipulations are governed by the properties of operations and exponents, and the conventions of algebraic notation. At times, an expression is the result of applying operations to simpler expressions. For example, $p + 0.05p$ is the sum of the simpler expressions p and $0.05p$. Viewing an expression as the result of operation on simpler expressions can sometimes clarify its underlying structure.

A spreadsheet or a computer algebra system (CAS) can be used to experiment with algebraic expressions, perform complicated algebraic manipulations, and understand how algebraic manipulations behave.

Equations and inequalities. An equation is a statement of equality between two expressions, often viewed as a question asking for which values of the variables the expressions on either side are in fact equal. These values are the solutions to the equation. An identity, in contrast, is true for all values of the variables; identities are often developed by rewriting an expression in an equivalent form.

The solutions of an equation in one variable form a set of numbers; the solutions of an equation in two variables form a set of ordered pairs of numbers, which can be plotted in the coordinate plane. Two or more equations and/or inequalities form a system. A solution for such a system must satisfy every equation and inequality in the system.

An equation can often be solved by successively deducing from it one or more simpler equations. For example, one can add the same constant to both sides without changing the solutions, but squaring both sides might lead to extraneous solutions. Strategic competence in solving includes looking ahead for productive manipulations and anticipating the nature and number of solutions.

Some equations have no solutions in a given number system, but have a solution in a larger system. For example, the solution of $x + 1 = 0$ is an integer, not a whole number; the solution of $2x + 1 = 0$ is a rational number, not an integer; the solutions of $x^2 - 2 = 0$ are real numbers, not rational numbers; and the solutions of $x^2 + 2 = 0$ are complex numbers, not real numbers.

The same solution techniques used to solve equations can be used to rearrange formulas. For example, the formula for the area of a trapezoid, $A = ((b_1 + b_2)/2)h$, can be solved for h using the same deductive process.

Inequalities can be solved by reasoning about the properties of inequality. Many, but not all, of the properties of equality continue to hold for inequalities and can be useful in solving them.

Connections to Functions and Modeling. Expressions can define functions, and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling.

Algebra Overview

Seeing Structure in Expressions

- Interpret the structure of expressions
- Write expressions in equivalent forms to solve problems

Arithmetic with Polynomials and Rational Expressions

- Perform arithmetic operations on polynomials
- Understand the relationship between zeros and factors of polynomials
- Use polynomial identities to solve problems
- Rewrite rational expressions

Creating Equations

- Create equations that describe numbers or relationships

Reasoning with Equations and Inequalities

- Understand solving equations as a process of reasoning and explain the reasoning
- Solve equations and inequalities in one variable
- Solve systems of equations
- Represent and solve equations and inequalities graphically

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context.*
 - a. Interpret parts of an expression, such as terms, factors, and coefficients.
 - b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P .*
2. Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*
 - a. Factor a quadratic expression to reveal the zeros of the function it defines.
 - b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
 - c. Use the properties of exponents to transform expressions for exponential functions. *For example the expression 1.15^t can be rewritten as $(1.15^{1/12})^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.*
4. Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. *For example, calculate mortgage payments.**

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

Understand the relationship between zeros and factors of polynomials

2. Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a , the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.
3. Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Use polynomial identities to solve problems

4. Prove polynomial identities and use them to describe numerical relationships. *For example, the polynomial identity $(x^2 + y^2)^2 = (x^2 - y^2)^2 + (2xy)^2$ can be used to generate Pythagorean triples.*
5. (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n , where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.¹

¹The Binomial Theorem can be proved by mathematical induction or by a combinatorial argument.

Rewrite rational expressions

6. Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
7. (+) Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.

Creating Equations*

A-CED

Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R .*

Reasoning with Equations and Inequalities

A-REI

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
2. Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Solve equations and inequalities in one variable

3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
4. Solve quadratic equations in one variable.
 - a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
 - b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .

Solve systems of equations

5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
7. Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. *For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.*
8. (+) Represent a system of linear equations as a single matrix equation in a vector variable.
9. (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

Represent and solve equations and inequalities graphically

10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
11. Explain why the x -coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.*
12. Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Mathematics | High School—Functions

Functions describe situations where one quantity determines another. For example, the return on \$10,000 invested at an annualized percentage rate of 4.25% is a function of the length of time the money is invested. Because we continually make theories about dependencies between quantities in nature and society, functions are important tools in the construction of mathematical models.

In school mathematics, functions usually have numerical inputs and outputs and are often defined by an algebraic expression. For example, the time in hours it takes for a car to drive 100 miles is a function of the car's speed in miles per hour, v ; the rule $T(v) = 100/v$ expresses this relationship algebraically and defines a function whose name is T .

The set of inputs to a function is called its domain. We often infer the domain to be all inputs for which the expression defining a function has a value, or for which the function makes sense in a given context.

A function can be described in various ways, such as by a graph (e.g., the trace of a seismograph); by a verbal rule, as in, "I'll give you a state, you give me the capital city;" by an algebraic expression like $f(x) = a + bx$; or by a recursive rule. The graph of a function is often a useful way of visualizing the relationship of the function models, and manipulating a mathematical expression for a function can throw light on the function's properties.

Functions presented as expressions can model many important phenomena. Two important families of functions characterized by laws of growth are linear functions, which grow at a constant rate, and exponential functions, which grow at a constant percent rate. Linear functions with a constant term of zero describe proportional relationships.

A graphing utility or a computer algebra system can be used to experiment with properties of these functions and their graphs and to build computational models of functions, including recursively defined functions.

Connections to Expressions, Equations, Modeling, and Coordinates.

Determining an output value for a particular input involves evaluating an expression; finding inputs that yield a given output involves solving an equation. Questions about when two functions have the same value for the same input lead to equations, whose solutions can be visualized from the intersection of their graphs. Because functions describe relationships between quantities, they are frequently used in modeling. Sometimes functions are defined by a recursive process, which can be displayed effectively using a spreadsheet or other technology.

Functions Overview

Interpreting Functions

- Understand the concept of a function and use function notation
- Interpret functions that arise in applications in terms of the context
- Analyze functions using different representations

Building Functions

- Build a function that models a relationship between two quantities
- Build new functions from existing functions

Linear, Quadratic, and Exponential Models

- Construct and compare linear, quadratic, and exponential models and solve problems
- Interpret expressions for functions in terms of the situation they model

Trigonometric Functions

- Extend the domain of trigonometric functions using the unit circle
- Model periodic phenomena with trigonometric functions
- Prove and apply trigonometric identities

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.
2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. *For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$.*

Interpret functions that arise in applications in terms of the context

4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.**
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.**
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*

Analyze functions using different representations

7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.*
 - a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
 - b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
 - c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.
 - d. (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.
 - e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
 - a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
 - b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.*

Building Functions

F-BF

Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.*
 - a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
 - b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.*
 - c. (+) Compose functions. *For example, if $T(y)$ is the temperature in the atmosphere as a function of height, and $h(t)$ is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.*
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.*

Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
4. Find inverse functions.
 - a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. *For example, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.*
 - b. (+) Verify by composition that one function is the inverse of another.
 - c. (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.
 - d. (+) Produce an invertible function from a non-invertible function by restricting the domain.
5. (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Linear, Quadratic, and Exponential Models*

F-LE

Construct and compare linear, quadratic, and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
 - a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
 - b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
 - c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
4. For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.

Interpret expressions for functions in terms of the situation they model

5. Interpret the parameters in a linear or exponential function in terms of a context.

Trigonometric Functions

F-TF

Extend the domain of trigonometric functions using the unit circle

1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
2. Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
3. (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x , where x is any real number.
4. (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

Model periodic phenomena with trigonometric functions

5. Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.*
6. (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
7. (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.*

Prove and apply trigonometric identities

8. Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.
9. (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Mathematics | High School—Modeling

Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. Quantities and their relationships in physical, economic, public policy, social, and everyday situations can be modeled using mathematical and statistical methods. When making mathematical models, technology is valuable for varying assumptions, exploring consequences, and comparing predictions with data.

A model can be very simple, such as writing total cost as a product of unit price and number bought, or using a geometric shape to describe a physical object like a coin. Even such simple models involve making choices. It is up to us whether to model a coin as a three-dimensional cylinder, or whether a two-dimensional disk works well enough for our purposes. Other situations—modeling a delivery route, a production schedule, or a comparison of loan amortizations—need more elaborate models that use other tools from the mathematical sciences. Real-world situations are not organized and labeled for analysis; formulating tractable models, representing such models, and analyzing them is appropriately a creative process. Like every such process, this depends on acquired expertise as well as creativity.

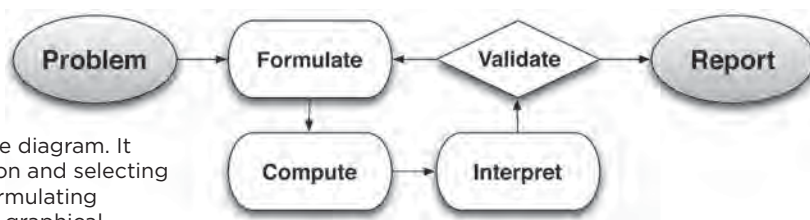
Some examples of such situations might include:

- Estimating how much water and food is needed for emergency relief in a devastated city of 3 million people, and how it might be distributed.
- Planning a table tennis tournament for 7 players at a club with 4 tables, where each player plays against each other player.
- Designing the layout of the stalls in a school fair so as to raise as much money as possible.
- Analyzing stopping distance for a car.
- Modeling savings account balance, bacterial colony growth, or investment growth.
- Engaging in critical path analysis, e.g., applied to turnaround of an aircraft at an airport.
- Analyzing risk in situations such as extreme sports, pandemics, and terrorism.
- Relating population statistics to individual predictions.

In situations like these, the models devised depend on a number of factors: How precise an answer do we want or need? What aspects of the situation do we most need to understand, control, or optimize? What resources of time and tools do we have? The range of models that we can create and analyze is also constrained by the limitations of our mathematical, statistical, and technical skills, and our ability to recognize significant variables and relationships among them. Diagrams of various kinds, spreadsheets and other technology, and algebra are powerful tools for understanding and solving problems drawn from different types of real-world situations.

One of the insights provided by mathematical modeling is that essentially the same mathematical or statistical structure can sometimes model seemingly different situations. Models can also shed light on the mathematical structures themselves, for example, as when a model of bacterial growth makes more vivid the explosive growth of the exponential function.

The basic modeling cycle is summarized in the diagram. It involves (1) identifying variables in the situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, if it



is acceptable, (6) reporting on the conclusions and the reasoning behind them. Choices, assumptions, and approximations are present throughout this cycle.

In descriptive modeling, a model simply describes the phenomena or summarizes them in a compact form. Graphs of observations are a familiar descriptive model—for example, graphs of global temperature and atmospheric CO₂ over time.

Analytic modeling seeks to explain data on the basis of deeper theoretical ideas, albeit with parameters that are empirically based; for example, exponential growth of bacterial colonies (until cut-off mechanisms such as pollution or starvation intervene) follows from a constant reproduction rate. Functions are an important tool for analyzing such problems.

Graphing utilities, spreadsheets, computer algebra systems, and dynamic geometry software are powerful tools that can be used to model purely mathematical phenomena (e.g., the behavior of polynomials) as well as physical phenomena.

Modeling Standards *Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (*).*

Mathematics | High School—Geometry

An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material.

Although there are many types of geometry, school mathematics is devoted primarily to plane Euclidean geometry, studied both synthetically (without coordinates) and analytically (with coordinates). Euclidean geometry is characterized most importantly by the Parallel Postulate, that through a point not on a given line there is exactly one parallel line. (Spherical geometry, in contrast, has no parallel lines.)

During high school, students begin to formalize their geometry experiences from elementary and middle school, using more precise definitions and developing careful proofs. Later in college some students develop Euclidean and other geometries carefully from a small set of axioms.

The concepts of congruence, similarity, and symmetry can be understood from the perspective of geometric transformation. Fundamental are the rigid motions: translations, rotations, reflections, and combinations of these, all of which are here assumed to preserve distance and angles (and therefore shapes generally). Reflections and rotations each explain a particular type of symmetry, and the symmetries of an object offer insight into its attributes—as when the reflective symmetry of an isosceles triangle assures that its base angles are congruent.

In the approach taken here, two geometric figures are defined to be congruent if there is a sequence of rigid motions that carries one onto the other. This is the principle of superposition. For triangles, congruence means the equality of all corresponding pairs of sides and all corresponding pairs of angles. During the middle grades, through experiences drawing triangles from given conditions, students notice ways to specify enough measures in a triangle to ensure that all triangles drawn with those measures are congruent. Once these triangle congruence criteria (ASA, SAS, and SSS) are established using rigid motions, they can be used to prove theorems about triangles, quadrilaterals, and other geometric figures.

Similarity transformations (rigid motions followed by dilations) define similarity in the same way that rigid motions define congruence, thereby formalizing the similarity ideas of “same shape” and “scale factor” developed in the middle grades. These transformations lead to the criterion for triangle similarity that two pairs of corresponding angles are congruent.

The definitions of sine, cosine, and tangent for acute angles are founded on right triangles and similarity, and, with the Pythagorean Theorem, are fundamental in many real-world and theoretical situations. The Pythagorean Theorem is generalized to non-right triangles by the Law of Cosines. Together, the Laws of Sines and Cosines embody the triangle congruence criteria for the cases where three pieces of information suffice to completely solve a triangle. Furthermore, these laws yield two possible solutions in the ambiguous case, illustrating that Side-Side-Angle is not a congruence criterion.

Analytic geometry connects algebra and geometry, resulting in powerful methods of analysis and problem solving. Just as the number line associates numbers with locations in one dimension, a pair of perpendicular axes associates pairs of numbers with locations in two dimensions. This correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof. Geometric transformations of the graphs of equations correspond to algebraic changes in their equations.

Dynamic geometry environments provide students with experimental and modeling tools that allow them to investigate geometric phenomena in much the same way as computer algebra systems allow them to experiment with algebraic phenomena.

Connections to Equations. The correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra. Geometric shapes can be described by equations, making algebraic manipulation into a tool for geometric understanding, modeling, and proof.

Geometry Overview

Congruence

- Experiment with transformations in the plane
- Understand congruence in terms of rigid motions
- Prove geometric theorems
- Make geometric constructions

Similarity, Right Triangles, and Trigonometry

- Understand similarity in terms of similarity transformations
- Prove theorems involving similarity
- Define trigonometric ratios and solve problems involving right triangles
- Apply trigonometry to general triangles

Circles

- Understand and apply theorems about circles
- Find arc lengths and areas of sectors of circles

Expressing Geometric Properties with Equations

- Translate between the geometric description and the equation for a conic section
- Use coordinates to prove simple geometric theorems algebraically

Geometric Measurement and Dimension

- Explain volume formulas and use them to solve problems
- Visualize relationships between two-dimensional and three-dimensional objects

Modeling with Geometry

- Apply geometric concepts in modeling situations

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Experiment with transformations in the plane

1. Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
2. Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).
3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
5. Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Understand congruence in terms of rigid motions

6. Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.
7. Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

Prove geometric theorems

9. Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.*
10. Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
11. Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*

Make geometric constructions

12. Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*
13. Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.

Understand similarity in terms of similarity transformations

1. Verify experimentally the properties of dilations given by a center and a scale factor:
 - a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.
 - b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.
2. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
3. Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Prove theorems involving similarity

4. Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

Define trigonometric ratios and solve problems involving right triangles

6. Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
7. Explain and use the relationship between the sine and cosine of complementary angles.
8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*

Apply trigonometry to general triangles

9. (+) Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
10. (+) Prove the Laws of Sines and Cosines and use them to solve problems.
11. (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

Understand and apply theorems about circles

1. Prove that all circles are similar.
2. Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.*
3. Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.
4. (+) Construct a tangent line from a point outside a given circle to the circle.

Find arc lengths and areas of sectors of circles

5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.

Expressing Geometric Properties with Equations

G-GPE

Translate between the geometric description and the equation for a conic section

1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
2. Derive the equation of a parabola given a focus and directrix.
3. (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Use coordinates to prove simple geometric theorems algebraically

4. Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.*
5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.*

Geometric Measurement and Dimension

G-GMD

Explain volume formulas and use them to solve problems

1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments.*
2. (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.
3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*

Visualize relationships between two-dimensional and three-dimensional objects

4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.

Modeling with Geometry

G-MG

Apply geometric concepts in modeling situations

1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).*
2. Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*
3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*

Mathematics | High School—Statistics and Probability*

Decisions or predictions are often based on data—numbers in context. These decisions or predictions would be easy if the data always sent a clear message, but the message is often obscured by variability. Statistics provides tools for describing variability in data and for making informed decisions that take it into account.

Data are gathered, displayed, summarized, examined, and interpreted to discover patterns and deviations from patterns. Quantitative data can be described in terms of key characteristics: measures of shape, center, and spread. The shape of a data distribution might be described as symmetric, skewed, flat, or bell shaped, and it might be summarized by a statistic measuring center (such as mean or median) and a statistic measuring spread (such as standard deviation or interquartile range). Different distributions can be compared numerically using these statistics or compared visually using plots. Knowledge of center and spread are not enough to describe a distribution. Which statistics to compare, which plots to use, and what the results of a comparison might mean, depend on the question to be investigated and the real-life actions to be taken.

Randomization has two important uses in drawing statistical conclusions. First, collecting data from a random sample of a population makes it possible to draw valid conclusions about the whole population, taking variability into account. Second, randomly assigning individuals to different treatments allows a fair comparison of the effectiveness of those treatments. A statistically significant outcome is one that is unlikely to be due to chance alone, and this can be evaluated only under the condition of randomness. The conditions under which data are collected are important in drawing conclusions from the data; in critically reviewing uses of statistics in public media and other reports, it is important to consider the study design, how the data were gathered, and the analyses employed as well as the data summaries and the conclusions drawn.

Random processes can be described mathematically by using a probability model: a list or description of the possible outcomes (the sample space), each of which is assigned a probability. In situations such as flipping a coin, rolling a number cube, or drawing a card, it might be reasonable to assume various outcomes are equally likely. In a probability model, sample points represent outcomes and combine to make up events; probabilities of events can be computed by applying the Addition and Multiplication Rules. Interpreting these probabilities relies on an understanding of independence and conditional probability, which can be approached through the analysis of two-way tables.

Technology plays an important role in statistics and probability by making it possible to generate plots, regression functions, and correlation coefficients, and to simulate many possible outcomes in a short amount of time.

Connections to Functions and Modeling. Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Statistics and Probability Overview

Interpreting Categorical and Quantitative Data

- Summarize, represent, and interpret data on a single count or measurement variable
- Summarize, represent, and interpret data on two categorical and quantitative variables
- Interpret linear models

Making Inferences and Justifying Conclusions

- Understand and evaluate random processes underlying statistical experiments
- Make inferences and justify conclusions from sample surveys, experiments and observational studies

Conditional Probability and the Rules of Probability

- Understand independence and conditional probability and use them to interpret data
- Use the rules of probability to compute probabilities of compound events in a uniform probability model

Using Probability to Make Decisions

- Calculate expected values and use them to solve problems
- Use probability to evaluate outcomes of decisions

Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Summarize, represent, and interpret data on a single count or measurement variable

1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).
4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Summarize, represent, and interpret data on two categorical and quantitative variables

5. Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
 - a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*
 - b. Informally assess the fit of a function by plotting and analyzing residuals.
 - c. Fit a linear function for a scatter plot that suggests a linear association.

Interpret linear models

7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
8. Compute (using technology) and interpret the correlation coefficient of a linear fit.
9. Distinguish between correlation and causation.

Understand and evaluate random processes underlying statistical experiments

1. Understand statistics as a process for making inferences about population parameters based on a random sample from that population.
2. Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. *For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?*

Make inferences and justify conclusions from sample surveys, experiments, and observational studies

3. Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

4. Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.
5. Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.
6. Evaluate reports based on data.

Conditional Probability and the Rules of Probability

S-CP

Understand independence and conditional probability and use them to interpret data

1. Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”).
2. Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.
3. Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A , and the conditional probability of B given A is the same as the probability of B .
4. Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. *For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.*
5. Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. *For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.*

Use the rules of probability to compute probabilities of compound events in a uniform probability model

6. Find the conditional probability of A given B as the fraction of B 's outcomes that also belong to A , and interpret the answer in terms of the model.
7. Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.
8. (+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B|A) = P(B)P(A|B)$, and interpret the answer in terms of the model.
9. (+) Use permutations and combinations to compute probabilities of compound events and solve problems.

Using Probability to Make Decisions

S-MD

Calculate expected values and use them to solve problems

1. (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.
2. (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.

3. (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*
4. (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?*

Use probability to evaluate outcomes of decisions

5. (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.
 - a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*
 - b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*
6. (+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).
7. (+) Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).

Glossary

Addition and subtraction within 5, 10, 20, 100, or 1000. Addition or subtraction of two whole numbers with whole number answers, and with sum or minuend in the range 0-5, 0-10, 0-20, or 0-100, respectively. Example: $8 + 2 = 10$ is an addition within 10, $14 - 5 = 9$ is a subtraction within 20, and $55 - 18 = 37$ is a subtraction within 100.

Additive inverses. Two numbers whose sum is 0 are additive inverses of one another. Example: $\frac{3}{4}$ and $-\frac{3}{4}$ are additive inverses of one another because $\frac{3}{4} + (-\frac{3}{4}) = (-\frac{3}{4}) + \frac{3}{4} = 0$.

Associative property of addition. See Table 3 in this Glossary.

Associative property of multiplication. See Table 3 in this Glossary.

Bivariate data. Pairs of linked numerical observations. Example: a list of heights and weights for each player on a football team.

Box plot. A method of visually displaying a distribution of data values by using the median, quartiles, and extremes of the data set. A box shows the middle 50% of the data.¹

Commutative property. See Table 3 in this Glossary.

Complex fraction. A fraction $\frac{A}{B}$ where A and/or B are fractions (B nonzero).

Computation algorithm. A set of predefined steps applicable to a class of problems that gives the correct result in every case when the steps are carried out correctly. See *also*: computation strategy.

Computation strategy. Purposeful manipulations that may be chosen for specific problems, may not have a fixed order, and may be aimed at converting one problem into another. See *also*: computation algorithm.

Congruent. Two plane or solid figures are congruent if one can be obtained from the other by rigid motion (a sequence of rotations, reflections, and translations).

Counting on. A strategy for finding the number of objects in a group without having to count every member of the group. For example, if a stack of books is known to have 8 books and 3 more books are added to the top, it is not necessary to count the stack all over again. One can find the total by *counting on*—pointing to the top book and saying “eight,” following this with “nine, ten, eleven. There are eleven books now.”

Dot plot. See: line plot.

Dilation. A transformation that moves each point along the ray through the point emanating from a fixed center, and multiplies distances from the center by a common scale factor.

Expanded form. A multi-digit number is expressed in expanded form when it is written as a sum of single-digit multiples of powers of ten. For example, $643 = 600 + 40 + 3$.

Expected value. For a random variable, the weighted average of its possible values, with weights given by their respective probabilities.

First quartile. For a data set with median M , the first quartile is the median of the data values less than M . Example: For the data set $\{1, 3, 6, 7, 10, 12, 14, 15, 22, 120\}$, the first quartile is 6.² See *also*: median, third quartile, interquartile range.

Fraction. A number expressible in the form $\frac{a}{b}$ where a is a whole number and b is a positive whole number. (The word *fraction* in these standards always refers to a non-negative number.) See *also*: rational number.

Identity property of 0. See Table 3 in this Glossary.

Independently combined probability models. Two probability models are said to be combined independently if the probability of each ordered pair in the combined model equals the product of the original probabilities of the two individual outcomes in the ordered pair.

¹Adapted from Wisconsin Department of Public Instruction, <http://dpi.wi.gov/standards/mathglos.html>, accessed March 2, 2010.

²Many different methods for computing quartiles are in use. The method defined here is sometimes called the Moore and McCabe method. See Langford, E., “Quartiles in Elementary Statistics,” *Journal of Statistics Education* Volume 14, Number 3 (2006).

Integer. A number expressible in the form a or $-a$ for some whole number a .

Interquartile Range. A measure of variation in a set of numerical data, the interquartile range is the distance between the first and third quartiles of the data set. Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the interquartile range is $15 - 6 = 9$. See *also*: first quartile, third quartile.

Line plot. A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. Also known as a dot plot.³

Mean. A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.⁴ Example: For the data set {1, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean is 21.

Mean absolute deviation. A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the mean absolute deviation is 20.

Median. A measure of center in a set of numerical data. The median of a list of values is the value appearing at the center of a sorted version of the list—or the mean of the two central values, if the list contains an even number of values. Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 90}, the median is 11.

Midline. In the graph of a trigonometric function, the horizontal line halfway between its maximum and minimum values.

Multiplication and division within 100. Multiplication or division of two whole numbers with whole number answers, and with product or dividend in the range 0-100. Example: $72 \div 8 = 9$.

Multiplicative inverses. Two numbers whose product is 1 are multiplicative inverses of one another. Example: $\frac{3}{4}$ and $\frac{4}{3}$ are multiplicative inverses of one another because $\frac{3}{4} \times \frac{4}{3} = \frac{4}{3} \times \frac{3}{4} = 1$.

Number line diagram. A diagram of the number line used to represent numbers and support reasoning about them. In a number line diagram for measurement quantities, the interval from 0 to 1 on the diagram represents the unit of measure for the quantity.

Percent rate of change. A rate of change expressed as a percent. Example: if a population grows from 50 to 55 in a year, it grows by $\frac{5}{50} = 10\%$ per year.

Probability distribution. The set of possible values of a random variable with a probability assigned to each.

Properties of operations. See Table 3 in this Glossary.

Properties of equality. See Table 4 in this Glossary.

Properties of inequality. See Table 5 in this Glossary.

Properties of operations. See Table 3 in this Glossary.

Probability. A number between 0 and 1 used to quantify likelihood for processes that have uncertain outcomes (such as tossing a coin, selecting a person at random from a group of people, tossing a ball at a target, or testing for a medical condition).

Probability model. A probability model is used to assign probabilities to outcomes of a chance process by examining the nature of the process. The set of all outcomes is called the sample space, and their probabilities sum to 1. See *also*: uniform probability model.

Random variable. An assignment of a numerical value to each outcome in a sample space.

Rational expression. A quotient of two polynomials with a non-zero denominator.

Rational number. A number expressible in the form $\frac{a}{b}$ or $-\frac{a}{b}$ for some fraction $\frac{a}{b}$. The rational numbers include the integers.

Rectilinear figure. A polygon all angles of which are right angles.

Rigid motion. A transformation of points in space consisting of a sequence of

³Adapted from Wisconsin Department of Public Instruction, *op. cit.*

⁴To be more precise, this defines the *arithmetic mean*.

one or more translations, reflections, and/or rotations. Rigid motions are here assumed to preserve distances and angle measures.

Repeating decimal. The decimal form of a rational number. See *also*: terminating decimal.

Sample space. In a probability model for a random process, a list of the individual outcomes that are to be considered.

Scatter plot. A graph in the coordinate plane representing a set of bivariate data. For example, the heights and weights of a group of people could be displayed on a scatter plot.⁵

Similarity transformation. A rigid motion followed by a dilation.

Tape diagram. A drawing that looks like a segment of tape, used to illustrate number relationships. Also known as a strip diagram, bar model, fraction strip, or length model.

Terminating decimal. A decimal is called terminating if its repeating digit is 0.

Third quartile. For a data set with median M , the third quartile is the median of the data values greater than M . Example: For the data set {2, 3, 6, 7, 10, 12, 14, 15, 22, 120}, the third quartile is 15. See *also*: median, first quartile, interquartile range.

Transitivity principle for indirect measurement. If the length of object A is greater than the length of object B, and the length of object B is greater than the length of object C, then the length of object A is greater than the length of object C. This principle applies to measurement of other quantities as well.

Uniform probability model. A probability model which assigns equal probability to all outcomes. See *also*: probability model.

Vector. A quantity with magnitude and direction in the plane or in space, defined by an ordered pair or triple of real numbers.

Visual fraction model. A tape diagram, number line diagram, or area model.

Whole numbers. The numbers 0, 1, 2, 3,

⁵Adapted from Wisconsin Department of Public Instruction, *op. cit.*

TABLE 1. Common addition and subtraction situations.⁶

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? $2 + 3 = ?$	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? $2 + ? = 5$	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? $? + 3 = 5$
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? $5 - 2 = ?$	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? $5 - ? = 3$	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? $? - 2 = 3$
	Total Unknown	Addend Unknown	Both Addends Unknown ¹
Put Together/ Take Apart²	Three red apples and two green apples are on the table. How many apples are on the table? $3 + 2 = ?$	Five apples are on the table. Three are red and the rest are green. How many apples are green? $3 + ? = 5, 5 - 3 = ?$	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? $5 = 0 + 5, 5 = 5 + 0$ $5 = 1 + 4, 5 = 4 + 1$ $5 = 2 + 3, 5 = 3 + 2$
	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare³	(“How many more?” version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? (“How many fewer?” version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? $2 + ? = 5, 5 - 2 = ?$	(Version with “more”): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? (Version with “fewer”): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? $2 + 3 = ?, 3 + 2 = ?$	(Version with “more”): Julie has three more apples than Lucy. Julie has five apples. How many apples does Lucy have? (Version with “fewer”): Lucy has 3 fewer apples than Julie. Julie has five apples. How many apples does Lucy have? $5 - 3 = ?, ? + 3 = 5$

¹These take apart situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean makes or results in but always does mean is the same number as.

²Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation, especially for small numbers less than or equal to 10.

³For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using more for the bigger unknown and using less for the smaller unknown). The other versions are more difficult.

⁶Adapted from Box 2-4 of Mathematics Learning in Early Childhood, National Research Council (2009, pp. 32, 33).

TABLE 2. Common multiplication and division situations.⁷

	Unknown Product	Group Size Unknown ("How many in each group?" Division)	Number of Groups Unknown ("How many groups?" Division)
	$3 \times 6 = ?$	$3 \times ? = 18$, and $18 \div 3 = ?$	$? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	<p>There are 3 bags with 6 plums in each bag. How many plums are there in all?</p> <p><i>Measurement example.</i> You need 3 lengths of string, each 6 inches long. How much string will you need altogether?</p>	<p>If 18 plums are shared equally into 3 bags, then how many plums will be in each bag?</p> <p><i>Measurement example.</i> You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?</p>	<p>If 18 plums are to be packed 6 to a bag, then how many bags are needed?</p> <p><i>Measurement example.</i> You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?</p>
Arrays, ⁴ Area ⁵	<p>There are 3 rows of apples with 6 apples in each row. How many apples are there?</p> <p><i>Area example.</i> What is the area of a 3 cm by 6 cm rectangle?</p>	<p>If 18 apples are arranged into 3 equal rows, how many apples will be in each row?</p> <p><i>Area example.</i> A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?</p>	<p>If 18 apples are arranged into equal rows of 6 apples, how many rows will there be?</p> <p><i>Area example.</i> A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?</p>
Compare	<p>A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost?</p> <p><i>Measurement example.</i> A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?</p>	<p>A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost?</p> <p><i>Measurement example.</i> A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?</p>	<p>A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat?</p> <p><i>Measurement example.</i> A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?</p>
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

⁴The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

⁵Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

⁷The first examples in each cell are examples of discrete things. These are easier for students and should be given before the measurement examples.

TABLE 3. The properties of operations. Here a , b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

<i>Associative property of addition</i>	$(a + b) + c = a + (b + c)$
<i>Commutative property of addition</i>	$a + b = b + a$
<i>Additive identity property of 0</i>	$a + 0 = 0 + a = a$
<i>Existence of additive inverses</i>	For every a there exists $-a$ so that $a + (-a) = (-a) + a = 0$.
<i>Associative property of multiplication</i>	$(a \times b) \times c = a \times (b \times c)$
<i>Commutative property of multiplication</i>	$a \times b = b \times a$
<i>Multiplicative identity property of 1</i>	$a \times 1 = 1 \times a = a$
<i>Existence of multiplicative inverses</i>	For every $a \neq 0$ there exists $1/a$ so that $a \times 1/a = 1/a \times a = 1$.
<i>Distributive property of multiplication over addition</i>	$a \times (b + c) = a \times b + a \times c$

TABLE 4. The properties of equality. Here a , b and c stand for arbitrary numbers in the rational, real, or complex number systems.

<i>Reflexive property of equality</i>	$a = a$
<i>Symmetric property of equality</i>	If $a = b$, then $b = a$.
<i>Transitive property of equality</i>	If $a = b$ and $b = c$, then $a = c$.
<i>Addition property of equality</i>	If $a = b$, then $a + c = b + c$.
<i>Subtraction property of equality</i>	If $a = b$, then $a - c = b - c$.
<i>Multiplication property of equality</i>	If $a = b$, then $a \times c = b \times c$.
<i>Division property of equality</i>	If $a = b$ and $c \neq 0$, then $a \div c = b \div c$.
<i>Substitution property of equality</i>	If $a = b$, then b may be substituted for a in any expression containing a .

TABLE 5. The properties of inequality. Here a , b and c stand for arbitrary numbers in the rational or real number systems.

Exactly one of the following is true: $a < b$, $a = b$, $a > b$.
If $a > b$ and $b > c$ then $a > c$.
If $a > b$, then $b < a$.
If $a > b$, then $-a < -b$.
If $a > b$, then $a \pm c > b \pm c$.
If $a > b$ and $c > 0$, then $a \times c > b \times c$.
If $a > b$ and $c < 0$, then $a \times c < b \times c$.
If $a > b$ and $c > 0$, then $a \div c > b \div c$.
If $a > b$ and $c < 0$, then $a \div c < b \div c$.

Sample of Works Consulted

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CREATING

Imagine

Generate musical ideas for various purposes and contexts.

Enduring Understanding: The creative ideas, concepts, and feelings that influence musicians' work emerge from a variety of sources.

Essential Question: How do musicians generate creative ideas?

Pre-K	K	1	2	3	4	5	6	7	8
<p>MU:Cr1.1.PKa With substantial guidance, explore and experience a variety of music.</p>	<p>MU:Cr1.1.Ka With guidance, explore and experience music concepts (such as beat and melodic contour).</p>	<p>MU:Cr1.1.1a With limited guidance, create musical ideas (such as answering a musical question) for a specific purpose.</p>	<p>MU:Cr1.1.2a Improvise rhythmic and melodic patterns and musical ideas for a specific purpose.</p>	<p>MU:Cr1.1.3a Improvise rhythmic and melodic ideas, and describe connection to specific purpose and context (such as personal and social).</p>	<p>MU:Cr1.1.4a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social and cultural).</p>	<p>MU:Cr1.1.5a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social, cultural, and historical).</p>	<p>MU:Cr1.1.6a Generate simple rhythmic, melodic, and harmonic phrases within AB and ABA forms that convey expressive intent.</p>	<p>MU:Cr1.1.7a Generate rhythmic, melodic, and harmonic phrases and variations over harmonic accompaniments within AB, ABA, or theme and variation forms that convey expressive intent.</p>	<p>MU:Cr1.1.8a Generate rhythmic, melodic, and harmonic phrases and harmonic accompaniments within expanded forms (including introductions, transitions, and codas) that convey expressive intent.</p>
<p>MU:Cr1.1.Kb With guidance, generate musical ideas (such as movements or motives).</p>	<p>MU:Cr1.1.1b With limited guidance, generate musical ideas in multiple tonalities (such as major and minor) and meters (such as duple and triple).</p>	<p>MU:Cr1.1.2b Generate musical patterns and ideas within the context of a given tonality (such as major and minor) and meter (such as duple and triple).</p>	<p>MU:Cr1.1.3b Generate musical ideas (such as rhythms and melodies) within a given tonality and/or meter.</p>	<p>MU:Cr1.1.4b Generate musical ideas (such as rhythms, melodies, and simple accompaniment patterns) within related tonalities (such as major and minor) and meters.</p>	<p>MU:Cr1.1.5b Generate musical ideas (such as rhythms, melodies, and accompaniment patterns) within specific related tonalities, meters, and simple chord changes.</p>	<p>.</p>	<p>.</p>	<p>.</p>	<p>.</p>

Common Anchor #1

Plan and Make

Select and develop musical ideas for defined purposes and contexts

		Essential Question: How do musicians make creative decisions?							
		1	2	3	4	5	6	7	8
Pre-K	MU:Cr2.1.PKa - With substantial guidance, explore favorite musical ideas (such as movements, vocalizations, or instrumental accompaniments).	MU:Cr2.1.1a With limited guidance, demonstrate and discuss personal reasons for selecting musical ideas that represent expressive intent .	MU:Cr2.1.2a Demonstrate and explain personal reasons for selecting patterns and ideas for music that represent expressive intent .	MU:Cr2.1.3a Demonstrate selected musical ideas for a simple improvisation or composition to express intent, and connection to a specific purpose and context .	MU:Cr2.1.4a Demonstrate selected and organized musical ideas for an improvisation, arrangement, or composition to express intent, and explain connection to purpose and context .	MU:Cr2.1.5a Demonstrate selected and developed musical ideas for improvisations, arrangements, or compositions to express intent, and explain connection to purpose and context .	MU:Cr2.1.6a Select, organize, construct, and document personal musical ideas for arrangements and compositions within AB or ABA form that demonstrate an effective beginning, middle, and ending, and convey expressive intent .	MU:Cr2.1.7a Select, organize, develop and document personal musical ideas for arrangements, songs, and compositions within AB, ABA, or theme and variation forms that demonstrate unity and variety and convey expressive intent .	MU:Cr2.1.8a Select, organize, and document personal musical ideas for arrangements, songs, and compositions within expanded forms that demonstrate release, unity and variety, balance, and convey expressive intent .
Common Anchor #2	MU:Cr2.1.PKb - With substantial guidance , select and keep track of the order for performing original musical ideas , using iconic notation and/or recording technology.	MU:Cr2.1.1b With limited guidance , use iconic or standard notation and/or recording technology to document and organize personal musical ideas .	MU:Cr2.1.2b Use iconic or standard notation and/or recording technology to combine, sequence, and document personal musical ideas .	MU:Cr2.1.3b Use standard and/or iconic notation and/or recording technology to document personal rhythmic and melodic musical ideas .	MU:Cr2.1.4b Use standard and/or iconic notation and/or recording technology to document personal rhythmic, melodic, and simple harmonic musical ideas .	MU:Cr2.1.5b Use standard and/or iconic notation and/or recording technology to document personal rhythmic, melodic, and two-chord harmonic musical ideas .	MU:Cr2.1.6b Use standard and/or iconic notation and/or audio/video recording to document personal simple rhythmic phrases, melodic phrases, and two-chord harmonic musical ideas .	MU:Cr2.1.7b Use standard and/or iconic notation and/or audio/video recording to document personal simple rhythmic phrases, melodic phrases, and harmonic sequences .	MU:Cr2.1.8b Use standard and/or iconic notation and/or audio/video recording to document personal rhythmic phrases, melodic phrases, and harmonic sequences .

Evaluate and Refine							
Evaluate and refine selected musical ideas to create musical work(s) that meet appropriate criteria.							
Essential Question: How do musicians improve the quality of their creative work?							
Pre-K	K	1	2	3	4	5	6
<p>MU:Cr3.1.PKa With substantial guidance, consider personal, peer, and teacher feedback when demonstrating and refining personal musical ideas.</p>	<p>MU:Cr3.1.Ka - With guidance, apply personal, peer, and teacher feedback in refining personal musical ideas.</p>	<p>MU:Cr3.1.1a With limited guidance, discuss and apply personal, peer, and teacher feedback to refine personal musical ideas.</p>	<p>MU:Cr3.1.2a Interpret and apply personal, peer, and teacher feedback to revise personal music.</p>	<p>MU:Cr3.1.3a Evaluate, refine, and document revisions to personal musical ideas, applying teacher-provided and collaboratively-developed criteria and feedback.</p>	<p>MU:Cr3.1.4a Evaluate, refine, and document revisions to personal music, applying teacher-provided and collaboratively-developed criteria and feedback to show improvement over time.</p>	<p>MU:Cr3.1.5a Evaluate, refine, and document revisions to personal music, applying teacher-provided and collaboratively-developed criteria and feedback, and explain rationale for changes.</p>	<p>MU:Cr3.1.6a Evaluate their own work, applying teacher-provided criteria such as application of selected elements of music, and use of sound sources.</p>
						<p>MU:Cr3.1.7a Evaluate their own work, applying selected criteria such as application of elements of music including style, form, and use of sound sources.</p>	<p>MU:Cr3.1.8a Evaluate their own work by selecting and applying criteria including appropriate application of compositional techniques, style, form, and use of sound sources.</p>
							<p>MU:Cr3.1.7b Describe the rationale for making revisions to the music based on evaluation criteria and feedback from others (teacher and peers).</p>
							<p>MU:Cr3.1.8b Describe the rationale for refining works by explaining the choices, based on evaluation criteria.</p>

Present									
<i>Share creative musical work that conveys intent, demonstrates craftsmanship, and exhibits originality.</i>									
Enduring Understanding: Musicians' presentation of creative work is the culmination of a process of creation and communication									
Essential Question: When is creative work ready to share?									
Pre-K	K	1	2	3	4	5	6	7	8
<p>MU:Cr3.2.PKa With substantial guidance, share revised personal musical ideas with peers.</p>	<p>MU:Cr3.2.Ka With guidance, demonstrate a final version of personal musical ideas to peers.</p>	<p>MU:Cr3.2.1a With limited guidance, convey expressive intent for a specific purpose by presenting a final version of personal musical ideas to peers or <i>informal audience</i>.</p>	<p>MU:Cr3.2.2a Convey expressive intent for a specific purpose by presenting a final version of personal musical ideas to peers or <i>informal audience</i>.</p>	<p>MU:Cr3.2.3a Present the final version of personal created music to others, and <i>describe</i> connection to expressive intent.</p>	<p>MU:Cr3.2.4a Present the final version of personal created music to others, and <i>explain</i> connection to expressive intent.</p>	<p>MU:Cr3.2.5a Present the final version of personal created music to others <i>that demonstrates</i> craftsmanship, and explain connection to expressive intent.</p>	<p>MU:Cr3.2.6a Present the final version of their documented personal composition or arrangement, using craftsmanship and originality to demonstrate an effective beginning, middle, and ending, and convey expressive intent.</p>	<p>MU:Cr3.2.7a Present the final version of their documented personal composition, song, or arrangement, using craftsmanship and originality to demonstrate unity and variety, and convey expressive intent.</p>	<p>MU:Cr3.2.8a Present the final version of their documented personal composition, song, or arrangement, using craftsmanship and originality to demonstrate the application of compositional techniques for creating unity and variety, tension and release, and balance to convey expressive intent.</p>

PERFORMING

Select

Select varied musical works to present based on interest, knowledge, technical skill, and context.

Enduring Understanding: Performers' interest in and knowledge of musical works, understanding of their own technical skill, and the context for a performance influence the selection of repertoire.		Essential Question: How do performers select repertoire?							
Pre-K	K	1	2	3	4	5	6	7	8
<p>MU:Pr4.1.PKa With substantial guidance, demonstrate and state preference for varied musical selections.</p>	<p>MU:Pr4.1.Ka With guidance, demonstrate and state <i>personal interest</i> in varied musical selections.</p>	<p>MU:Pr4.1.1a With limited guidance, demonstrate and discuss <i>personal interest</i> in, knowledge about, and purpose of varied musical selections.</p>	<p>MU:Pr4.1.2a Demonstrate and explain <i>personal interest</i> in, knowledge about, and purpose of varied musical selections.</p>	<p>MU:Pr4.1.3a Demonstrate and explain <i>how the selection of music to perform</i> is influenced by <i>personal interest, knowledge, purpose, and context.</i></p>	<p>MU:Pr4.1.4a Demonstrate and explain <i>how the selection of music to perform</i> is influenced by <i>personal interest, knowledge, context, and technical skill.</i></p>	<p>MU:Pr4.1.5a Demonstrate and explain <i>how the selection of music to perform</i> is influenced by <i>personal interest, knowledge, and context, as well as their personal and others' technical skill.</i></p>	<p>MU:Pr4.1.6a Apply teacher-provided criteria for perform for a specific purpose and/or context, and explain why each was chosen.</p>	<p>MU:Pr4.1.7a Apply collaboratively-developed criteria for selecting music of contrasting styles for a program with a specific purpose and/or context and, after discussion, identify expressive qualities, technical challenges, and reasons for choices.</p>	<p>MU:Pr4.1.8a Apply personally-developed criteria for selecting music of contrasting styles for a program with a specific purpose and/or context, and explain expressive qualities, technical challenges, and reasons for choices.</p>

Interpret									
Develop personal interpretations that consider creators' intent.									
Enduring Understanding: Performers make interpretive decisions based on their understanding of context and expressive intent. Essential Question: How do performers interpret musical works?									
Pre-K	K	1	2	3	4	5	6	7	8
<p>MU:Pr4.3.PKa With substantial guidance, explore music's expressive qualities (such as voice quality, dynamics, and tempo).</p>	<p>MU:Pr4.3.Ka With guidance, demonstrate awareness of expressive qualities (such as voice quality, dynamics, and tempo) that support the creators' expressive intent.</p>	<p>MU:Pr4.3.1a Demonstrate and describe music's expressive qualities (such as dynamics and tempo).</p>	<p>MU:Pr4.3.2a Demonstrate understanding of expressive qualities (such as dynamics and tempo) and how creators use them to convey expressive intent.</p>	<p>MU:Pr4.3.3a Demonstrate and describe how intent is conveyed through expressive qualities (such as dynamics and tempo).</p>	<p>MU:Pr4.3.4a Demonstrate and explain how intent is conveyed through interpretive decisions and expressive qualities (such as dynamics, tempo, and timbre).</p>	<p>MU:Pr4.3.5a Demonstrate and explain how intent is conveyed through interpretive decisions and expressive qualities (such as dynamics, tempo, timbre, and articulation/style).</p>	<p>MU:Pr4.3.6a Perform a selected piece of music demonstrating how their interpretations of the elements of music and the expressive qualities (such as dynamics, tempo, timbre, articulation/style, and phrasing) convey intent.</p>	<p>MU:Pr4.3.7a Perform contrasting pieces of music demonstrating their interpretations of the elements of music and expressive qualities (such as dynamics, tempo, timbre, articulation/style, and phrasing) convey intent.</p>	<p>MU:Pr4.3.8a Perform contrasting pieces of music, demonstrating as well as explaining how the music's intent is conveyed by their interpretations of the elements of music and expressive qualities (such as dynamics, tempo, timbre, articulation/style, and phrasing).</p>

		Rehearse, Evaluate and Refine									
		<i>Evaluate and refine personal and ensemble performances, individually or in collaboration with others.</i>									
		Essential Question: How do musicians improve the quality of their performance?									
		Pre-K	K	1	2	3	4	5	6	7	8
Common Anchor #5	MU:Pr5.1.PKa With substantial guidance , practice and demonstrate what they like about their own performances .	MU:Pr5.1.Ka With guidance , apply personal, teacher, and peer feedback to refine performances .	MU:Pr5.1.1a With limited guidance , apply personal, teacher, and peer feedback to refine performances .	MU:Pr5.1.2a - Apply established criteria to judge the accuracy, expressiveness, and effectiveness of performances .	MU:Pr5.1.3a - Apply teacher-provided and collaboratively-developed criteria and feedback to evaluate accuracy of ensemble performances .	MU:Pr5.1.4a Apply teacher-provided and collaboratively-developed criteria and feedback to evaluate accuracy and expressiveness of ensemble and personal performances .	MU:Pr5.1.5a Apply teacher-provided and established criteria and feedback to evaluate the accuracy and expressiveness of ensemble and personal performances .	MU:Pr5.1.6a Identify and apply teacher-provided criteria (such as correct interpretation of notation, technical accuracy , originality, and interests) to rehearse, refine , and determine when a piece is ready to perform .	MU:Pr5.1.7a Identify and apply collaboratively-developed criteria (such as demonstrating correct interpretation of notation, technical skill of performer , originality, emotional impact , and interest) to rehearse, refine , and determine when the music is ready to perform .	MU:Pr5.1.8a Identify and apply personally-developed criteria (such as demonstrating correct interpretation of notation, technical skill of performer , originality, emotional impact , interest) to rehearse, refine , and determine when the music is ready to perform .	
	MU:Pr5.1.PKb With substantial guidance , apply personal, peer, and teacher feedback to refine performances .	MU:Pr5.1.Kb With guidance , use suggested strategies in rehearsal to improve the expressive qualities of music.	MU:Pr5.1.1b With limited guidance , use suggested strategies in rehearsal to address interpretive challenges of music.	MU:Pr5.1.2b - Rehearse, identify and apply strategies to address interpretive, performance, and technical challenges of music.	MU:Pr5.1.3b Rehearse to refine technical accuracy, expressive qualities , and identified performance challenges.	MU:Pr5.1.4b Rehearse to refine technical accuracy and expressive qualities , and address performance challenges.	MU:Pr5.1.5b Rehearse to refine technical accuracy and expressive qualities to address challenges, and show improvement over time.				

Present									
<i>Perform expressively, with appropriate interpretation and technical accuracy, and in a manner appropriate to the audience and context.</i>									
Enduring Understanding: Musicians judge performance based on criteria that vary across time, place, and cultures. The context and how a work is presented influence the audience response.		Essential Question: When is a performance judged ready to present? How do context and the manner in which musical work is presented influence audience response?							
Pre K	K	1	2	3	4	5	6	7	8
<p>MU:Pr6.1.PKa With substantial guidance, perform music with expression.</p>	<p>MU:Pr6.1.Ka With guidance, perform music with expression.</p>	<p>MU:Pr6.1.1a With limited perform music for a specific purpose with expression.</p>	<p>MU:Pr6.1.2a Perform music for a specific purpose with expression and technical accuracy.</p>	<p>MU:Pr6.1.3a Perform music with expression and technical accuracy.</p>	<p>MU:Pr6.1.4a Perform music, <i>alone or with others,</i> with expression and technical accuracy, and appropriate interpretation.</p>	<p>MU:Pr6.1.5a Perform music, <i>alone or with others,</i> with expression, technical accuracy, and appropriate interpretation.</p>	<p>MU:Pr6.1.6a Perform the music with technical accuracy to convey the creator's intent.</p>	<p>MU:Pr6.1.7a Perform the music with technical accuracy and stylistic expression to convey the creator's intent.</p>	<p>MU:Pr6.1.8a Perform the music with technical accuracy, stylistic expression, and culturally authentic practices in music to convey the creator's intent.</p>
<p>MU:Pr6.1.PKb Perform music with expression.</p>	<p>MU:Pr6.1.Kb Perform music <i>appropriately for the audience.</i></p>	<p>MU:Pr6.1.1b Perform music <i>appropriately for the audience and purpose.</i></p>	<p>MU:Pr6.1.2b Perform music <i>appropriately for the audience and purpose.</i></p>	<p>MU:Pr6.1.3b Demonstrate performance decorum and audience etiquette <i>appropriate for the context and venue.</i></p>	<p>MU:Pr6.1.4b Demonstrate performance decorum and audience etiquette <i>appropriate for the context, venue, and genre.</i></p>	<p>MU:Pr6.1.5b Demonstrate performance decorum and audience etiquette <i>appropriate for the context, venue, genre, and style.</i></p>	<p>MU:Pr6.1.6b Demonstrate performance decorum (such as <i>stage presence, attire, and behavior</i>) and audience etiquette <i>appropriate for venue and purpose.</i></p>	<p>MU:Pr6.1.7b Demonstrate performance decorum (such as <i>stage presence, attire, and behavior</i>) and audience etiquette <i>appropriate for venue, purpose, and context.</i></p>	<p>MU:Pr6.1.8b Demonstrate performance decorum (such as <i>stage presence, attire, and behavior</i>) and audience etiquette <i>appropriate for venue, purpose, context, and style.</i></p>

Common Anchor #6

RESPONDING

Select

Choose music appropriate for a specific purpose or context.

Enduring Understanding: Individuals' selection of musical works is influenced by their interests, experiences, understandings, and purposes.

Essential Question: How do individuals choose music to experience?

Pre-K	MU:Re7.1.PKa With substantial guidance , state personal interests and demonstrate why they prefer some music selections over others.	MU:Re7.1.Ka With guidance , list personal interests and experiences and demonstrate why they prefer some music selections over others.	MU:Re7.1.1a With limited guidance , identify and demonstrate how personal interests and experiences influence musical selection for specific purposes .	MU:Re7.1.2a Explain and demonstrate how personal interests and experiences influence musical selection for specific purposes .	MU:Re7.1.3a Demonstrate and describe how selected music connects to and is influenced by specific interests, experiences, or purposes .	MU:Re7.1.4a Demonstrate and explain how selected music connects to and is influenced by specific interests, experiences, or purposes , or contexts .	MU:Re7.1.5a Demonstrate and explain, citing evidence, how selected music connects to and is influenced by specific interests, experiences, or purposes , or contexts .	MU:Re7.1.6a Select or choose music to listen to and explain the connections to specific interests or experiences for a specific purpose .	MU:Re7.1.7a Select or choose contrasting music to listen to and compare the connections to specific interests or experiences for a specific purpose .	MU:Re7.1.8a Select programs of music (such as a CD mix or live performances) and demonstrate the connections to an interest or experience for a specific purpose .
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Analyze							
<i>Analyze how the structure and context of varied musical works inform the response.</i>							
Enduring Understanding: Response to music is informed by analyzing context (social, cultural, and historical) and how creators and performers manipulate the elements of music.							
Essential Question: How does understanding the structure and context of music inform a response?							
Pre K	K	1	2	3	4	5	6
<p>MU:Re7.2PKa With substantial guidance, explore musical contrasts in music.</p>	<p>MU:Re7.2.Ka With guidance, demonstrate how a specific music concept (such as beat or melodic direction) is used in music.</p>	<p>MU:Re7.2.1a With limited guidance, demonstrate how specific music concepts (such as beat or pitch) are used in various styles of music for a purpose.</p>	<p>MU:Re7.2.2a Describe how specific music concepts are used to support a specific purpose in music.</p>	<p>MU:Re7.2.3a Demonstrate and describe how a response to music can be informed by the structure, the use of the elements of music, and context (such as personal and social).</p>	<p>MU:Re7.2.4a Demonstrate and explain how responses to music are informed by the structure, the use of the elements of music, and context (such as social and cultural).</p>	<p>MU:Re7.2.5a Demonstrate and explain, citing evidence, how responses to music are informed by the structure, the use of the elements of music, and context (such as social, cultural, and historical).</p>	<p>MU:Re7.2.6a Describe how the elements of music and expressive qualities relate to the structure of the pieces.</p>
							<p>MU:Re7.2.7a Classify and explain how the elements of music and expressive qualities relate to the structure of contrasting pieces.</p>
							<p>MU:Re7.2.8a Compare how the elements of music and expressive qualities relate to the structure of within programs of music.</p>
							<p>MU:Re7.2.8b Identify and compare the context of programs of music from a variety of genres, cultures, and historical periods.</p>
							<p>MU:Re7.2.7b Identify and compare the context of music from a variety of genres, cultures, and historical periods.</p>
							<p>MU:Re7.2.6b Identify the context of music from a variety of genres, cultures, and historical periods.</p>

<p style="text-align: center;">Interpret Support interpretations of musical works that reflect creators'/performers' expressive intent.</p>										
<p style="text-align: center;">Essential Question: How do we discern the musical creators' and performers' expressive intent?</p>										
Enduring Understanding: Through their use of elements and structures of music, creators and performers provide clues to their expressive intent.	Pre K	K	1	2	3	4	5	6	7	8
<p>MU:Re8.1.PKa With substantial guidance, explore music's expressive qualities (such as dynamics and tempo).</p>	<p>MU:Re8.1.PKa With guidance, demonstrate awareness of expressive qualities (such as dynamics and tempo) that reflect creators'/performers' expressive intent.</p>	<p>MU:Re8.1.1a With limited guidance, demonstrate and identify expressive qualities (such as dynamics and tempo) that reflect creators'/performers' expressive intent.</p>	<p>MU:Re8.1.2a Demonstrate knowledge of music concepts and how they support creators'/performers' expressive intent.</p>	<p>MU:Re8.1.3a Demonstrate and describe how the expressive qualities (such as dynamics and tempo) are used in performers' interpretations to reflect expressive intent.</p>	<p>MU:Re8.1.4a Demonstrate and explain how the expressive qualities (such as dynamics, tempo, and timbre) are used in performers' and personal interpretations to reflect expressive intent.</p>	<p>MU:Re8.1.5a Demonstrate and explain how the expressive qualities (such as dynamics, tempo, timbre, and articulation) are used in performers' and personal interpretations to reflect expressive intent.</p>	<p>MU:Re8.1.6a Describe a personal interpretation of how creators' and performers' application of the elements of music and expressive qualities, within genres and cultural and historical context, convey expressive intent.</p>	<p>MU:Re8.1.7a Describe a personal interpretation of contrasting works and explain how creators' and performers' application of the elements of music and expressive qualities, within genres, cultures, and historical periods, convey expressive intent.</p>	<p>MU:Re8.1.7a Describe a personal interpretation of contrasting works and explain how creators' and performers' application of the elements of music and expressive qualities, within genres, cultures, and historical periods, convey expressive intent.</p>	<p>MU:Re8.1.7a Support personal interpretation of contrasting programs of music and explain how creators' or performers' apply the elements of music and expressive qualities, within genres, cultures, and historical periods to convey expressive intent.</p>

<p style="text-align: center;">Evaluate Support evaluations of musical works and performances based on analysis, interpretation, and established criteria.</p>										
<p style="text-align: center;">Essential Question: How do we judge the quality of musical work(s) and performance(s)?</p>										
Enduring Understanding: The personal evaluation of musical work(s) and performance(s) is informed by analysis, interpretation, and established criteria.	Pre K	K	1	2	3	4	5	6	7	8
<p>MU:Re9.1.PKa With guidance, talk about personal and expressive preferences in music.</p>	<p>MU:Re9.1.PKa With guidance, apply personal and expressive preferences in the evaluation of music.</p>	<p>MU:Re9.1.1a With limited guidance, apply personal and expressive preferences in the evaluation of music for specific purposes.</p>	<p>MU:Re9.1.2a Apply personal and expressive preferences in the evaluation of music for specific purposes.</p>	<p>MU:Re9.1.3a Evaluate musical works and performances, applying established criteria, and describe appropriateness to the context.</p>	<p>MU:Re9.1.4a Evaluate musical works and performances, applying established criteria, and explain appropriateness to the context.</p>	<p>MU:Re9.1.5a Evaluate musical works and performances, applying established criteria, and explain appropriateness to the context, citing evidence from the elements of music.</p>	<p>MU:Re9.1.6a Apply teacher-provided criteria to evaluate musical works or performances.</p>	<p>MU:Re9.1.7a Select from teacher-provided criteria to evaluate musical works or performances.</p>	<p>MU:Re9.1.8a Apply appropriate personally-developed criteria to evaluate musical works or performances.</p>	

CONNECTING

Connect #10

Synthesize and relate knowledge and personal experiences to make music.

Enduring Understanding: Musicians connect their personal interests, experiences, ideas, and knowledge to creating, performing, and responding. **Essential Question:** How do musicians make meaningful connections to creating, performing, and responding?

Anchor #	Pre-K	K	1	2	3	4	5	6	7	8
Common Anchor #10	<p>MU:Cn10.0.PKa Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.PKa With substantial guidance, share revised musical ideas with peers.</p> <p>MU:Pr4.1.PKa With guidance, demonstrate and state personal interest in varied musical selections.</p> <p>MU:Pr4.3.PKa With substantial guidance, explore music's expressive qualities (such as voice quality, dynamics, and tempo).</p>	<p>MU:Cn10.0.Ka Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C3.2.Ka With guidance, demonstrate a final version of personal musical ideas to peers.</p> <p>MU:Pr4.1.Ka With guidance, demonstrate and state personal interest in varied musical selections.</p> <p>MU:Pr4.3.Ka With guidance, demonstrate awareness of expressive qualities (such as voice quality, dynamics, and tempo) that support the creators' expressive intent.</p>	<p>MU:Cn10.0.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.1a With limited guidance, demonstrate and discuss personal reasons for selecting musical ideas that represent expressive intent.</p> <p>MU:C3.2.1a With limited guidance, convey expressive intent for a specific purpose by presenting a final version of personal musical ideas to peers or informal audience.</p> <p>MU:Pr4.3.1a Demonstrate and describe music's expressive qualities (such as dynamics and tempo).</p> <p>MU:Re7.1.1a With limited guidance, identify and demonstrate how personal interests and experiences influence musical selection for specific purposes.</p>	<p>MU:Cn10.0.2a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.2a Demonstrate and explain personal reasons for selecting patterns and ideas for their music that represent expressive intent.</p> <p>MU:C3.2.2a Convey expressive intent for a specific purpose by presenting a final version of personal musical ideas to peers or informal audience.</p> <p>MU:Pr4.3.2a Demonstrate understanding of expressive qualities (such as dynamics and tempo) and how creators use them to convey expressive intent.</p> <p>MU:Re7.1.2a Explain and demonstrate how personal interests and experiences influence musical selection for specific purposes.</p>	<p>MU:Cn10.0.3a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.3a Demonstrate selected musical ideas for a simple improvisation or composition to express intent, and describe connection to a specific purpose and context.</p> <p>MU:C3.2.3a Present the final version of created music for others, and describe connection to expressive intent.</p> <p>MU:Pr4.1.3a Demonstrate and explain how the selection of music to perform is influenced by personal interest, knowledge, purpose, and context.</p> <p>MU:Pr4.3.3a Demonstrate and describe how intent is conveyed through expressive qualities (such as dynamics and tempo).</p> <p>MU:Re7.1.3a Demonstrate and describe how selected music connects to and is</p>	<p>MU:Cn10.0.4a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.4a Demonstrate selected and organized musical ideas for an improvisation, arrangement, or composition to express intent, and explain connection to purpose and context.</p> <p>MU:C3.2.4a Present the final version of created music for others, and explain connection to expressive intent.</p> <p>MU:Pr4.1.4a Demonstrate and explain how the selection of music to perform is influenced by personal interest, knowledge, context, and technical skill.</p> <p>MU:Pr4.3.4a Demonstrate and explain how intent is conveyed through interpretive decisions and expressive qualities (such as tempo and timbre).</p> <p>MU:Re7.1.4a</p>	<p>MU:Cn10.0.5a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.5a Demonstrate selected and developed musical ideas for improvisations, arrangements, or compositions to express intent, and explain connection to purpose and context.</p> <p>MU:C3.2.5a Present the final version of created music for others that demonstrates and explain connection to expressive intent.</p> <p>MU:Pr4.1.5a Demonstrate and explain how the selection of music to perform is influenced by personal interest, knowledge, context, as well as their personal and others' technical skill.</p> <p>MU:Pr4.3.5a Demonstrate and explain how intent is conveyed through interpretive decisions and expressive qualities (such as</p>	<p>MU:Cn10.0.6a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.6a Select, organize, construct, and document personal musical ideas for arrangements and compositions within ABA form that demonstrate an effective beginning, middle, and ending, and convey expressive intent.</p> <p>MU:C3.2.6a Present the final version of their documented personal composition or arrangement, using craftsmanship and originality to demonstrate an effective beginning, middle, and ending, and convey expressive intent.</p> <p>MU:Pr4.1.6a Apply teacher-provided criteria for selecting music to perform for a specific purpose and explain why each was chosen.</p> <p>MU:Pr4.3.6a Perform a selected piece of music</p>	<p>MU:Cn10.0.7a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.7a Select, organize, develop and document personal musical ideas for arrangements, songs, and compositions within ABA, or theme and variation forms that demonstrate unity and variety and convey expressive intent.</p> <p>MU:C3.2.7a Present the final version of their documented personal composition, song, or arrangement, using craftsmanship and originality to demonstrate the application of unity and variety, and convey expressive intent.</p> <p>MU:Pr4.1.7a Apply collaboratively-developed criteria for selecting music of contrasting styles for a specific purpose and/or context and, after discussion, identify expressive qualities, technical challenges, and reasons</p>	<p>MU:Cn10.0.8a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU:C2.1.8a Select, organize, and document personal musical ideas for arrangements, songs, and compositions within expanded forms that demonstrate tenor and release, unity and variety, and convey expressive intent.</p> <p>MU:C3.2.8a Present the final version of their documented personal composition, song, or arrangement, using originality to demonstrate the application of unity and variety, tenor and release, and balance and convey expressive intent.</p> <p>MU:Pr4.1.8a Apply personally-developed criteria for selecting music of contrasting styles for a specific purpose and/or context program and/or context and explain expressive qualities and technical challenges.</p>

Connect #11

Relate musical ideas and works with varied context to deepen understanding.

Enduring Understanding: Understanding connections to varied contexts and daily life enhances musicians' creating, performing, and relating to music. **Essential Question:** How do the other arts, other disciplines, contexts, and daily life inform responding, creating, performing, and responding to music?

	Pre-K	K	1	2	3	4	5	6	7	8
Common Anchor #11	<p>MU:Cn11.0.PKa Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Pr4.2.PKa With substantial guidance, explore and demonstrate awareness of musical contrasts.</p> <p>MU:Re7.2.PKa With substantial guidance, explore musical contrasts in music.</p> <p>MU:Re9.1.PKa With substantial guidance, talk about their personal and expressive preferences in music.</p>	<p>MU:Cn11.0.Ka Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Pr4.2.Ka With guidance, explore and demonstrate awareness of music contrasts (such as high/low, loud/soft, same/different) in a variety of music selected for performance.</p> <p>MU:Re7.2.Ka With guidance, demonstrate how a specific music concept (such as beat or melodic direction) is used in music.</p> <p>MU:Re9.1.Ka With guidance, apply personal and expressive preferences in the evaluation of music.</p>	<p>MU:Cn11.0.1a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.1a With limited guidance, create musical ideas (such as answering a musical question) for a specific purpose.</p> <p>MU:Pr4.2.1a With limited guidance, demonstrate knowledge of music concepts (such as beat and melodic contour) in music from a variety of cultures selected for performance.</p> <p>MU:Pr6.1.1a With limited guidance, perform music for a specific purpose with expression.</p> <p>MU:Re7.2.1a With limited guidance, demonstrate and identify how specific music concepts (such as beat or pitch) is used in various styles of music for a purpose.</p> <p>MU:Re9.1.1a With limited guidance, apply personal and expressive preferences in the evaluation of music for specific purposes.</p>	<p>MU:Cn11.0.2a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.2a Improvise rhythmic and melodic patterns and musical ideas for a specific purpose.</p> <p>MU:Pr4.2.2a Demonstrate knowledge of music concepts (such as tonality and meter) in music from a variety of cultures selected for performance.</p> <p>MU:Pr6.1.2a Perform music for a specific purpose with expression and technical accuracy.</p> <p>MU:Re7.2.2a Describe how specific music concepts are used to support a specific purpose in music.</p> <p>MU:Re9.1.2a Apply personal and expressive preferences in the evaluation of music for specific purposes.</p>	<p>MU:Cn11.0.3a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.3a Improvise rhythmic and melodic ideas, and describe connection to specific purpose and context (such as personal and social).</p> <p>MU:Pr4.2.3a Describe how context (such as personal and social) can inform a performance.</p> <p>MU:Pr6.1.3a Demonstrate performance decorum and audience etiquette appropriate for the context and venue.</p> <p>MU:Re7.2.3a Demonstrate and describe how a response to music can be informed by the structure, the use of the elements of music, and context (such as personal and social).</p> <p>MU:Re9.1.3a Evaluate musical works and performances, applying established criteria, and describe appropriateness to the context.</p>	<p>MU:Cn11.0.4a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.4a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social and cultural).</p> <p>MU:Pr4.2.4a Explain how context (such as social and cultural) informs a performance.</p> <p>MU:Pr6.1.4a Demonstrate performance decorum and audience etiquette appropriate for the context, venue, and genre.</p> <p>MU:Re7.2.4a Demonstrate and explain how responses to music are informed by the structure, the use of the elements of music, and context (such as social and cultural).</p> <p>MU:Re9.1.4a Evaluate musical works and performances, applying established criteria, and explain appropriateness to the context.</p>	<p>MU:Cn11.0.5a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.5a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social, cultural, and historical).</p> <p>MU:Pr4.2.5a Explain how context (such as social, cultural, and historical) informs performances.</p> <p>MU:Pr6.1.5a Demonstrate performance decorum and audience etiquette appropriate for the context, venue, genre, and style.</p> <p>MU:Re7.2.5a Demonstrate and explain, citing evidence, how responses to music are informed by the structure, the use of the elements of music, and context (such as social, cultural, and historical).</p> <p>MU:Re9.1.5a Evaluate musical works and performances, applying established criteria, and explain appropriateness to the context, citing elements of music.</p>	<p>MU:Cn11.0.6a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.6a Generate simple rhythmic, melodic, and harmonic phrases within AB and ABA forms that convey expressive intent.</p> <p>MU:Pr4.2.6a Identify how cultural and historical context inform the performances.</p> <p>MU:Pr6.1.6a Demonstrate performance decorum (such as stage presence, attire, and behavior) and appropriate for venue and audience etiquette appropriate for venue and historical periods.</p> <p>MU:Re7.2.6a Identify the context of music from a variety of genres, cultures, and historical periods.</p> <p>MU:Re9.1.6a Apply teacher-provided criteria to evaluate musical works or performances.</p>	<p>MU:Cn11.0.7a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.7a Generate rhythmic, melodic, and harmonic phrases and variations over harmonic accompaniments within AB, ABA, or theme and variation forms that convey expressive intent.</p> <p>MU:Pr4.2.7a Identify how cultural and historical context inform performance and results in different music interpretations.</p> <p>MU:Pr6.1.7a Demonstrate performance decorum (such as stage presence, attire, and behavior) and appropriate for venue, purpose, and context.</p> <p>MU:Re7.2.7a Identify and compare the context of music from a variety of genres, cultures, and historical periods.</p> <p>MU:Re9.1.7a Select from teacher-provided criteria to evaluate musical works or performances.</p>	<p>MU:Cn11.0.8a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.8a Generate rhythmic, melodic, and harmonic phrases and harmonic accompaniments within expanded forms (including introductions, transitions, and codas) that convey expressive intent.</p> <p>MU:Pr4.2.8a Identify how cultural and historical context inform performance and results in different musical effects.</p> <p>MU:Pr6.1.8a Demonstrate performance decorum (such as stage presence, attire, and behavior) and appropriate for venue, purpose, context, and style.</p> <p>MU:Re7.2.8a Identify and compare the context of programs or music from a variety of genres, cultures, and historical periods.</p> <p>MU:Re9.1.8a Apply appropriate, personally-developed criteria to evaluate musical works or performances.</p>

CREATING				
Imagine				
Generate musical ideas for various purposes and contexts.				
Essential Question: How do musicians generate creative ideas?				
Novice	Intermediate	Proficient	Accomplished	Advanced
<p>MU:Cr1.1.E.5a Compose and improvise melodic and rhythmic ideas or motives that reflect characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr1.1.E.8a Compose and improvise ideas for melodies and rhythmic passages based on characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr1.1.E.1a Compose and improvise ideas for melodies, rhythmic passages, and arrangements for specific purposes that reflect characteristic(s) of music from a variety of historical periods studied in rehearsal.</p>	<p>MU:Cr1.1.E.11a Compose and improvise ideas for arrangements, sections, and short compositions for specific purposes that reflect characteristic(s) of music from a variety of cultures studied in rehearsal.</p>	<p>MU:Cr1.1.E.11a Compose and improvise musical ideas for a variety of purposes and contexts.</p>
Common Anchor #1				
Plan and Make				
Select and develop musical ideas for defined purposes and contexts.				
Essential Question: Musicians' creative choices are influenced by their expertise, context, and expressive intent.				
Novice	Intermediate	Proficient	Accomplished	Advanced
<p>MU:Cr2.1.E.5a Select and develop draft melodic and rhythmic ideas or motives that demonstrate understanding of characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr2.1.E.8a Select and develop draft melodies and rhythmic passages that demonstrate understanding of characteristic(s) of music or text(s) studied in rehearsal.</p>	<p>MU:Cr2.1.E.1a Select and develop draft melodies, rhythmic passages, and arrangements for specific purposes that demonstrate understanding of characteristic(s) of music from a variety of historical periods studied in rehearsal.</p>	<p>MU:Cr2.1.E.11a Select and develop arrangements, sections, and short compositions for specific purposes that demonstrate understanding of characteristic(s) of music from a variety of cultures studied in rehearsal.</p>	<p>MU:Cr2.1.E.11a Select and develop composed and improvised ideas into draft musical works organized for a variety of purposes and contexts.</p>
<p>MU:Cr2.1.E.5b Preserve draft compositions and improvisations through standard notation and audio recording.</p>	<p>MU:Cr2.1.E.8b Preserve draft compositions and improvisations through standard notation and audio recording.</p>	<p>MU:Cr2.1.E.1a Preserve draft compositions and improvisations through standard notation and audio recording.</p>	<p>MU:Cr2.1.E.11a Preserve draft compositions and improvisations through standard notation, audio, or video recording.</p>	<p>MU:Cr2.1.E.11a Preserve draft musical works through standard notation, audio, or video recording.</p>
Common Anchor #2				

Evaluate and Refine				
Evaluate and refine selected musical ideas to create musical work that meets appropriate criteria.				
Essential Question: How do musicians improve the quality of their creative work?				
Novice	Intermediate	Proficient	Accomplished	Advanced
<p>MU:Cr3.1.E.5a Evaluate and refine draft compositions and improvisations based on knowledge, skill, and teacher-provided criteria.</p>	<p>MU:Cr3.1.E.8a Evaluate and refine draft compositions and improvisations based on knowledge, skill, and collaboratively-developed criteria.</p>	<p>MU:Cr3.1.E.1a Evaluate and refine draft melodies, rhythmic passages, arrangements, and improvisations based on established criteria, including the extent to which they address identified purposes.</p>	<p>MU:Cr3.1.E.11a Evaluate and refine draft arrangements, sections, short compositions, and improvisations based on personally-developed criteria, including the extent to which they address identified purposes.</p>	<p>MU:Cr3.1.E.11a Evaluate and refine varied draft musical works based on appropriate criteria, including the extent to which they address identified purposes and contexts.</p>
Present				
Share creative musical work that conveys intent, demonstrates craftsmanship, and exhibits originality.				
Essential Question: When is creative work ready to share?				
Novice	Intermediate	Proficient	Accomplished	Advanced
<p>MU:Cr3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p>	<p>MU:Cr3.2.E.8a Share personally-developed melodies and rhythmic passages – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p>	<p>MU:Cr3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.</p>	<p>MU:Cr3.2.E.11a Share personally-developed arrangements, sections, and short compositions – individually or as an ensemble – that address identified purposes.</p>	<p>MU:Cr3.2.E.11a Share varied, personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.</p>

PERFORMING

Select

Select varied musical works to present based on interest, knowledge, technical skill, and context.

Enduring Understanding: Performers' interest in and knowledge of musical works, understanding of their own technical skill, and the context for a performance influence the selection of repertoire.

Essential Question: How do performers select repertoire?

Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Pr4.1.E.5a Select varied repertoire to study based on interest, music reading skills (where appropriate), an understanding of the structure of the music, context , and the technical skill of the individual or ensemble .	MU:Pr4.1.E.8a Select a varied repertoire to study based on music reading skills (where appropriate), <i>an understanding of formal design</i> in the music, context , and the technical skill of the individual and ensemble .	MU:Pr4.1.E.1a Explain the criteria used to select a varied repertoire to study based on <i>an understanding of theoretical and structural characteristics of the music</i> , the technical skill of the individual or ensemble , and the purpose or context of the performance .	MU:Pr4.1.E.1la Develop and apply criteria to select a varied repertoire to study and perform based on an understanding of theoretical and structural characteristics and expressive challenges in the music, the technical skill of the individual or ensemble , and the purpose and context of the performance .	MU:Pr4.1.E.1lla Develop and apply criteria to select varied programs to study and perform based on an understanding of theoretical and structural characteristics and expressive challenges in the music, the technical skill of the individual or ensemble , and the purpose and context of the performance .

Analyze

Analyze the structure and context of varied musical works and their implications for performance.

Enduring Understanding: Analyzing creators' context and how they manipulate elements of music provides insight into their intent and informs performance.

Essential Question: How does understanding the structure and context of musical works inform performance?

Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Pr4.2.E.5a Demonstrate, using music reading skills where appropriate, how knowledge of formal aspects in musical works inform prepared or improvised performances .	MU:Pr4.2.E.5a Demonstrate, using music reading skills where appropriate, <i>how the setting and formal characteristics of musical works contribute to understanding the context</i> of the music in prepared or improvised performances .	MU:Pr4.2.E.1a Demonstrate, using music reading skills where appropriate, <i>how compositional devices employed and theoretical and structural aspects of musical works impact and inform</i> prepared or improvised performances .	MU:Pr4.2.E.1la Document and demonstrate, using music reading skills where appropriate, how compositional devices employed and theoretical and structural aspects of musical works may impact and inform prepared and improvised performances .	MU:Pr4.2.E.1lla Examine, evaluate, and critique, using music reading skills where appropriate, how the structure and context impact and inform prepared and improvised performances .

Interpret

Develop personal interpretations that consider creators' intent.

Enduring Understanding: Performers make interpretive decisions based on their understanding of context and expressive intent.

Essential Question: How do performers interpret musical works?

Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Pr4.3.E.5a Identify expressive qualities in a varied repertoire of music that can be demonstrated through prepared and improvised performances .	MU:Pr4.3.E.8a Demonstrate understanding and application of expressive qualities in a varied repertoire of music through prepared and improvised performances .	MU:Pr4.3.E.1a Demonstrate an understanding of context in a varied repertoire of music through prepared and improvised performances .	MU:Pr4.3.E.1la Demonstrate how understanding the style, genre , and context of a varied repertoire of music influences prepared and improvised performances as well as performers' technical skill to connect with the audience.	MU:Pr4.3.E.1lla Demonstrate how understanding the style, genre , and context of a varied repertoire of music informs prepared and improvised performances as well as performers' technical skill to connect with the audience.

Rehearse, Evaluate and Refine			
<i>Evaluate and refine personal and ensemble performances, individually or in collaboration with others.</i>			
Enduring Understanding: To express their musical ideas, musicians analyze, evaluate, and refine their performance over time through openness to new ideas, persistence, and the application of appropriate criteria.		Essential Question: How do musicians improve the quality of their performance?	
Novice	Intermediate	Proficient	Advanced
<p>MU:Pr5.3.E.5a Use self-reflection and peer feedback to refine individual and ensemble performances of a varied repertoire of music.</p>	<p>MU:Pr5.3.E.5a Develop strategies to address technical challenges in a varied repertoire of music and evaluate their success using feedback from ensemble peers and other sources to refine performances.</p>	<p>MU:Pr5.3.E.1a Develop strategies to address expressive challenges in a varied repertoire of music, and evaluate their success using feedback from ensemble peers and other sources to refine performances.</p>	<p>MU:Pr5.3.E.11a Develop and apply appropriate rehearsal strategies to address individual and ensemble challenges in a varied repertoire of music.</p>
Present			
<i>Perform expressively, with appropriate interpretation and technical accuracy, and in a manner appropriate to the audience and context.</i>			
Enduring Understanding: Musicians judge performance based on criteria that vary across time, place, and cultures. The context and how a work is presented influence the audience response.		Essential Question: When is a performance judged ready to present? How do context and the manner in which musical work is presented influence audience response?	
Novice	Intermediate	Proficient	Advanced
<p>MU:Pr6.1.E.5a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music.</p>	<p>MU:Pr6.1.E.5a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music representing diverse cultures and styles.</p>	<p>MU:Pr6.1.E.1a Demonstrate attention to technical accuracy and expressive qualities in prepared and improvised performances of a varied repertoire of music representing diverse cultures, styles, and genres.</p>	<p>MU:Pr6.1.E.11a Demonstrate an understanding and mastery of the technical demands and expressive qualities of the music through prepared and improvised performances of a varied repertoire representing diverse cultures, styles, and historical periods in multiple types of ensembles.</p>
<p>MU:Pr6.1.E.5b Demonstrate an awareness of the context of the music through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.5b Demonstrate an understanding of the context of the music through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.1b Demonstrate an understanding of expressive intent by connecting with an audience through prepared and improvised performances.</p>	<p>MU:Pr6.1.E.11b Demonstrate an ability to connect with audience members before and during the process of engaging with and responding to them through prepared and improvised performances.</p>

RESPONDING				
Select				
<i>Choose music appropriate for specific purposes and contexts.</i>				
Enduring Understanding: Individuals' selection of musical works is influenced by their interests, experiences, understandings, and purposes.				
Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Re7.1.E.5a Identify reasons for selecting music based on characteristics found in the music, connection to interest, and purpose or context .	MU:Re7.1.E.8a Explain reasons for selecting music, citing characteristics found in the music and connections to interest, purpose , and context .	MU:Re7.1.E.1a Apply criteria to select music for specified purposes, supporting choices by citing characteristics found in the music and connections to interest, purpose , and context .	MU:Re7.1.E.1a Apply criteria to select music for a variety of purposes, justifying choices <i>citing knowledge of the music and the specified purpose and context</i> .	MU:Re7.1.E.11a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and individual and ensemble purpose and context .
Analyze				
<i>Analyze how the structure and context of varied musical works inform the response.</i>				
Enduring Understanding: Response to music is informed by analyzing context (social cultural, and historical) and how creators and performers manipulate the elements of music.				
Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Re7.2.E.5a Identify how knowledge of context and the use of repetition, similarities, and contrasts inform the response to music.	MU:Re7.2.E.8a Describe how understanding context and the way the elements of music are manipulated inform the response to music.	MU:Re7.2.E.1a Explain how the analysis of passages and understanding the way the elements of music are manipulated inform the response to music.	MU:Re7.2.E.1a Explain how the analysis of structures and contexts inform the response to music.	MU:Re7.2.E.11a Demonstrate and justify how the analysis of structures, contexts , and performance decisions inform the response to music.
Interpret				
<i>Support an interpretation of a musical work that reflects the creators'/performers' expressive intent.</i>				
Enduring Understanding: Through their use of elements and structures of music, creators and performers provide clues to their expressive intent.				
Novice	Intermediate	Proficient	Accomplished	Advanced
MU:Re8.1.E.5a Identify interpretations of the expressive intent and meaning of musical works , referring to the elements of music, contexts , and (when appropriate) the setting of the text .	MU:Re8.1.E.8a Identify and support interpretations of the expressive intent and meaning of musical works , citing as evidence the treatment of the elements of music, contexts , and (when appropriate) the setting of the text .	MU:Re8.1.E.1a Explain and support interpretations of the expressive intent and meaning of musical works , citing as evidence the treatment of the elements of music, contexts , (when appropriate) the setting of the text , and personal research .	MU:Re8.1.E.1a Support interpretations of the expressive intent and meaning of musical works citing as evidence the treatment of the elements of music, contexts , (when appropriate) the setting of the text , and varied researched sources .	MU:Re8.1.E.11a Justify interpretations of the expressive intent and meaning of musical works by comparing and synthesizing varied researched sources, including reference to other art forms .

Common Anchor #7

Evaluate				
<i>Support personal evaluation of musical works and performance(s) based on analysis, interpretation, and established criteria.</i>				
Enduring Understanding: The personal evaluation of musical work(s) and performance(s) is informed by analysis, interpretation, and established criteria.				
Essential Question: How do we judge the quality of musical work(s) and performance(s)?				
	Novice	Intermediate	Proficient	Accomplished
Common Anchor #9	<p>MU:Re9.1.E.5a Identify and describe the effect of interest, experience, analysis, and context on the evaluation of music.</p>	<p>MU:Re9.1.E.8a Explain the influence of experiences, analysis, and context on interest in and evaluation of music.</p>	<p>MU:Re9.1.E.1a Evaluate works and performances based on personally- or collaboratively-developed criteria, including analysis of the structure and context.</p>	<p>MU:Re9.1.E.11a Evaluate works and performances based on research as well as personally- and collaboratively-developed criteria, including analysis and interpretation of the structure and context.</p>
				<p>MU:Re9.1.E.11a Develop and justify evaluations of music, programs of music, and performances based on criteria, personal decision-making, research, and understanding of contexts.</p>

CONNECTING

Connect #10

Synthesize and relate knowledge and personal experiences to make music.

Enduring Understanding: Musicians connect their personal interests, experiences, ideas, and knowledge to

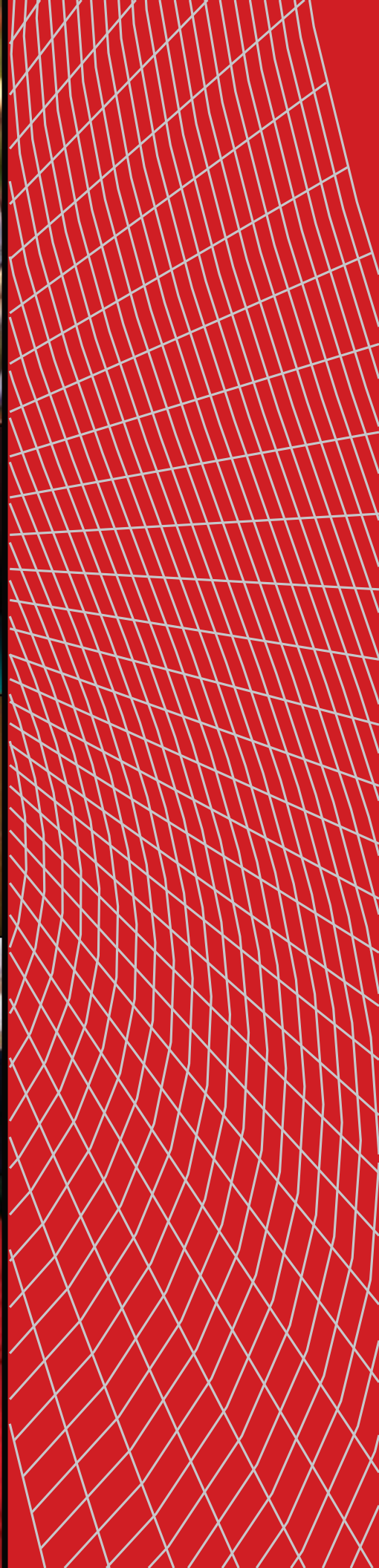
Essential Question: How do musicians make meaningful connections to creating, performing, and responding?

	Novice	Intermediate	Proficient	Accomplished	Advanced
Common Anchor #10	<p>MU:Cn10.0.H.5a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU-Cr3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU-Pr4.1.E.5a Select varied repertoire to study based on interest, music reading skills (where appropriate), an understanding of the structure of the music, context, and the technical skills of the individual or ensemble.</p> <p>MU-Pr4.3.E.5a Identify expressive qualities in a varied repertoire of music that can be demonstrated through prepared and improvised performances.</p> <p>MU-Re7.1.E.5a Identify reasons for selecting music based on characteristics found in the music, connection to interest, and purpose or context.</p>	<p>MU:Cn10.0.H.8a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU-Cr3.2.E.8a Share personally-developed melodies and rhythmic passages – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU-Pr4.2.E.8a Select a varied repertoire to study based on music reading skills (where appropriate), an understanding of formal design in the music, context, and the technical skills of the individual and ensemble.</p> <p>MU-Pr6.1.E.5c Demonstrate <i>understanding and application of expressive qualities</i> in a varied repertoire of music through prepared and improvised performances.</p> <p>MU-Re7.1.E.8a Explain reasons for selecting music citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Cn10.0.H.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU-Cr3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.</p> <p>MU-Pr4.1.E.1a Explain the criteria used to select a varied repertoire to study based on an understanding of theoretical and structural characteristics of the music, the technical skills of the individual or ensemble, and the purpose or context of the performance.</p> <p>MU-Pr4.3.E.1a Demonstrate an understanding of context in a varied repertoire of music through prepared and improvised performances.</p> <p>MU-Re7.1.E.1a Apply criteria to select music for specified purposes, supporting choices by citing characteristics found in the music and connections to interest, purpose, and context.</p>	<p>MU:Cn10.0.H.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU-Cr3.2.E.1a Share personally-developed arrangements, sections, and short compositions – individually or as an ensemble – that address identified purposes.</p> <p>MU-Pr4.1.E.1a Develop and apply criteria to select a varied repertoire to study and perform based on an understanding of theoretical and structural characteristics and expressive challenges in the music, the technical skills of the individual or ensemble, and the purpose and context of the performance.</p> <p>MU-Pr4.3.E.1a Demonstrate how understanding the style, genre, and context of a varied repertoire of music <i>informs</i> prepared and improvised performances as well as performers' technical skill to connect with the audience.</p> <p>MU-Re7.1.E.1a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and <i>individual and ensemble purpose</i> and context.</p>	<p>MU:Cn10.0.H.1a Demonstrate how interests, knowledge, and skills relate to personal choices and intent when creating, performing, and responding to music.</p> <p>MU-Cr3.2.E.1a Share varied, personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.</p> <p>MU-Pr4.1.E.1a Develop and apply criteria to select varied programs to study and perform based on an understanding of theoretical and structural characteristics and expressive challenges in the music, the technical skills of the individual or ensemble, and the purpose and context of the performance.</p> <p>MU-Pr4.3.E.1a Demonstrate how understanding the style, genre, and context of a varied repertoire of music <i>informs</i> prepared and improvised performances as well as performers' technical skill to connect with the audience.</p> <p>MU-Re7.1.E.1a Use research and personally-developed criteria to justify choices made when selecting music, citing knowledge of the music, and <i>individual and ensemble purpose</i> and context.</p>

Connect #11 <i>Relate musical ideas and works with varied context to deepen understanding.</i>					
Essential Question: How do the other arts, other disciplines, contexts and daily life inform creating, performing, and responding.					
	Novice	Intermediate	Proficient	Advanced	
Common Anchor #11	<p>MU:Cn11.0.T.5a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.E.5a Compose and improvise melodic and rhythmic ideas or motives that reflect characteristic(s) of music or text(s) studied in rehearsal.</p> <p>MU:C3.2.E.5a Share personally-developed melodic and rhythmic ideas or motives – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU:Pr6.1.E.5a Demonstrate an awareness of the context of the music through prepared and improvised performances.</p> <p>MU:Re9.1.E.5a Identify and describe the effect of interest, experience, analysis, and context on the evaluation of music.</p>	<p>MU:Cn11.0.T.8a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.E.8a Compose and improvise ideas for melodies and rhythmic passages based on characteristic(s) of music or text(s) studied in rehearsal.</p> <p>MU:C3.2.E.8a Share personally-developed melodies and rhythmic passages – individually or as an ensemble – that demonstrate understanding of characteristics of music or texts studied in rehearsal.</p> <p>MU:Pr6.1.E.8a Demonstrate an understanding of the context of the music through prepared and improvised performances.</p> <p>MU:Re9.1.E.8a <i>Explain the influence of</i> experiences, analysis, and context on interest in and evaluation of music.</p>	<p>MU:Cn11.0.T.1a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.E.1a Compose and improvise ideas for melodies, rhythmic passages, and arrangements for specific purposes that reflect characteristic(s) of music from a variety of historical periods studied in rehearsal.</p> <p>MU:C3.2.E.1a Share personally-developed melodies, rhythmic passages, and arrangements – individually or as an ensemble – that address identified purposes.</p> <p>MU:Pr6.1.E.1a Demonstrate an understanding of expressive intent by connecting with an audience through prepared and improvised performances.</p> <p>MU:Re9.1.E.1a Evaluate works and performances based on personally- or collaboratively- developed criteria, including analysis of the structure and context.</p>	<p>MU:Cn11.0.T.11a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.E.11a Compose and improvise ideas for arrangements, sections, and short compositions for specific purposes that reflect characteristic(s) of music from a variety of cultures studied in rehearsal.</p> <p>MU:C3.2.E.11a Share personally-developed arrangements, sections, and short compositions – individually or as an ensemble – that address identified purposes.</p> <p>MU:Pr6.1.E.11a Demonstrate an understanding of intent as a means for connecting with an audience through prepared and improvised performances.</p> <p>MU:Re9.1.E.11a Evaluate works and performances based on research as well as personally- and collaboratively-developed criteria, including analysis and interpretation of the structure and context.</p>	<p>MU:Cn11.0.T.111a Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.</p> <p>MU:Cr1.1.E.111a Compose and improvise musical ideas for a variety of purposes and contexts.</p> <p>MU:C3.2.E.111a Share varied, personally-developed musical works – individually or as an ensemble – that address identified purposes and contexts.</p> <p>MU:Pr6.1.E.111a Demonstrate an ability to connect with audience members before and during the process of engaging with and responding to them through prepared and improvised performances.</p> <p>MU:Re9.1.E.111a Develop and justify evaluations of music, programs of music, and performances based on criteria, <i>personal decision-making</i>, research, and understanding of contexts.</p>



Grade-Level Outcomes for K-12 Physical Education



Grade-Level Outcomes for K-12 Physical Education



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National Standards & Grade-Level Outcomes for K-12 Physical Education

Find even more guidance on using the new National Standards in *National Standards & Grade-Level Outcomes for K-12 Physical Education* (SHAPE America, 2014). Designed as a tool for physical educators at all levels, this book offers guidance on planning curricula, designing units and lessons, tracking student progress across grades and more. Purchase your copy at www.humankinetics.com/shapeamerica-online-store.

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National Standards for K-12 Physical Education

The goal of physical education is to develop physically literate individuals who have the knowledge, skills and confidence to enjoy a lifetime of healthful physical activity.

To pursue a lifetime of healthful physical activity, a physically literate individual*:

- Has learned the skills necessary to participate in a variety of physical activities.
- Knows the implications and the benefits of involvement in various types of physical activities.
- Participates regularly in physical activity.
- Is physically fit.
- Values physical activity and its contributions to a healthful lifestyle.

Standard 1. The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2. The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3. The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4. The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5. The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

* Adapted from NASPE. (2004). *Moving into the future: National standards for physical education* (2nd ed.). Reston, VA: Author, and Mandigo, J., Francis, N., Lodewyk, K., & Lopez, R. (2012). Physical literacy for physical educators. *Physical Education and Health Journal*, 75 (3), 27 - 30.

Elementary School Outcomes (K – Grade 5)

By the end of Grade 5, the learner will demonstrate competence in fundamental motor skills and selected combinations of skills; use basic movement concepts in dance, gymnastics and small-sided practice tasks; identify basic health-related fitness concepts; exhibit acceptance of self and others in physical activities; and identify the benefits of physically active lifestyle.

Note: Swimming skills and water-safety activities should be taught if facilities permit.

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Demonstrates competency in a variety of motor skills and movement patterns.						
S1.E1 Locomotor <i>Hopping, galloping, running, sliding, skipping, leaping</i>	Performs locomotor skills (hopping, galloping, running, sliding, skipping) while maintaining balance. (S1.E1.K)	Hops, gallops, jogs and slides using a mature pattern. (S1.E1.1)	Skips using a mature pattern. (S1.E1.2)	Leaps using a mature pattern. (S1.E1.3)	Uses various locomotor skills in a variety of small-sided practice tasks, dance and educational gymnastics experiences. (S1.E1.4)	Demonstrates mature patterns of locomotor skills in dynamic small-sided practice tasks, gymnastics and dance. (S1.E1.5a) Combines locomotor and manipulative skills in a variety of small-sided practice tasks/games environments. (S1.E1.5b) Combines traveling with manipulative skills for execution to a target (e.g., scoring in soccer, hockey and basketball). (S1.E1.5c)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E2 Locomotor <i>jogging, running</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	Runs with a mature pattern. (S1.E2.2a) Travels showing differentiation between jogging and sprinting. (S1.E2.2b)	Travels showing differentiation between sprinting and running. (S1.E2.3)	Runs for distance using a mature pattern. (S1.E2.4)	Uses appropriate pacing for a variety of running distances. (S1.E2.5)
S1.E3 Locomotor <i>Jumping & landing, horizontal plane</i>	Performs jumping & landing actions with balance. (S1.E3.K) <i>Note: This outcome applies to both horizontal and vertical jumping & landing.</i>	Demonstrates 2 of the 5 critical elements for jumping & landing in a horizontal plane using 2-foot take-offs & landings. (S1.E3.1)	Demonstrates 4 of the 5 critical elements for jumping & landing in a horizontal plane using a variety of 1- and 2-foot take-offs & landings. (S1.E3.2)	Jumps & lands in the horizontal & vertical planes using a mature pattern. (S1.E3.3) <i>Note: This outcome applies to both horizontal and vertical jumping & landing.</i>	Uses spring-and-step take-offs & landings specific to gymnastics. (S1.E3.4) <i>Note: This outcome applies to both horizontal and vertical jumping & landing.</i>	Combines jumping & landing patterns with locomotor and manipulative skills in dance, educational gymnastics and small-sided practice tasks and games environments. (S1.E3.5) <i>Note: This outcome applies to both horizontal and vertical jumping & landing.</i>
S1.E4 Locomotor <i>Jumping & landing, vertical plane</i>		Demonstrates 2 of the 5 critical elements for jumping and landing in a vertical plane. (S1.E4.1)	Demonstrates 4 of the 5 critical elements for jumping and landing in a vertical plane. (S1.E4.2)			
S1.E5 Locomotor <i>Dance</i>	Performs locomotor skills in response to teacher-led creative dance. (S1.E5.K)	Combines locomotor and nonlocomotor skills in a teacher-designed dance. (S1.E5.1)	Performs a teacher- and/or student-designed rhythmic activity with correct response to simple rhythms. (S1.E5.2)	Performs teacher-selected and developmentally appropriate dance steps and movement patterns. (S1.E5.3)	Combines locomotor movement patterns and dance steps to create and perform an original dance. (S1.E5.4)	Combines locomotor skills in cultural as well as creative dances (self and group) with correct rhythm and pattern. (S1.E5.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E6 Locomotor <i>Combinations</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Performs a sequence of locomotor skills, transitioning from one skill to another smoothly and without hesitation. (S1.E6.3)	Combines traveling with manipulative skills of dribbling, throwing, catching and striking in teacher- and/or student-designed small-sided practice tasks. (S1.E6.4)	Applies skill.
S1.E7 Nonlocomotor* (stability) <i>Balance</i>	Maintains momentary stillness on different bases of support. (S1.E7.Ka) Forms wide, narrow, curled & twisted body shapes. (S1.E7.Kb)	Maintains stillness on different bases of support with different body shapes. (S1.E7.1)	Balances on different bases of support, combining levels and shapes. (S1.E7.2a) Balances in an inverted position* with stillness and supportive base. (S1.E7.2b)	Balances on different bases of support, demonstrating muscular tension and extensions of free body parts. (S1.E7.3)	Balances on different bases of support on apparatus, demonstrating levels and shapes. (S1.E7.4)	Combines balance and transferring weight in a gymnastics sequence or dance with a partner. (S1.E7.5)
S1.E8 Nonlocomotor (stability) <i>Weight transfer</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 1.</i>	Transfers weight from one body part to another in self-space in dance and gymnastics environments. (S1.E8.1)	Transfers weight from feet to different body parts/bases of support for balance and/or travel. ^a (S1.E8.2)	Transfers weight from feet to hands for momentary weight support. (S1.E8.3)	Transfers weight from feet to hands, varying speed and using large extensions (e.g., kick, handstand, cartwheel). ¹ (S1.E8.4)	Transfers weight in gymnastics and dance environments. (S1.E8.5)
S1.E9 Nonlocomotor (stability) <i>Weight transfer, rolling</i>	Rolls sideways in a narrow body shape. (S1.E9.K)	Rolls with either a narrow or curled body shape. (S1.E9.1)	Rolls in different directions with either a narrow or curled body shape. (S1.E9.2)	Applies skill.	Applies skill.	Applies skill.

*Teachers must use differentiated instruction and developmentally appropriate practice tasks for individual learners when presenting transfers of weight from feet to other body parts.

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E10 Nonlocomotor (stability) <i>Curling & stretching; twisting & bending</i>	Contrasts the actions of curling & stretching. (S1.E10.K)	Demonstrates twisting, curling, bending & stretching actions. (S1.E10.1)	Differentiates among twisting, curling, bending & stretching actions. (S1.E10.2)	Moves into and out of gymnastics balances with curling, twisting & stretching actions. (S1.E10.3)	Moves into and out of balances on apparatus with curling, twisting & stretching actions. (S1.E10.4)	Performs curling, twisting & stretching actions with correct application in dance, gymnastics, small-sided practice tasks in games environments. (S1.E10.5)
S1.E11 Nonlocomotor (stability) <i>Combinations</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	Combines balances and transfers into a 3-part sequence (i.e., dance, gymnastics). (S1.E11.2)	Combines locomotor skills and movement concepts (levels, shapes, extensions, pathways, force, time, flow) to create and perform a dance. (S1.E11.3)	Combines locomotor skills and movement concepts (levels, shapes, extensions, pathways, force, time, flow) to create and perform a dance with a partner. (S1.E11.4)	Combines locomotor skills and movement concepts (levels, shapes, extensions, pathways, force, time, flow) to create and perform a dance with a group. (S1.E11.5)
S1.E12 Nonlocomotor (stability) <i>Balance & weight transfers</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Combines balance and weight transfers with movement concepts to create and perform a dance. (S1.E12.3)	Combines traveling with balance and weight transfers to create a gymnastics sequence with and without equipment or apparatus. (S1.E12.4)	Combines actions, balances and weight transfers to create a gymnastics sequence with a partner on equipment or apparatus. (S1.E12.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E13 Manipulative <i>Underhand throw</i>	Throws underhand with opposite foot forward. (S1.E13.K)	Throws underhand, demonstrating 2 of the 5 critical elements of a mature pattern. (S1.E13.1)	Throws underhand using a mature pattern. (S1.E13.2)	Throws underhand to a partner or target with reasonable accuracy. (S1.E13.3)	Applies skill.	Throws underhand using a mature pattern in nondynamic environments (closed skills), with different sizes and types of objects. (S1.E13.5a) Throws underhand to a large target with accuracy. (S1.E13.5b)
S1.E14 Manipulative <i>Overhand throw</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	Throws overhand, demonstrating 2 of the 5 critical elements of a mature pattern. (S1.E14.2)	Throws overhand, demonstrating 3 of the 5 critical elements of a mature pattern, in nondynamic environments (closed skills), for distance and/or force. (S1.E14.3)	Throws overhand using a mature pattern in nondynamic environments (closed skills). (S1.E14.4a) Throws overhand to a partner or at a target with accuracy at a reasonable distance. (S1.E14.4b)	Throws overhand using a mature pattern in nondynamic environments (closed skills), with different sizes and types of objects. (S1.E13.5a) Throws overhand to a large target with accuracy. (S1.E13.5b)
S1.E15 Manipulative <i>Passing with hands</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	Throws to a moving partner with reasonable accuracy in a nondynamic environment (closed skills). (S1.E15.4)	Throws with accuracy, both partners moving. (S1.E15.5a) Throws with reasonable accuracy in dynamic, small-sided practice tasks. (S1.E15.5b)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E16 Manipulative <i>Catching</i>	Drops a ball and catches it before it bounces twice. (S1.E16.Ka) Catches a large ball tossed by a skilled thrower. (S1.E16.Kb)	Catches a soft object from a self-toss before it bounces. (S1.E16.1a) Catches various sizes of balls self-tossed or tossed by a skilled thrower. (S1.E16.1b)	Catches a self-tossed or well-thrown large ball with hands, not trapping or cradling against the body. (S1.E16.2)	Catches a gently tossed hand-size ball from a partner, demonstrating 4 of the 5 critical elements of a mature pattern. (S1.E16.3)	Catches a thrown ball above the head, at chest or waist level, and below the waist using a mature pattern in a nondynamic environment (closed skills). (S1.E16.4)	Catches a batted ball above the head, at chest or waist level, and along the ground using a mature pattern in a nondynamic environment (closed skills). (S1.E16.5a) Catches with accuracy, both partners moving. (S1.E16.5b) Catches with reasonable accuracy in dynamic, small-sided practice tasks. (S1.E16.5c)
S1.E17 Manipulative <i>Dribbling/ball control with hands</i>	Dribbles a ball with one hand, attempting the second contact. (S1.E17.K)	Dribbles continuously in self-space using the preferred hand. (S1.E17.1)	Dribbles in self-space with preferred hand demonstrating a mature pattern. (S1.E17.2a) Dribbles using the preferred hand while walking in general space. (S1.E17.2b)	Dribbles and travels in general space at slow to moderate jogging speed, with control of ball and body. (S1.E17.3)	Dribbles in self-space with both the preferred and the nonpreferred hands using a mature pattern. (S1.E17.4a) Dribbles in general space with control of ball and body while increasing and decreasing speed. (S1.E17.4b)	Combines hand dribbling with other skills during 1v1 practice tasks. (S1.E17.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E18 Manipulative <i>Dribbling/ball control with feet</i>	Taps a ball using the inside of the foot, sending it forward. (S1.E18.K)	Taps or dribbles a ball using the inside of the foot while walking in general space. (S1.E18.1)	Dribbles with the feet in general space with control of ball and body. (S1.E18.2)	Dribbles with the feet in general space at slow to moderate jogging speed with control of ball and body. (S1.E18.3)	Dribbles with the feet in general space with control of ball and body while increasing and decreasing speed. (S1.E18.4)	Combines foot dribbling with other skills in 1v1 practice tasks. (S1.E18.5)
S1.E19 Manipulative <i>Passing & receiving with feet</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Passes & receives a ball with the insides of the feet to a stationary partner, “giving” on reception before returning the pass. (S1.E19.3)	Passes & receives a ball with the insides of the feet to a moving partner in a nondynamic environment (closed skills). (S1.E19.4a) Passes & receives a ball with the outsides and insides of the feet to a stationary partner, “giving” on reception before returning the pass. (S1.E19.4b)	Passes with the feet using a mature pattern as both partners travel. (S1.E19.5a) Receives a pass with the foot using a mature pattern as both partners travel. (S1.E19.5b)
S1.E20 Manipulative <i>Dribbling in combination</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	Dribbles with hands or feet in combination with other skills (e.g., passing, receiving, shooting). (S1.E20.4)	Dribbles with hands or feet with mature patterns in a variety of small-sided game forms. (S1.E20.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>S1.E21 Manipulative <i>Kicking</i></p>	<p>Kicks a stationary ball from a stationary position, demonstrating 2 of the 5 elements of a mature kicking pattern. (S1.E21.K)</p>	<p>Approaches a stationary ball and kicks it forward, demonstrating 2 of the 5 critical elements of a mature pattern. (S1.E21.1)</p>	<p>Uses a continuous running approach and kicks a moving ball, demonstrating 3 of the 5 critical elements of a mature pattern. (S1.E21.2)</p>	<p>Uses a continuous running approach and intentionally performs a kick along the ground and a kick in the air, demonstrating 4 of the 5 critical elements of a mature pattern for each. (S1.E21.3a)</p> <p>Uses a continuous running approach and kicks a stationary ball for accuracy. (S1.E21.3b)</p>	<p>Kicks along the ground and in the air, and punts using mature patterns. (S1.E21.4)</p>	<p>Demonstrates mature patterns in kicking and punting in small-sided practice task environments. (S1.E21.5)</p>
<p>S1.E22 Manipulative <i>Volley, underhand</i></p>	<p>Volleys a light-weight object (balloon), sending it upward. (S1.E22.K)</p>	<p>Volleys an object with an open palm, sending it upward. (S1.E22.1)</p>	<p>Volleys an object upward with consecutive hits. (S1.E22.2)</p>	<p>Volleys an object with an underhand or sidearm striking pattern, sending it forward over a net, to the wall or over a line to a partner, while demonstrating 4 of the 5 critical elements of a mature pattern. (S1.E22.3)</p>	<p>Volleys underhand using a mature pattern, in a dynamic environment (e.g., 2 square, 4 square, handball). (S1.E22.4)</p>	<p>Applies skill.</p>

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E23 Manipulative <i>Volley, overhead</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	Volleys a ball with a 2-hand overhead pattern, sending it upward, demonstrating 4 of the 5 critical elements of a mature pattern. (S1.E23.4)	Volleys a ball using a 2-hand overhead pattern, sending it upward to a target. (S1.E23.5)
S1.E24 Manipulative <i>Striking, short implement</i>	Strikes a lightweight object with a paddle or short-handled racket. (S1.E24.K)	Strikes a ball with a short-handled implement, sending it upward. (S1.E24.1)	Strikes an object upward with a short-handled implement, using consecutive hits. (S1.E24.2)	Strikes an object with a short-handled implement, sending it forward over a low net or to a wall. (S1.E24.3a) Strikes an object with a short-handled implement while demonstrating 3 of the 5 critical elements of a mature pattern. (S1.E24.3b)	Strikes an object with a short-handled implement while demonstrating a mature pattern. (S1.E24.4a) Strikes an object with a short-handled implement, alternating hits with a partner over a low net or against a wall. (S1.E24.4b)	Strikes an object consecutively, with a partner, using a short-handled implement, over a net or against a wall, in either a competitive or cooperative game environment. (S1.E24.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E25 Manipulative <i>Striking, long implement</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 2.</i>	Strikes a ball off a tee or cone with a bat, using correct grip and side orientation/ proper body orientation. (S1.E25.2)	Strikes a ball with a long-handled implement (e.g., hockey stick, bat, golf club), sending it forward, while using proper grip for the implement. <i>Note:</i> Use batting tee or ball tossed by teacher for batting. (S1.E25.3)	Strikes an object with a long-handled implement (e.g., hockey stick, golf club, bat, tennis racket, badminton racket), while demonstrating 3 of the 5 critical elements of a mature pattern for the implement (grip, stance, body orientation, swing plane and follow-through). (S1.E25.4)	Strikes a pitched ball with a bat using a mature pattern. (S1.E25.5a) Combines striking with a long implement (e.g., bat, hockey stick) with receiving and traveling skills in a small-sided game. (S1.E25.5b)
S1.E26 Manipulative <i>In combination with locomotor</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 4.</i>	Combines traveling with the manipulative skills of dribbling, throwing, catching and striking in teacher- and/or student-designed small-sided practice-task environments. (S1.E26.4)	Combines manipulative skills and traveling for execution to a target (e.g., scoring in soccer, hockey and basketball). (S1.E26.5)

Standard 1	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S1.E27 Manipulative <i>Jumping rope</i>	Executes a single jump with self-turned rope. (S1.E27.Ka) Jumps a long rope with teacher-assisted turning. (S1.E27.Kb)	Jumps forward or backward consecutively using a self-turned rope. (S1.E27.1a) Jumps a long rope up to 5 times consecutively with teacher-assisted turning. (S1.E27.1b)	Jumps a self-turned rope consecutively forward and backward with a mature pattern. (S1.E27.2a) Jumps a long rope 5 times consecutively with student turners. (S1.E27.2b)	Performs intermediate jump-rope skills (e.g., a variety of tricks, running in and out of long rope) for both long and short ropes. (S1.E27.3)	Creates a jump-rope routine with either a short or long rope. (S1.E27.4)	Creates a jump-rope routine with a partner, using either a short or long rope. (S1.E27.5)

Standard 2	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<i>Applies knowledge of concepts, principles, strategies and tactics related to movement and performance.</i>						
S2.E1 Movement concepts <i>Space</i>	Differentiates between movement in personal (self-space) & general space. (S2.E1.Ka) Moves in personal space to a rhythm. (S2.E1.Kb)	Moves in self-space and general space in response to designated beats/ rhythms. (S2.E1.1)	Combines locomotor skills in general space to a rhythm. (S2.E1.2)	Recognizes the concept of open spaces in a movement context. (S2.E1.3)	Applies the concept of open spaces to combination skills involving traveling (e.g., dribbling and traveling). (S2.E1.4a) Applies the concept of closing spaces in small-sided practice tasks. (S2.E1.4b) Dribbles in general space with changes in direction and speed. (S2.E1.4c)	Combines spatial concepts with locomotor and non-locomotor movements for small groups in gymnastics, dance and games environments. (S2.E1.5)
S2.E2 Movement concepts <i>Pathways, shapes, levels</i>	Travels in 3 different pathways. (S2.E2.K)	Travels demonstrating low, middle and high levels. (S2.E2.1a) Travels demonstrating a variety of relationships with objects (e.g., over, under, around, through). (S2.E2.1b)	Combines shapes, levels and pathways into simple travel, dance and gymnastics sequences. ² (S2.E2.2)	Recognizes locomotor skills specific to a wide variety of physical activities. (S2.E2.3)	Combines movement concepts with skills in small-sided practice tasks, gymnastics and dance environments. (S2.E2.4)	Combines movement concepts with skills in small-sided practice tasks in game environments, gymnastics and dance with self-direction. (S2.E2.5)

Standard 2	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S2.E3 Movement concepts <i>Speed, direction, force</i>	Travels in general space with different speeds. (S2.E3.K)	Differentiates between fast and slow speeds. (S2.E3.1a) Differentiates between strong and light force. (S2.E3.1b)	Varies time and force with gradual increases and decreases. (S2.E3.2)	Combines movement concepts (direction, levels, force, time) with skills as directed by the teacher. (S2.E3.3)	Applies the movement concepts of speed, endurance and pacing for running. (S2.E3.4a) Applies the concepts of direction and force when striking an object with a short-handled implement, sending it toward a designated target. (S2.E3.4b)	Applies movement concepts to strategy in game situations. (S2.E3.5a) Applies the concepts of direction and force to strike an object with a long-handled implement. (S2.E3.5b) Analyzes movement situations and applies movement concepts (e.g., force, direction, speed, pathways, extensions) in small-sided practice tasks in game environments, dance and gymnastics. (S2.E3.5c)
S2.E4 Movement concepts <i>Alignment & muscular tension</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Employs the concept of alignment in gymnastics and dance. (S2.E4.3a) Employs the concept of muscular tension with balance in gymnastics and dance. (S2.E4.3b)	Applies skill.	Applies skill.

Standard 2	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<p>S2.E5 Movement concepts <i>Strategies & tactics</i></p>	<p><i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i></p>	<p><i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i></p>	<p><i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i></p>	<p>Applies simple strategies & tactics in chasing activities. (S2.E5.3a)</p> <p>Applies simple strategies in fleeing activities. (S2.E5.3b)</p>	<p>Applies simple offensive strategies and tactics in chasing and fleeing activities. (S2.E5.4a)</p> <p>Applies simple defensive strategies/ tactics in chasing and fleeing activities. (S2.E5.4b)</p> <p>Recognizes the types of kicks needed for different games and sports situations. (S2.E5.4c)</p>	<p>Applies basic offensive and defensive strategies/ tactics in invasion small-sided practice tasks. (S2.E5.5a)</p> <p>Applies basic offensive and defensive strategies & tactics in net/wall small-sided practice tasks. (S2.E5.5b)</p> <p>Recognizes the type of throw, volley or striking action needed for different games & sports situations. (S2.E5.5c)</p>

Standard 3	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.						
S3.E1 Physical activity knowledge	Identifies active-play opportunities outside physical education class. (S3.E1.K)	Discusses the benefits of being active and exercising and/or playing. (S3.E1.1)	Describes large-motor and/or manipulative physical activities for participation outside physical education class (e.g., before and after school, at home, at the park, with friends, with the family). (S3.E1.2)	Charts participation in physical activities outside physical education class. (S3.E1.3a) Identifies physical activity benefits as a way to become healthier. (S3.E1.3b)	Analyzes opportunities for participating in physical activity outside physical education class. (S3.E1.4)	Charts and analyzes physical activity outside physical education class for fitness benefits of activities. (S3.E1.5)
S3.E2 Engages in physical activity	Actively participates in physical education class. (S3.E2.K)	Actively engages in physical education class. (S3.E2.1)	Actively engages in physical education class in response to instruction and practice. (S3.E2.2)	Engages in the activities of physical education class without teacher prompting. (S3.E2.3)	Actively engages in the activities of physical education class, both teacher-directed and independent. (S3.E2.4)	Actively engages in all the activities of physical education. (S3.E2.5)
S3.E3 Fitness knowledge	Recognizes that when you move fast, your heart beats faster and you breathe faster. ³ (S3.E3.K)	Identifies the heart as a muscle that grows stronger with exercise, play and physical activity. (S3.E3.1)	Uses own body as resistance (e.g., holds body in plank position, animal walks) ⁴ for developing strength. (S3.E3.2a) Identifies physical activities that contribute to fitness. (S3.E3.2b)	Describes the concept of fitness and provides examples of physical activity to enhance fitness. (S3.E3.3)	Identifies the components of health-related fitness. ⁵ (S3.E3.4)	Differentiates between skill-related and health-related fitness. ⁶ (S3.E3.5)
S3.E4 Fitness knowledge	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Recognizes the importance of warm-up & cool-down relative to vigorous physical activity. (S3.E4.3)	Demonstrates warm-up & cool-down relative to the cardio-respiratory fitness assessment. (S3.E4.4)	Identifies the need for warm-up & cool-down relative to various physical activities. (S3.E4.5)

Standard 3	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S3.E5 Assessment & program planning	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Demonstrates, with teacher direction, the health-related fitness components. (S3.E5.3)	Completes fitness assessments (pre- & post-). (S3.E5.4a) Identifies areas of needed remediation from personal test and, with teacher assistance, identifies strategies for progress in those areas. (S3.E5.4b)	Analyzes results of fitness assessment (pre- & post-), comparing results to fitness components for good health. (S3.E5.5a) Designs a fitness plan to address ways to use physical activity to enhance fitness. (S3.E5.5b)
S3.E6 Nutrition	Recognizes that food provides energy for physical activity. (S3.E6.K)	Differentiates between healthy and unhealthy foods. (S3.E6.1)	Recognizes the “good health balance” of good nutrition with physical activity. (S3.E6.2)	Identifies foods that are beneficial for before and after physical activity. (S3.E6.3)	Discusses the importance of hydration and hydration choices relative to physical activities. (S3.E6.4)	Analyzes the impact of food choices relative to physical activity, youth sports & personal health. (S3.E6.5)

Standard 4	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Exhibits responsible personal and social behavior that respects self and others.						
S4.E1 Personal responsibility	Follows directions in group settings (e.g., safe behaviors, following rules, taking turns). (S4.E1.K)	Accepts personal responsibility by using equipment and space appropriately. (S4.E1.1)	Practices skills with minimal teacher prompting. (S4.E1.2)	Exhibits personal responsibility in teacher-directed activities. (S4.E1.3)	Exhibits responsible behavior in independent group situations. (S4.E1.4)	Engages in physical activity with responsible interpersonal behavior (e.g., peer to peer, student to teacher, student to referee). (S4.E1.5)
S4.E2 Personal responsibility	Acknowledges responsibility for behavior when prompted. (S4.E2.K)	Follows the rules & parameters of the learning environment. (S4.E2.1)	Accepts responsibility for class protocols with behavior and performance actions. (S4.E2.2)	Works independently for extended periods of time. (S4.E2.3)	Reflects on personal social behavior in physical activity. (S4.E2.4)	Participates with responsible personal behavior in a variety of physical activity contexts, environments and facilities. (S4.E2.5a) Exhibits respect for self with appropriate behavior while engaging in physical activity. (S4.E2.5b)
S4.E3 Accepting feedback	Follows instruction/directions when prompted. (S4.E3.K)	Responds appropriately to general feedback from the teacher. (S4.E3.1)	Accepts specific corrective feedback from the teacher. (S4.E3.2)	Accepts and implements specific corrective feedback from the teacher. (S4.E3.3)	Listens respectfully to corrective feedback from others (e.g., peers, adults). (S4.E3.4)	Gives corrective feedback respectfully to peers. (S4.E3.5)

Standard 4	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
S4.E4 Working with others	Shares equipment and space with others. (S4.E4.K)	Works independently with others in a variety of class environments (e.g., small and large groups). (S4.E4.1)	Works independently with others in partner environments. (S4.E4.2)	Works cooperatively with others. (S4.E4.3a) Praises others for their success in movement performance. (S4.E4.3b)	Praises the movement performance of others both more- and less-skilled. (S4.E4.4a) Accepts players of all skill levels into the physical activity. (S4.E4.4b)	Accepts, recognizes and actively involves others with both higher and lower skill abilities into physical activities and group projects. (S4.E4.5)
S4.E5 Rules & etiquette	Recognizes the established protocol for class activities. (S4.E5.K)	Exhibits the established protocols for class activities. (S4.E5.1)	Recognizes the role of rules and etiquette in teacher-designed physical activities. (S4.E5.2)	Recognizes the role of rules and etiquette in physical activity with peers. (S4.E5.3)	Exhibits etiquette and adherence to rules in a variety of physical activities. (S4.E5.4)	Critiques the etiquette involved in rules of various game activities. (S4.E5.5)
S4.E6 Safety	Follows teacher directions for safe participation and proper use of equipment with minimal reminders. (S4.E6.K)	Follows teacher directions for safe participation and proper use of equipment without teacher reminders. (S4.E6.1)	Works independently and safely in physical education. (S4.E6.2a) Works safely with physical education equipment. (S4.E6.2b)	Works independently and safely in physical activity settings. (S4.E6.3)	Works safely with peers and equipment in physical activity settings. (S4.E6.4)	Applies safety principles with age-appropriate physical activities. (S4.E6.5)

Standard 5	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.						
S5.E1 Health	Recognizes that physical activity is important for good health. (S5.E1.K)	Identifies physical activity as a component of good health. (S5.E1.1)	Recognizes the value of “good health balance.” (Refer to S3.E6.2)	Discusses the relationship between physical activity and good health. (S5.E1.3)	Examines the health benefits of participating in physical activity. (S5.E1.4)	Compares the health benefits of participating in selected physical activities. (S5.E1.5)
S5.E2 Challenge	Acknowledges that some physical activities are challenging/difficult. (S5.E2.K)	Recognizes that challenge in physical activities can lead to success. (S5.E2.1)	Compares physical activities that bring confidence and challenge. (S5.E2.2)	Discusses the challenge that comes from learning a new physical activity. (S5.E2.3)	Rates the enjoyment of participating in challenging and mastered physical activities. (S5.E2.4)	Expresses (via written essay, visual art, creative dance) the enjoyment and/or challenge of participating in a favorite physical activity. (S5.E2.5)
S5.E3 Self-expression & enjoyment	Identifies physical activities that are enjoyable. ⁷ (S5.E3.Ka) Discusses the enjoyment of playing with friends. (S5.E3.Kb)	Describes positive feelings that result from participating in physical activities. (S5.E3.1a) Discusses personal reasons (i.e., the “why”) for enjoying physical activities. (S5.E3.1b)	Identifies physical activities that provide self-expression (e.g., dance, gymnastics routines, practice tasks/games environment). (S5.E3.2)	Reflects on the reasons for enjoying selected physical activities. (S5.E3.3)	Ranks the enjoyment of participating in different physical activities. (S5.E3.4)	Analyzes different physical activities for enjoyment and challenge, identifying reasons for a positive or negative response. (S5.E3.5)
S5.E4 Social interaction	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	<i>Developmentally appropriate/emerging outcomes first appear in Grade 3.</i>	Describes the positive social interactions that come when engaged with others in physical activity. (S5.E4.3)	Describes & compares the positive social interactions when engaged in partner, small-group and large-group physical activities. (S5.E4.4)	Describes the social benefits gained from participating in physical activity (e.g., recess, youth sport). (S5.E4.5)

Middle School Outcomes (Grades 6 – 8)

By the end of Grade 8, the learner will apply tactics and strategies to modified game play; demonstrate fundamental movement skills in a variety of contexts; design and implement a health-enhancing fitness program; participate in self-selected physical activity; cooperate with and encourage classmates; accept individual differences and demonstrate inclusive behaviors; and engage in physical activity for enjoyment and self-expression. **Note:** Swimming skills and water-safety activities should be taught if facilities permit.

Standard 1	Grade 6	Grade 7	Grade 8
Demonstrates competency in a variety of motor skills and movement patterns.			
S1.M1 Dance & rhythms	Demonstrates correct rhythm and pattern for one of the following dance forms: folk, social, creative, line or world dance. (S1.M1.6)	Demonstrates correct rhythm and pattern for a different dance form from among folk, social, creative, line and world dance. (S1.M1.7)	Exhibits command of rhythm and timing by creating a movement sequence to music as an individual or in a group. (S1.M1.8)
S1.M2 Games & sports Invasion & field games <i>Throwing</i>	Throws with a mature pattern for distance or power appropriate to the practice task (e.g., distance = outfield to home plate; power = 2 nd base to 1 st base). (S1.M2.6)	Throws with a mature pattern for distance or power appropriate to the activity in a dynamic environment. (S1.M2.7)	Throws with a mature pattern for distance or power appropriate to the activity during small-sided game play. (S1.M2.8)
S1.M3 <i>Catching</i>	Catches with a mature pattern from a variety of trajectories using different objects in varying practice tasks. (S1.M3.6)	Catches with a mature pattern from a variety of trajectories using different objects in small-sided game play. (S1.M3.7)	Catches using an implement in a dynamic environment or modified game play. (S1.M3.8)
S1.M4 Games & sports Invasion games <i>Passing & receiving</i>	Passes and receives with hands in combination with locomotor patterns of running and change of direction & speed with competency in invasion games such as basketball, flag football, speedball or team handball. (S1.M4.6)	Passes and receives with feet in combination with locomotor patterns of running and change of direction & speed with competency in invasion games such as soccer or speedball. (S1.M4.7)	Passes and receives with an implement in combination with locomotor patterns of running and change of direction, speed and/or level with competency in invasion games such as lacrosse or hockey (floor, field, ice). (S1.M4.8)

Note: For operational definitions and examples of activity types, see end of middle school section (p. 32).

Standard 1	Grade 6	Grade 7	Grade 8
S1.M5 Games & sports Invasion games <i>Passing & receiving</i>	Throws, while stationary, a leading pass to a moving receiver. (S1.M5.6)	Throws, while moving, a leading pass to a moving receiver. (S1.M5.7)	Throws a lead pass to a moving partner off a dribble or pass. (S1.M5.8)
S1.M6 Games & sports Invasion games <i>Offensive skills</i>	Performs pivots, fakes and jab steps designed to create open space during practice tasks. (S1.M6.6)	Executes at least one of the following designed to create open space during small-sided game play: pivots, fakes, jab steps. (S1.M6.7)	Executes at least two of the following to create open space during modified game play: pivots, fakes, jab steps, screens. (S1.M6.8)
S1.M7 Games & sports Invasion games <i>Offensive skills</i>	Performs the following offensive skills without defensive pressure: pivot, give & go, and fakes. (S1.M7.6)	Performs the following offensive skills with defensive pressure: pivot, give & go, and fakes. (S1.M7.7)	Executes the following offensive skills during small-sided game play: pivot, give & go, and fakes. (S1.M7.8)
S1.M8 Games & sports Invasion games <i>Dribbling/ball control</i>	Dribbles with dominant hand using a change of speed and direction in a variety of practice tasks. (S1.M8.6)	Dribbles with dominant and non-dominant hands using a change of speed and direction in a variety of practice tasks. (S1.M8.7)	Dribbles with dominant and nondominant hands using a change of speed and direction in small-sided game play. (S1.M8.8)
S1.M9 Games & sports Invasion games <i>Dribbling/ball control</i>	Foot-dribbles or dribbles with an implement with control, changing speed and direction in a variety of practice tasks. (S1.M9.6)	Foot-dribbles or dribbles with an implement combined with passing in a variety of practice tasks. (S1.M9.7)	Foot-dribbles or dribbles with an implement with control, changing speed and direction during small-sided game play. (S1.M9.8)
S1.M10 Games & sports Invasion games <i>Shooting on goal</i>	Shoots on goal with power in a dynamic environment as appropriate to the activity. (S1.M10.6)	Shoots on goal with power and accuracy in small-sided game play. (S1.M10.7)	Shoots on goal with a long-handled implement for power and accuracy in modified invasion games such as hockey (floor, field, ice) or lacrosse. (S1.M10.8)
S1.M11 Games & sports Invasion games <i>Defensive skills</i>	Maintains defensive-ready position, with weight on balls of feet, arms extended and eyes on midsection of the offensive player. (S1.M11.6)	Slides in all directions while on defense without crossing feet. (S1.M11.7)	Drop-steps in the direction of the pass during player-to-player defense. (S1.M11.8)
S1.M12 Games & sports Net/wall games <i>Serving</i>	Performs a legal underhand serve with control for net/wall games such as badminton, volleyball or pickleball. (S1.M12.6)	Executes consistently (at least 70% of the time) a legal underhand serve to a predetermined target for net/wall games such as badminton, volleyball or pickleball. (S1.M12.7)	Executes consistently (at least 70% of the time) a legal underhand serve for distance and accuracy for net/wall games such as badminton, volleyball or pickleball. (S1.M12.8)

Standard 1	Grade 6	Grade 7	Grade 8
S1.M13 Games & sports Net/wall games <i>Striking</i>	Strikes with a mature overhand pattern in a nondynamic environment for net/wall games such as volleyball, handball, badminton or tennis. (S1.M13.6)	Strikes with a mature overhand pattern in a dynamic environment for net/wall games such as volleyball, handball, badminton or tennis. (S1.M13.7)	Strikes with a mature overhand pattern in a modified game for net/wall games such as volleyball, handball, badminton or tennis. (S1.M13.8)
S1.M14 Games & sports Net/wall games <i>Forehand & backhand</i>	Demonstrates the mature form of the forehand and backhand strokes with a short-handled implement in net games such as paddle ball, pickleball or short-handled racket tennis. (S1.M14.6)	Demonstrates the mature form of forehand and backhand strokes with a long-handled implement in net games such as badminton or tennis. (S1.M14.7)	Demonstrates the mature form of forehand and backhand strokes with a short- or long-handled implement with power and accuracy in net games such as pickleball, tennis, badminton or paddle ball. (S1.M14.8)
S1.M15 Games & sports Net/wall games <i>Weight transfer</i>	Transfers weight with correct timing for the striking pattern. (S1.M15.6)	Transfers weight with correct timing using low to high striking pattern with a short-handled implement on the forehand side. (S1.M15.7)	Transfers weight with correct timing using low to high striking pattern with a long-handled implement on the forehand and backhand sides. (S1.M15.8)
S1.M16 Games & sports Net/wall games <i>Volley</i>	Forehand-volleys with a mature form and control using a short-handled implement. (S1.M16.6)	Forehand- and backhand-volleys with a mature form and control using a short-handled implement. (S1.M16.7)	Forehand- and backhand-volleys with a mature form and control using a short-handled implement during modified game play. (S1.M16.8)
S1.M17 Games & sports Net/wall games <i>Two-hand volley</i>	Two-hand-volleys with control in a variety of practice tasks. (S1.M17.6)	Two-hand-volleys with control in a dynamic environment. (S1.M17.7)	Two-hand-volleys with control in a small-sided game. (S1.M17.8)
S1.M18 Games & sports Target games <i>Throwing</i>	Demonstrates a mature pattern for a modified target game such as bowling, bocce or horseshoes. (S1.M18.6)	Executes consistently (70% of the time) a mature pattern for target games such as bowling, bocce or horseshoes. (S1.M18.7)	Performs consistently (70% of the time) a mature pattern with accuracy and control for one target game such as bowling or bocce. (S1.M18.8)
S1.M19 Games & sports Target games <i>Striking</i>	Strikes, with an implement, a stationary object for accuracy and distance in activities such as croquet, shuffleboard or golf. (S1.M19.6)	Strikes, with an implement, a stationary object for accuracy and distance in activities such as croquet, shuffleboard or golf. (S1.M19.7)	Strikes, with an implement, a stationary object for accuracy and power in activities such as croquet, shuffleboard or golf. (S1.M19.8)

Standard 1	Grade 6	Grade 7	Grade 8
S1.M20 Games & sports Fielding/striking games <i>Throwing</i>	Strikes a pitched ball with an implement with force in a variety of practice tasks. (S1.M20.6)	Strikes a pitched ball with an implement to open space in a variety of practice tasks. (S1.M20.7)	Strikes a pitched ball with an implement for power to open space in a variety of small-sided games. (S1.M20.8)
S1.M21 Games & sports Fielding/striking games <i>Catching</i>	Catches, with a mature pattern, from different trajectories using a variety of objects in a varying practice tasks. (S1.M21.6)	Catches, with a mature pattern, from different trajectories using a variety of objects in small-sided game play. (S1.M21.7)	Catches, using an implement, from different trajectories and speeds in a dynamic environment or modified game play. (S1.M21.8)
S1.M22 Outdoor pursuits (<i>See end of section for examples</i>)	Demonstrates correct technique for basic skills in 1 self-selected outdoor activity. (S1.M22.6)	Demonstrates correct technique for a variety of skills in 1 self-selected outdoor activity. (S1.M22.7)	Demonstrates correct technique for basic skills in at least 2 self-selected outdoor activities. (S1.M22.8)
S1.M23 Aquatics	Preferably taught at elementary or secondary levels. However, availability of facilities might dictate when swimming and water safety are offered in the curriculum.		
S1.M24 Individual-performance activities (<i>See end of section for examples</i>)	Demonstrates correct technique for basic skills in 1 self-selected individual-performance activity. (S1.M24.6)	Demonstrates correct technique for a variety of skills in 1 self-selected individual-performance activity. (S1.M24.7)	Demonstrates correct technique for basic skills in at least 2 self-selected individual-performance activities. (S1.M24.8)

Standard 2	Grade 6	Grade 7	Grade 8
Applies knowledge of concepts, principles, strategies and tactics related to movement and performance.			
S2.M1 Games & sports⁸ Invasion games <i>Creating space with movement</i>	Creates open space by using locomotor movements (e.g., walking, running, jumping & landing) in combination with movement (e.g., varying pathways; change of speed, direction or pace). (S2.M1.6)	Reduces open space by using locomotor movements (e.g., walking, running, jumping & landing, changing size and shape of the body) in combination with movement concepts (e.g., reducing the angle in the space, reducing distance between player and goal). (S2.M1.7)	Opens and closes space during small-sided game play by combining locomotor movements with movement concepts. (S2.M1.8)
S2.M2 Games & sports Invasion games <i>Creating space with offensive tactics</i>	Executes at least 1 the following offensive tactics to create open space: moves to open space without the ball; uses a variety of passes, pivots and fakes; give & go. (S2.M2.6)	Executes at least 2 of the following offensive tactics to create open space: uses a variety of passes, pivots and fakes; give & go. (S2.M2.7)	Executes at least 3 of the following offensive tactics to create open space: moves to create open space on and off the ball; uses a variety of passes, fakes and pathways; give & go. (S2.M2.8)
S2.M3 Games & sports Invasion games <i>Creating space using width & length</i>	Creates open space by using the width and length of the field/court on offense. (S2.M3.6)	Creates open space by staying spread on offense, and cutting and passing quickly. (S2.M3.7)	Creates open space by staying spread on offense, cutting and passing quickly, and using fakes off the ball. (S2.M3.8)
S2.M4 Games & sports Invasion games <i>Reducing space by changing size & shape</i>	Reduces open space on defense by making the body larger and reducing passing angles. (S2.M4.6)	Reduces open space on defense by staying close to the opponent as he/she nears the goal. (S2.M4.7)	Reduces open space on defense by staying on the goal side of the offensive player and reducing the distance to him/her (third-party perspective). (S2.M4.8)
S2.M5 Games & sports Invasion games <i>Reducing space using denial</i>	Reduces open space by not allowing the catch (denial) or by allowing the catch but not the return pass. (S2.M5.6)	Reduces open space by not allowing the catch (denial) or anticipating the speed of the object and person for the purpose of interception or deflection. (S2.M5.7)	Reduces open space by not allowing the catch (denial) and anticipating the speed of the object and person for the purpose of interception or deflection. (S2.M5.8)
S2.M6 Games & sports Invasion games <i>Transitions</i>	Transitions from offense to defense or defense to offense by recovering quickly. (S2.M6.6)	Transitions from offense to defense or defense to offense by recovering quickly and communicating with teammates. (S2.M6.7)	Transitions from offense to defense or defense to offense by recovering quickly, communicating with teammates and capitalizing on an advantage. (S2.M6.8)

Standard 2	Grade 6	Grade 7	Grade 8
<p>S2.M7 Games & sports Net/wall games <i>Creating space through variation</i></p>	<p>Creates open space in net/wall games with a short-handled implement by varying force and direction. (S2.M7.6)</p>	<p>Creates open space in net/wall games with a long-handled implement by varying force and direction, and by moving opponent from side to side. (S2.M7.7)</p>	<p>Creates open space in net/wall games with either a long- or short-handled implement by varying force or direction, or by moving opponent from side to side and/or forward and back. (S2.M7.8)</p>
<p>S2.M8 Games & sports Net/wall games <i>Using tactics & shots</i></p>	<p>Reduces offensive options for opponents by returning to mid-court position. (S2.M8.6)</p>	<p>Selects offensive shot based on opponent's location (hit where opponent is not). (S2.M8.7)</p>	<p>Varies placement, force and timing of return to prevent anticipation by opponent. (S2.M8.8)</p>
<p>S2.M9 Games & sports Target games <i>Shot selection</i></p>	<p>Selects appropriate shot and/or club based on location of the object in relation to the target. (S2.M9.6)</p>	<p>Varies the speed and/or trajectory of the shot based on location of the object in relation to the target. (S2.M9.7)</p>	<p>Varies the speed, force and trajectory of the shot based on location of the object in relation to the target. (S2.M9.8)</p>
<p>S2.M10 Games & sports Fielding/striking games <i>Offensive strategies</i></p>	<p>Identifies open spaces and attempts to strike object into that space. (S2.M10.6)</p>	<p>Uses a variety of shots (e.g., slap & run, bunt, line drive, high arc) to hit to open space. (S2.M10.7)</p>	<p>Identifies sacrifice situations and attempt to advance a teammate. (S2.M10.8)</p>
<p>S2.M11 Games & sports Fielding/striking games <i>Reducing space</i></p>	<p>Identifies the correct defensive play based on the situation (e.g., number of outs). (S2.M11.6)</p>	<p>Selects the correct defensive play based on the situation (e.g., number of outs). (S2.M11.7)</p>	<p>Reduces open spaces in the field by working with teammates to maximize coverage. (S2.M11.8)</p>
<p>S2.M12 Individual-performance activities, dance & rhythms <i>Movement concepts</i></p>	<p>Varies application of force during dance or gymnastic activities. (S2.M12.6)</p>	<p>Identifies and applies Newton's laws of motion to various dance or movement activities. (S2.M12.7)</p>	<p>Describes and applies mechanical advantage(s) for a variety of movement patterns. (S2.M12.8)</p>
<p>S2.M13 Outdoor pursuits <i>Movement concepts</i></p>	<p>Makes appropriate decisions based on the weather, level of difficulty due to conditions or ability to ensure safety of self and others. (S2.M13.6)</p>	<p>Analyzes the situation and makes adjustments to ensure the safety of self and others. (S2.M13.7)</p>	<p>Implements safe protocols in self-selected outdoor activities. (S2.M13.8)</p>

Standard 3	Grade 6	Grade 7	Grade 8
Demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.			
S3.M1 Physical activity knowledge	Is able to identify 3 influences on physical activity (e.g., school, family & peers; community & built environment; policy). (S3.M1.6)	Identifies barriers related to maintaining a physically active lifestyle and seeks solutions for eliminating those barriers. (S3.M1.7)	Develops a plan to address one of the barriers within one’s family, school or community to maintaining a physically active lifestyle. (S3.M1.8)
S3.M2 Engages in physical activity	Participates in self-selected physical activity outside of physical education class. (S3.M2.6)	Participates in a physical activity 2 times a week outside of physical education class. (S3.M2.7)	Participates in physical activity 3 times a week outside of physical education class. (S3.M2.8)
S3.M3 Engages in physical activity	Participates in a variety of aerobic fitness activities such as cardio-kick, step aerobics and aerobic dance. (S3.M3.6)	Participates in a variety of strength- and endurance-fitness activities such as Pilates, resistance training, body-weight training and light free-weight training. (S3.M3.7)	Participates in a variety of self-selected aerobic-fitness activities outside of school such as walking, jogging, biking, skating, dancing and swimming. (S3.M3.8)
S3.M4 Engages in physical activity	Participates in a variety of aerobic-fitness activities using technology such as Dance Dance Revolution® or Wii Fit®. (S3.M4.6)	Participates in a variety of strength- and endurance-fitness activities such as weight or resistance training. (S3.M4.7)	Plans and implements a program of cross-training to include aerobic, strength & endurance and flexibility training. (S3.M4.8)
S3.M5 Engages in physical activity	Participates in a variety of lifetime recreational team sports, outdoor pursuits or dance activities. (S3.M5.6)	Participates in a variety of lifetime dual and individual sports, martial arts or aquatic activities. (S3.M5.7)	Participates in a self-selected lifetime sport, dance, aquatic or outdoor activity outside of the school day. (S3.M5.8)
S3.M6 Engages in physical activity	Participates in moderate to vigorous aerobic physical activity that includes intermittent or continuous aerobic physical activity of both moderate and vigorous intensity for at least 60 minutes per day. (S3.M6.6)	Participates in moderate to vigorous muscle- and bone-strengthening physical activity at least 3 times a week. (S3.M6.7)	Participates in moderate to vigorous aerobic and/or muscle- and bone-strengthening physical activity for at least 60 minutes per day at least 5 times a week. (S3.M6.8)
S3.M7 Fitness knowledge	Identifies the components of skill-related fitness. (S3.M7.6)	Distinguishes between health-related and skill-related fitness. ⁹ (S3.M7.7)	Compares and contrasts health-related fitness components. ¹⁰ (S3.M7.8)
S3.M8 Fitness knowledge	Sets and monitors a self-selected physical activity goal for aerobic and/or muscle- and bone-strengthening activity based on current fitness level. (S3.M8.6)	Adjusts physical activity based on quantity of exercise needed for a minimal health standard and/or optimal functioning based on current fitness level. (S3.M8.7)	Uses available technology to self-monitor quantity of exercise needed for a minimal health standard and/or optimal functioning based on current fitness level. (S3.M8.8)

Standard 3	Grade 6	Grade 7	Grade 8
S3.M9 Fitness knowledge	Employs correct techniques and methods of stretching. ¹¹ (S3.M9.6)	Describes and demonstrates the difference between dynamic and static stretches. ¹² (S3.M9.7)	Employs a variety of appropriate static stretching techniques for all major muscle groups. (S3.M9.8)
S3.M10 Fitness knowledge	Differentiates between aerobic and anaerobic capacity, and between muscular strength and endurance. (S3.M10.6)	Describes the role of exercise and nutrition in weight management. (S3.M10.7)	Describes the role of flexibility in injury prevention. (S3.M10.8)
S3.M11 Fitness knowledge	Identifies each of the components of the overload principle (FITT formula: frequency, intensity, time, type) for different types of physical activity (aerobic, muscular fitness and flexibility). (S3.M11.6)	Describes overload principle (FITT formula) for different types of physical activity, the training principles on which the formula is based and how the formula and principles affect fitness. ¹³ (S3.M11.7)	Uses the overload principle (FITT formula) in preparing a personal workout. ¹⁴ (S3.M11.8)
S3.M12 Fitness knowledge	Describes the role of warm-ups and cool-downs before and after physical activity. (S3.M12.6)	Designs a warm-up/cool-down regimen for a self-selected physical activity. (S3.M12.7)	Designs and implements a warm-up/cool-down regimen for a self-selected physical activity. (S3.M12.8)
S3.M13 Fitness knowledge	Defines resting heart rate and describes its relationship to aerobic fitness and the Borg Rating of Perceived Exertion (RPE) Scale. ¹⁵ (S3.M13.6)	Defines how the RPE Scale can be used to determine the perception of the work effort or intensity of exercise. (S3.M13.7)	Defines how the RPE Scale can be used to adjust workout intensity during physical activity. (S3.M13.8)
S3.M14 Fitness knowledge	Identifies major muscles used in selected physical activities. ¹⁶ (S3.M14.6)	Describes how muscles pull on bones to create movement in pairs by relaxing and contracting. ¹⁷ (S3.M14.7)	Explains how body systems interact with one another (e.g., blood transports nutrients from the digestive system, oxygen from the respiratory system) during physical activity. ¹⁸ (S3.M14.8)
S3.M15 Assessment & program planning	Designs and implements a program of remediation for any areas of weakness based on the results of health-related fitness assessment. (S3.M15.6)	Designs and implements a program of remediation for 2 areas of weakness based on the results of health-related fitness assessment. (S3.M15.7)	Designs and implements a program of remediation for 3 areas of weakness based on the results of health-related fitness assessment. (S3.M15.8)
S3.M16 Assessment & program planning	Maintains a physical activity log for at least 2 weeks and reflects on activity levels as documented in the log. (S3.M16.6)	Maintains a physical activity and nutrition log for at least 2 weeks and reflects on activity levels and nutrition as documented in the log. (S3.M16.7)	Designs and implements a program to improve levels of health-related fitness and nutrition. (S3.M16.8)

Standard 3	Grade 6	Grade 7	Grade 8
S3.M17 Nutrition	Identifies foods within each of the basic food groups and selects appropriate servings and portions for his/her age and physical activity levels. ¹⁹ (S3.M17.6)	Develops strategies for balancing healthy food, snacks and water intake, along with daily physical activity. ²⁰ (S3.M17.7)	Describes the relationship between poor nutrition and health risk factors. ²¹ (S3.M17.8)
S3.M18 Stress management	Identifies positive and negative results of stress and appropriate ways of dealing with each. ²² (S3.M18.6)	Practices strategies for dealing with stress, such as deep breathing, guided visualization and aerobic exercise. ²³ (S3.M18.7)	Demonstrates basic movements used in other stress-reducing activities such as yoga and tai chi. (S3.M18.8)

Standard 4	Grade 6	Grade 7	Grade 8
Exhibits responsible personal and social behavior that respects self and others.			
S4.M1 Personal responsibility	Exhibits personal responsibility by using appropriate etiquette, demonstrating respect for facilities and exhibiting safe behaviors. (S4.M1.6)	Exhibits responsible social behaviors by cooperating with classmates, demonstrating inclusive behaviors and supporting classmates. (S4.M1.7)	Accepts responsibility for improving one's own levels of physical activity and fitness. (S4.M1.8)
S4.M2 Personal responsibility	Identifies and uses appropriate strategies to self-reinforce positive fitness behaviors, such as positive self-talk. (S4.M2.6)	Demonstrates both intrinsic and extrinsic motivation by selecting opportunities to participate in physical activity outside of class. (S4.M2.7)	Uses effective self-monitoring skills to incorporate opportunities for physical activity in and outside of school. (S4.M2.8)
S4.M3 Accepting feedback	Demonstrates self-responsibility by implementing specific corrective feedback to improve performance. (S4.M3.6)	Provides corrective feedback to a peer, using teacher-generated guidelines, and incorporating appropriate tone and other communication skills. (S4.M3.7)	Provides encouragement and feedback to peers without prompting from the teacher. (S4.M3.8)
S4.M4 Working with others	Accepts differences among classmates in physical development, maturation and varying skill levels by providing encouragement and positive feedback. (S4.M4.6)	Demonstrates cooperation skills by establishing rules and guidelines for resolving conflicts. (S4.M4.7)	Responds appropriately to participants' ethical and unethical behavior during physical activity by using rules and guidelines for resolving conflicts. (S4.M4.8)
S4.M5 Working with others	Cooperates with a small group of classmates during adventure activities, game play or team-building activities. (S4.M5.6)	Problem-solves with a small group of classmates during adventure activities, small-group initiatives or game play. (S4.M5.7)	Cooperates with multiple classmates on problem-solving initiatives including adventure activities, large-group initiatives and game play. (S4.M5.8)
S4.M6 Rules & etiquette	Identifies the rules and etiquette for physical activities/games and dance activities. (S4.M6.6)	Demonstrates knowledge of rules and etiquette by self-officiating modified physical activities and games or following parameters to create or modify a dance. (S4.M6.7)	Applies rules and etiquette by acting as an official for modified physical activities and games and creating dance routines within a given set of parameters. (S4.M6.8)
S4.M7 Safety	Uses physical activity and fitness equipment appropriately and safely, with the teacher's guidance. (S1.M7.6)	Independently uses physical activity and exercise equipment appropriately and safely. (S1.M7.7)	Independently uses physical activity and fitness equipment appropriately, and identifies specific safety concerns associated with the activity. (S1.M7.8)

Standard 5	Grade 6	Grade 7	Grade 8
Recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.			
S5.M1 Health	Describes how being physically active leads to a healthy body. (S5.M1.6)	Identifies different types of physical activities and describes how each exerts a positive effect on health. (S5.M1.7)	Identifies the 5 components of health-related fitness (muscular strength, muscular endurance and flexibility, cardiovascular endurance and body composition) and explains the connections between fitness and overall physical and mental health. (S5.M1.8)
S5.M2 Health	Identifies components of physical activity that provide opportunities for reducing stress and for social interaction. (S5.M2.6)	Identifies positive mental and emotional aspects of participating in a variety of physical activities. (S5.M2.7)	Analyzes the empowering consequences of being physical active. (S5.M2.8)
S5.M3 Challenge	Recognizes individual challenges and copes in a positive way, such as extending effort, asking for help or feedback and/or modifying the tasks. (S5.M3.6)	Generates positive strategies such as offering suggestions or assistance, leading or following others and providing possible solutions when faced with a group challenge. (S5.M3.7)	Develops a plan of action and makes appropriate decisions based on that plan when faced with an individual challenge. (S5.M3.8)
S5.M4 Self-expression & enjoyment	Describes how moving competently in a physical activity setting creates enjoyment. (S5.M4.6)	Identifies why self-selected physical activities create enjoyment. (S5.M4.7)	Discusses how enjoyment could be increased in self-selected physical activities. (S5.M4.8)
S5.M5 Self-expression & enjoyment	Identifies how self-expression and physical activity are related. (S5.M5.6)	Explains the relationship between self-expression and lifelong enjoyment through physical activity. (S5.M5.7)	Identifies and participates in an enjoyable activity that prompts individual self-expression. (S5.M5.8)
S5.M6 Social interaction	Demonstrates respect for self and others in activities and games by following the rules, encouraging others and playing in the spirit of the game or activity. (S5.M6.6)	Demonstrates the importance of social interaction by helping and encouraging others, avoiding trash talk and providing support to classmates. (S5.M6.7)	Demonstrates respect for self by asking for help and helping others in various physical activities. (S5.M6.8)

Operational Definition of Activity Categories

Outdoor Pursuits: The outdoor environment is an important factor in student engagement in the activity. Activities might include, but are not limited to recreational boating (e.g., kayaking, canoeing, sailing, rowing), hiking, backpacking, fishing, orienteering/geocaching, ice skating, skateboarding, snow or water skiing, snowboarding, snowshoeing, surfing, bouldering/traversing/climbing, mountain biking, adventure activities and ropes courses. Selection of activities depends on the environmental opportunities within the geographical region.

Fitness Activities: Activities with a focus on improving or maintaining fitness and might include, but are not limited to yoga, Pilates, resistance training, spinning, running, fitness walking, fitness swimming, kickboxing, cardio-kick, Zumba and exergaming.

Dance & Rhythmic Activities: Activities that focus on dance or rhythms and might include, but are not limited to dance forms such as creative movement/dance, ballet, modern, ethnic/folk, hip hop, Latin, line, ballroom, social and square.

Aquatics: Might include, but are not limited to swimming, diving, synchronized swimming and water polo.

Individual Performance Activities: Might include, but are not limited to gymnastics, figure skating, track & field, multi-sport events, in-line skating, wrestling, self-defense and skateboarding.

Games & Sports: Includes the games categories of invasion, net/wall, target and fielding/striking.

Lifetime Activities: Includes the categories of outdoor pursuits, selected individual performance activities, aquatics and net/wall and target games.

Note: Invasion and fielding/striking games have been excluded from the secondary outcomes because these activities require team participation and are less suited to lifelong participation.

High School Outcomes (Grades 9 – 12)

By the end of high school, the learner will be college/career-ready, as demonstrated by the ability to plan and implement different types of personal fitness programs; demonstrate competency in two or more lifetime activities; describe key concepts associated with successful participation in physical activity; model responsible behavior while engaged in physical activity; and engage in physical activities that meet the need for self-expression, challenge, social interaction and enjoyment.

Note: High school outcomes have been organized into two levels. **Level 1** indicates the minimum knowledge and skills that students must attain to be college/career-ready. **Level 2** allows students to build on Level 1 competencies by augmenting knowledge and skills considered desirable for college/career readiness.

Note: Swimming skills and water-safety activities should be taught of facilities permit.

Standard 1	Level 1	Level 2
Demonstrates competency in a variety of motor skills and movement patterns.		
S1.H1 Lifetime activities	Demonstrates competency and/or refines activity-specific movement skills in two or more lifetime activities (outdoor pursuits, individual-performance activities, aquatics, net/wall games or target games). ²⁴ (S1.H1.L1)	Refines activity-specific movement skills in one or more lifetime activities (outdoor pursuits, individual-performance activities, aquatics, net/wall games or target games). ²⁵ (S1.H1.L2)
S1.H2 Dance & rhythms	Demonstrates competency in dance forms used in cultural and social occasions (e.g., weddings, parties), or demonstrates competency in one form of dance (e.g., ballet, modern, hip hop, tap). (S1.H2.L1)	Demonstrates competency in a form of dance by choreographing a dance or by giving a performance. (S1.H2.L2)
S1.H3 Fitness activities	Demonstrates competency in 1 or more specialized skills in health-related fitness activities. (S1.H3.L1)	Demonstrates competency in 2 or more specialized skills in health-related fitness activities. (S1.H3.L2)

Note: For operational definitions and examples of activity types, see end of high school section (p. 39).

Standard 2	Level 1	Level 2
Applies knowledge of concepts, principles, strategies and tactics related to movement and performance.		
S2.H1 Movement concepts, principles & knowledge	Applies the terminology associated with exercise and participation in selected individual-performance activities, dance, net/wall games, target games, aquatics and/or outdoor pursuits appropriately. (S2.H1.L1)	Identifies and discusses the historical and cultural roles of games, sports and dance in a society. ²⁶ (S2.H1.L2)
S2.H2 Movement concepts, principles & knowledge	Uses movement concepts and principles (e.g., force, motion, rotation) to analyze and improve performance of self and/or others in a selected skill. ²⁷ (S2.H2.L1)	Describes the speed/accuracy trade-off in throwing and striking skills. ²⁸ (S2.H2.L2)
S2.H3 Movement concepts, principles & knowledge	Creates a practice plan to improve performance for a self-selected skill. (S2.H3.L1)	Identifies the stages of learning a motor skill. (S2.H3.L2)
S2.H4 Movement concepts, principles & knowledge	Identifies examples of social and technical dance forms. (S2.H4.L1)	Compares similarities and differences in various dance forms. (S2.H4.L2)

Standard 3	Level 1	Level 2
Demonstrates the knowledge and skills to achieve a health-enhancing level of physical activity and fitness.		
S3.H1 Physical activity knowledge	Discusses the benefits of a physically active lifestyle as it relates to college or career productivity. (S3.H1.L1)	Investigates the relationships among physical activity, nutrition and body composition. (S3.H1.L2)
S3.H2 Physical activity knowledge	Evaluates the validity of claims made by commercial products and programs pertaining to fitness and a healthy, active lifestyle. ²⁹ (S3.H2.L1)	Analyzes and applies technology and social media as tools for supporting a healthy, active lifestyle. ³⁰ (S3.H2.L2)
S3.H3 Physical activity knowledge	Identifies issues associated with exercising in heat, humidity and cold. ³¹ (S3.H3.L1)	Applies rates of perceived exertion and pacing. ³² (S3.H3.L2)
S3.H4 Physical activity knowledge	Evaluates — according to their benefits, social support network and participation requirements — activities that can be pursued in the local environment. ³³ (S3.H4.L1)	<i>If the outcome was not achieved in Level 1, it should be a focus in Level 2.</i>
S3.H5 Physical activity knowledge	Evaluates risks and safety factors that might affect physical activity preferences throughout the life cycle. ³⁴ (S3.H5.L1)	Analyzes the impact of life choices, economics, motivation and accessibility on exercise adherence and participation in physical activity in college or career settings. (S3.H5.L2)
S3.H6 Engages in physical activity	Participates several times a week in a self-selected lifetime activity, dance or fitness activity outside of the school day. (S3.H6.L1)	Creates a plan, trains for and participates in a community event with a focus on physical activity (e.g., 5K, triathlon, tournament, dance performance, cycling event). ³⁵ (S3.H6.L2)
S3.H7 Fitness knowledge	Demonstrate appropriate technique in resistance-training machines and free weights. ³⁶ (S3.H7.L1)	Designs and implements a strength & conditioning program that develops balance in opposing muscle groups (agonist/antagonist) and supports a healthy, active lifestyle. ³⁷ (S3.H7.L2)
S3.H8 Fitness knowledge	Relates physiological responses to individual levels of fitness and nutritional balance. ³⁸ (S3.H8.L1)	Identifies the different energy systems used in a selected physical activity (e.g., adenosine triphosphate and phosphocreatine, anaerobic glycolysis, aerobic). ³⁹ (S3.H8.L2)
S3.H9 Fitness knowledge	Identifies types of strength exercises (isometric, concentric, eccentric) and stretching exercises (static, proprioceptive neuromuscular facilitation (PNF), dynamic) for personal fitness development (e.g., strength, endurance, range of motion). ⁴⁰ (S3.H9.L1)	Identifies the structure of skeletal muscle and fiber types as they relate to muscle development. ⁴¹ (S3.H9.L2)

Standard 3	Level 1	Level 2
S3.H10 Fitness knowledge	Calculates target heart rate and applies that information to personal fitness plan. (S3.H10.L1)	Adjusts pacing to keep heart rate in the target zone, using available technology (e.g., pedometer, heart rate monitor), to self-monitor aerobic intensity. (S3.H10.L2) ⁴²
S3.H11 Assessment & program planning	Creates and implements a behavior-modification plan that enhances a healthy, active lifestyle in college or career settings. (S3.H11.L1)	Develops and maintains a fitness portfolio (e.g., assessment scores, goals for improvement, plan of activities for improvement, log of activities being done to reach goals, timeline for improvement). ⁴³ (S3.H11.L2)
S3.H12 Assessment & program planning	Designs a fitness program, including all components of health-related fitness, for a college student and an employee in the learner's chosen field of work. (S3.H12.L1)	Analyzes the components of skill-related fitness in relation to life and career goals, and designs an appropriate fitness program for those goals. ⁴⁴ (S3.H12.L2)
S3.H13 Nutrition	Designs and implements a nutrition plan to maintain an appropriate energy balance for a healthy, active lifestyle. (S3.H13.L1)	Creates a snack plan for before, during and after exercise that addresses nutrition needs for each phase. (S3.H13.L2)
S3.H14 Stress management	Identifies stress-management strategies (e.g., mental imagery, relaxation techniques, deep breathing, aerobic exercise, meditation) to reduce stress. ⁴⁵ (S3.H14.L1)	Applies stress-management strategies (e.g., mental imagery, relaxation techniques, deep breathing, aerobic exercise, meditation) to reduce stress. ⁴⁶ (S3.H14.L2)

Standard 4	Level 1	Level 2
Exhibits responsible personal and social behavior that respects self and others.		
S4.H1 Personal responsibility	Employs effective self-management skills to analyze barriers and modify physical activity patterns appropriately, as needed. ⁴⁷ (S4.H1.L1)	Accepts differences between personal characteristics and the idealized body images and elite performance levels portrayed in various media. ⁴⁸ (S4.H1.L2)
S4.H2 Rules & etiquette	Exhibits proper etiquette, respect for others and teamwork while engaging in physical activity and/or social dance. (S4.H2.L1)	Examines moral and ethical conduct in specific competitive situations (e.g., intentional fouls, performance-enhancing substances, gambling, current events in sport). ⁴⁹ (S4.H2.L2)
S4.H3 Working with others	Uses communication skills and strategies that promote team/group dynamics. ⁵⁰ (S4.H3.L1)	Assumes a leadership role (e.g., task or group leader, referee, coach) in a physical activity setting. (S4.H3.L2)
S4.H4 Working with others	Solves problems and thinks critically in physical activity and/or dance settings, both as an individual and in groups. (S4.H4.L1)	Accepts others' ideas, cultural diversity and body types by engaging in cooperative and collaborative movement projects. (S4.H4.L2)
S4.H5 Safety	Applies best practices for participating safely in physical activity, exercise and dance (e.g., injury prevention, proper alignment, hydration, use of equipment, implementation of rules, sun protection). (S4.H5.L1)	<i>If the outcome was not achieved in Level 1, it should be a focus in Level 2.</i>

Standard 5	Level 1		Level 2
Recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.			
S5.H1 Health	Analyzes the health benefits of a self-selected physical activity. (S5.H1.L1)	If the outcome was not achieved in Level 1, it should be a focus in Level 2.	
S5.H2 Challenge	Challenge is a focus in Level 2.	Chooses an appropriate level of challenge to experience success and desire to participate in a self-selected physical activity. ⁵¹ (S5.H2.L2)	
S5.H3 Self-expression & enjoyment	Selects and participates in physical activities or dance that meet the need for self-expression and enjoyment. (S5.H3.L1)	Identifies the uniqueness of creative dance as a means of self-expression. (S5.H3.L2)	
S5.H4 Social interaction	Identifies the opportunity for social support in a self-selected physical activity or dance. (S5.H4.L1)	Evaluates the opportunity for social interaction and social support in a self-selected physical activity or dance. ⁵² (S5.H4.L2)	

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PrepNet Curriculum

2019-2020

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INTRODUCTION

PrepNet is a network of college-preparatory charter high schools with the mission of preparing all students for college success. The college-prep curriculum is designed to be academically rigorous and intellectually challenging and provides each student with a program of study that is challenging and effective. Courses in each core subject area are aligned with the Common Core Standards, Michigan High School Content Expectation standards, and the subject area standards for the College Board's Advanced Placement Courses. In addition, a Moral Focus program infuses character development into the instructional program in an effort to lead students toward their advancement into caring and responsible citizens.

Standards Based Grading

Several of the PrepNet courses are taught in a Standards Based Grading format. These courses are:

- | | |
|-----------------------|---|
| English | <ul style="list-style-type: none">● English 7, 8, 9, 10, 11, 12 |
| Mathematics | <ul style="list-style-type: none">● Grade 7, 8● Algebra 1, 2● Geometry |
| Science | <ul style="list-style-type: none">● Grade 7, 8● Biology● Chemistry● Anatomy |
| Social Studies | <ul style="list-style-type: none">● Grade 7, 8● World History● Civics / Economics● US History |
| Other | <ul style="list-style-type: none">● Spanish 1, 2● Mandarin 1● Physical Education & Health● Foundational Art● Choir● Band |

For each of these courses, a team of teachers and administrators evaluated the curriculum in the context of the Common Core State Standards, the Michigan High School Content Expectation's (HSCE), the ACT College Readiness Guidelines, and the Scholastic Aptitude Test (SAT). The science evaluation also included the Next Generation Science Standards.

After this evaluation, the team developed Priority Standards broken down into smaller learning objectives, which are organized by level in a Proficiency Scale:

- Level 2 Learning Objectives are the building blocks to Level 3.
- Level 3 Learning Objectives are the main skills and/or knowledge needed to be

- considered proficient at the Priority Standard.
- Level 4 Learning Objectives are above and beyond Level 3. These objectives require that students take the knowledge and skills where they are already proficient and apply them to a new (not previously taught) concept in the content area.

Core Content Areas

English Language Arts: English instruction reflects the Common Core English Language Arts Standards. These standards define rigorous expectations for student proficiency in reading, writing, speaking and listening, and language. They also define literacy standards that are incorporated into History/Social Studies, Science, and Technical Subjects. PrepNet schools offer English 7, English 8, English 9, English 10, English 11, English 12, AP English Language and AP English Literature to its students. Reading lists for English courses are selected via collaborative discussion among the course leaders at all PrepNet schools, taking into consideration titles from the Common Core Illustrated Texts lists, the Great Books lists and the Advanced Placement Literature course recommended reading lists.

Mathematics: Mathematics instruction is designed to provide a curriculum and learning environment consistent with the Common Core Mathematics Standards, the Michigan High School Content Expectations, and the College Board Standards for College Success. The College Board Standards for College Success describe a developmental progression of quantitative skills and mathematics concepts that students should master to be ready for success in college level work, either during high school in Advanced Placement courses or during their freshman year in college. Courses offered include Grade 7 Math, Grade 8 Math, Algebra I, Geometry, Algebra II, Pre-Calculus, AP Calculus and AP Statistics.

History: Students enrolled in various history courses, such as Grade 7 History, Grade 8 History, World History, U.S. History, World Geography, Civics and Economics engage in rigorous study of a particular region of the world through analyses of different perspectives. These perspectives include historical, geographical, civic, cultural, and economic perspectives; inquiry, public discourse and decision making; and citizen involvement. This coursework prepares students for courses like AP World History, AP U.S. History, AP Government, AP European History and AP Economics.

Science: Next Generation Science Standards, Michigan High School Content Expectation standards, and ACT Quality Core Standards are utilized to develop science instruction designed to present information to students in ways that promote scientific thinking, data analysis, and inquiry-based learning. Courses such as Grade 7 Science, Grade 8 Science, Biology, Chemistry, Physics and Human Anatomy not only focus on the mastery of essential concepts, but also endeavor to prepare students for the second phase of Advanced Placement Coursework, like AP Chemistry, AP Biology, and AP Environmental. Laboratories will be used to provide hands-on learning opportunities.

Additional Content Areas

World Languages: Students studying a world language will develop the ability to communicate in another language and gain insight into themselves and others. Through classes such as Spanish I-III, AP Spanish, Latin I-III, AP Latin, Mandarin I and French I-II, they will acquire knowledge of the structure and function of the world language and respective speaking societies. Language studies provide students with access to additional knowledge and skills

necessary to function in a global community and workplace.

Music: Participation in the performing arts provides students with vast opportunities to develop and improve individual musicianship, which provides another means for students to experience a life well lived. Courses include Band, Choir, and AP Music Theory. Objectives of the music program are to develop discrimination with regard to selection of music, acquaint students with music theory and history, allow students to develop another avenue of healthy self-expression, and to foster leadership skills within each student.

Visual Art: The art department provides a comprehensive and challenging visual art curriculum, including Foundational Art, 2D/3D Art, Digital Media, AP Art Studio and AP Art History. Students who complete the PrepNet series of art courses are prepared to enter college and life with real design and organizational skills. They also have a developed sense of personal aesthetics.

Physical Education: PrepNet offers courses in Physical Education and Advanced Physical Education. Physical Education is an activity-based class; therefore, all students are expected to participate on a daily basis. Physical activity has been shown to help students think more clearly, breathe better, and be relaxed in a way that is conducive to overall excellence in all areas of academia. Advanced PE will take the lessons learned in PE to new and exciting levels. Not only will students remain physically active, the course allows them to delve into the science behind the movements by studying things like the skeletal system.

Moral Focus

A Moral Focus tenet has been assigned to each month of the school year. During the month, teachers model in their instruction the spirit of Socrates's assertion that "the unexamined life is not worth living." Lessons specific to the month's tenet are taught in advisory class, interwoven in every classroom's instruction. Students are required to create a Moral Focus artifact that exhibits their understanding of the tenet and how it relates to their lives. In the content area classroom, teachers discuss the virtue with students, model it, and encourage students to demonstrate it as well.

The Moral Focus topics for each month are:

- September – Wisdom
- October – Respect
- November – Gratitude
- December – Self-Control
- January – Perseverance
- February – Courage
- March – Encouragement
- April – Compassion
- May – Integrity

This document presents description and scope and sequence of each PrepNet course, and is organized by subject area.

COLLEGE ADVISORY

Students are arranged into advisory classes by grade levels. Advisory teachers cycle with the

same advisory students throughout their middle and high school career, starting in 7th grade and ending as seniors. Advisory classes meet twice a week, Monday and Friday mornings, for 35 minutes each time. Depending on the grade level, students explore subjects like The High School Experience, College Awareness, Career Exploration, College Exploration, College Research and Planning and Financial Aid. Each year, students are required to complete a Service Learning project and in 11th grade, students begin exploring ideas for a Senior Project. This project encompasses the 4 R's of the PrepNet curriculum: rigor, relationship, relevance and responsibility. Moral Focus lessons are also incorporated into Advisory each month. Beginning in 7th grade, students build a digital portfolio that outlines and details the key aspects of their high school journey.

ADVISORY 7

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 7

Prerequisites: Class assignment as a 7th grader

Course Description: With themes like a responsible digital footprint, self-advocacy and leveraging technology 7th-grade advisory begins with exposure to a variety of activities and strategies designed to transition 7th graders into being responsible middle school students who understand they are in charge of their learning. In preparation for college, career and community success, students are also instructed in themes such as *Service Learning* and *Moral Focus*. As in all grades, 7th-grade advisory students are required to begin a soft skills curriculum and maintain a portfolio of their learning progression throughout the year.

Portfolio

Each PrepNet student will create a portfolio to serve as a collection of evidence of a students' academic and social growth. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

Soft Skills

Soft skills are a combination of skills that are essential for student success. Students will explore the importance of time management, self-advocacy and coping with stress. Students will create SMART goals, develop a graduation plan, and learn how to calculate GPA. They also explore specific subjects and careers.

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

Responsible Technology Use

Technological awareness and skills are an integral part of our global society. In preparation for this, PrepNet students are issued a laptop upon enrollment. In 7th grade, students will be introduced to basic technology skills as well as understanding their digital footprint and how it

will impact their future.

Moral Focus

By stressing good values, positive behavior, and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by exhibiting competence, compassion, consistency, courtesy, and accountability.

ADVISORY 8

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 8

Prerequisites: Class assignment as an 8th grader

Course Description: With themes like Leadership, Technology Use, and High School Preparation, 8th-grade advisory begins with strategies designed to transition 8th graders to be effective leaders prepared to enter 9th grade. In preparation for college, career and community success, students are also instructed in themes such as *Service Learning* and *Moral Focus*. As in all grades, 8th-grade students are required to create a portfolio that they will maintain and update each year until graduation.

Portfolio

Each PrepNet student will create a portfolio to serve as a collection of evidence of a students' academic and social growth. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

Leadership

Students will learn effective Leadership practices in small group and in whole group. They will learn to be active participants in round table discussion. They will also explore various themes in social entrepreneurship.

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

High School Preparation

Succeeding as a high school student requires a different skill set than succeeding as a middle school student. Students will continue to learn soft skills that focus on preventing procrastination, plagiarism and ineffective communication. Students will begin creating EDPs and reviewing possible college pathways.

Technology Use

Technological awareness and skills are an integral part of our global society. Students will learn to leverage technology tools to increase efficiency. Students will be introduced to Google Applications to integrate into everyday use. Students will also need to maintain an interactive calendar with regular entry logs. Students will continue to be guided in safety precautions when utilizing the internet and social media.

Moral Focus

By stressing good values, positive behavior, and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by

exhibiting competence, compassion, consistency, courtesy, and accountability.

ADVISORY 9

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 9

Prerequisites: Class assignment as a Freshman

Course Description: With themes like *Introduction to High School*, the *High School Experience* and *Introduction to Technology*, freshmen advisory begins with an exposure to a variety of activities and strategies designed to transition 9th graders from middle school to high school. In preparation for college, career and community success, students are also instructed in themes such as *Service Learning* and *Moral Focus*. As in all grades, freshmen advisory students are required to create a digital portfolio that they will maintain and update each year until graduation.

Digital Portfolio

Each PrepNet student will create a digital portfolio to serve as an electronic collection of evidence of a students' learning. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

The High School Experience

The *High School Experience* is full of new experiences for freshmen. Students will create SMART goals, develop a graduation plan, and learn how to calculate GPA. They also explore specific subjects and careers.

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

Introduction to High School

Succeeding as a high school student requires a different skill set than succeeding as a middle school student. Teachers instruct students in time management, organization, and note taking. Students take multiple intelligence assessment and analyze the results.

Introduction to Technology

Technological awareness and skills are an integral part of our global society. In preparation for this, PrepNet students are issued a laptop upon enrollment. In freshmen advisory, teachers guide students in basic technology skills as well as safety precautions to use when utilizing the internet and social media.

Moral Focus

By stressing good values, positive behavior and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by exhibiting competence, compassion, consistence, courtesy and accountability.

ADVISORY 10

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 10

Prerequisites: Class assignment as a Sophomore

Course Description: In sophomore advisory, *Career Exploration* helps students isolate their interests and begin to hone in on a career choice. This is taken further when they begin to explore the colleges with the most potential during *College Exploration*. In preparation for college, career and community success, students are also instructed in themes such as *Bullying Prevention*, *Service Learning* and *Moral Focus*. Sophomore advisory students continue revising and adding to the *Digital Portfolio* that they will maintain and update each year until graduation.

Digital Portfolio

Each PrepNet student will create a digital portfolio to serve as an electronic collection of evidence of a students' learning. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

Career Exploration

Using MICAP and ONet, students explore career interests and possibilities. Teachers guide students through the process of goal setting. Students also practice preparing for interviews through role play.

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

College Exploration

Using the College Board Big Futures Site, students explore colleges that fit their career interests and financial situation. A webquest and other investigations allow students to uncover information about specific colleges, college viewbooks, and the college experience.

Bullying Prevention

PrepNet schools maintain a strict anti-bullying policy. Education is key in the implementation of this policy. Case studies bring the subjects of sexual harassment and school bullying to life for students. Students are required to sign a bullying contract.

Moral Focus

By stressing good values, positive behavior and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by exhibiting competence, compassion, consistence, courtesy and accountability.

ADVISORY 11

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 11

Prerequisites: Class assignment as a Junior

Course Description: The focus on college preparation continues with *College Research and Planning*, where student investigations include, but are not limited to, college admissions, the application process, financial aid and scholarships. In preparation for career and community success, students are also instructed in themes such as *Service Learning* and *Moral Focus*. All seniors are required to complete a *Senior Project* that rounds out their PrepNet experience and preparation for that project starts in junior advisory. Development of the *Digital Portfolio* will continue.

Digital Portfolio

Each PrepNet student will create a digital portfolio to serve as an electronic collection of evidence of a students' learning. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

Senior Project

All students must successfully complete a senior project in order to earn a diploma from a PrepNet High School. There are four main objectives and functions of the senior project:

- To serve as a capstone for the PrepNet curriculum
- To expose students to independent research and writing
- To explore a relevant topic related to a career interest, college major, or future goal
- To make a valuable contribution to the common good and to lead a life well lived

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

College Research and Planning

Choosing a college is a pivotal decision and should not be taken lightly. Students receive direct instruction in what to look for when attending a college fair, the types of college admissions, and campus visits. Teachers also lead students through the processes of filling out college applications and sorting through scholarships.

Moral Focus

By stressing good values, positive behavior and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by exhibiting competence, compassion, consistence, courtesy and accountability.

ADVISORY 12

Course Length: 2 semesters

Credits:

Recommended Grade Levels: 11

Prerequisites: Class assignment as a Senior

Course Description: With themes like Financial Aid, College Research and Planning and Transition to College, senior advisory focuses on a variety of activities and strategies designed to transition 12h graders from high school to college. In preparation for career and community success, students are also instructed in themes such as Service Learning and Moral Focus. All seniors are required to complete a Senior Project that rounds out their PrepNet experience, incorporating all aspects of education, future goals and interests and community involvement. The Digital Portfolio will be finished during this year and if desired, student will be able to submit it to prospective colleges.

Digital Portfolio

Each PrepNet student will create a digital portfolio to serve as an electronic collection of evidence of a students' learning. The portfolio will be modified and added to during each year of advisory and will include artifacts from academic coursework, college & career planning, moral focus learning, and social development.

Financial Aid

The rising cost of paying for college limits many people's ability to even consider the possibility of a college education. Teachers assist students while they fill out the FAFSA form and search for scholarships. The different types of financial aid are compared and scholarship scams are exposed.

Service Learning

Becoming a prosperous and successful citizen requires giving back to others and the community. Each student has a required number of community service hours each year. As a group, each advisory class completes a day of service each year.

College Research and Planning

Senior year advisory begins with a strong push to finish and submit college applications. Teachers guide students through the process, from choosing a college to filling out and submitting applications. Students are aided in comparing the different types of college admissions, sorting through college choices and planning college visits. Close guidance is also provided for the application process.

Senior Project

All students must successfully complete a senior project in order to earn a diploma from a PrepNet High School. There are four main objectives and functions of the senior project:

- To serve as a capstone for the PrepNet curriculum
- To expose students to independent research and writing
- To explore a relevant topic related to a career interest, college major, or future goal
- To make a valuable contribution to the common good and to lead a life well lived

Moral Focus

By stressing good values, positive behavior and moral conscience, students will hold themselves accountable for their actions. Students will have a true sense of direction for college and career. Teachers and staff will serve as models of responsibility and moral focus by exhibiting competence, compassion, consistence, courtesy and accountability.

ENGLISH

English instruction at PrepNet schools reflects the Common Core English Language Arts Standards and where applicable, the CollegeBoard Standards for Advanced Placement English Literature and Language. These standards define rigorous expectations for student proficiency in reading, writing, speaking, listening, and media literacy. They also define literacy standards that are incorporated into History/Social Studies, Science, and Technical Subjects. Students are expected to:

- develop a repertoire of reading comprehension strategies that they can draw on to comprehend, analyze, and critique both literary and informational texts
- develop a repertoire of writing strategies and a familiarity with certain types of writing commonly taught in the classroom, including argumentative writing, research writing, literary analysis, and creative and reflective writing
- speak effectively in interpersonal, group, and public contexts
- become active and effective listeners
- view critically and produce media

Reading lists for English courses are selected via collaborative discussion among the course leaders at all PrepNet schools, taking into consideration titles from the Common Core Illustrated Texts lists, the Great Books lists and the Advanced Placement Literature course recommended reading lists.

Michigan Merit Curriculum HS Graduation Requirements – 4 credits English Language Arts

PrepNet English Courses Available:

- English 7
- English 8
- English 9
- Concentrated English
- English 10
- English 11
- AP Language & Composition
- English 12
- AP English Literature & Composition

ENGLISH 7

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 7

Prerequisites: Successful completion of English 6

Course Description: In preparation for AP courses and the SAT and using the Common Core Standards English Language Arts Standards, English 7 is designed to strengthen student reading, writing, speaking, and listening skills as the theme “choices and how they affect our lives” is studied. They will be exposed to five genres of literature: poetry, short stories, drama, media, and the novel. By the end of grade 7, students will be able to read and comprehend literature, including stories, dramas, and poems, in the grades 7-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. Writing instruction will center on the process of writing (including topic development) and students to produce responses to literature that include comparison/contrast, research, descriptive, and persuasive essays. Students will also develop strategies for oral literacy and collaborative learning to prepare them for higher level discussion-based classes.

Unit 1: Short Stories (Elements of Literature)

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 3: Analysis

Level 2

8A 3.2.1: Identify a claim.

8A 3.2.2: Identify evidence to support a given claim.

8A 3.2.3: Identify literary elements such as character, setting, or conflict.

8A 3.2.4: Identify and label figurative language.

Level 3

8A 3.3.1: Make a claim using sentence frames.

8A 3.3.2: Students can reference sections of text to prove a claim with some explanation.

8A 3.3.3: Specifically references the text being analyzed. (such as TAG)

8A 3.3.4: Accurately conveys correct comprehension of the text (i.e. through summary and explanation of figurative language or literary elements)

Level 4

- 8A 3.4.1: Make a statement about the text. (It may not be arguable enough to be considered a claim.)
- 8A 3.4.2: Students can reference and briefly analyze one to three sentences that work towards proving the claim.
- 8A 3.4.3: Uses MLA citation some of the time.

Unit 2: Novel Study

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Topic Development & Organization

Level 2

- 8TDO 2.2.1: Create a topic sentence.
- 8TDO 2.2.2: Create supporting details/evidence.
- 8TDO 2.2.3: List or identify sequential transition words.
- 8TDO 2.2.4: Identify appropriate diction.

Level 3

- 8TDO 2.3.1: Use a topic sentence.
- 8TDO 2.3.2: Supports the idea with details/evidence.
- 8TDO 2.3.3: Use sequential transitions between sentences.
- 8TDO 2.3.4: Use appropriate diction (see rubric).

Level 4

- 8TDO 2.4.1: The paragraph includes a central idea.
- 8TDO 2.4.2: The paragraph includes evidence/details that support the focus.
- 8TDO 2.4.3: Uses logical transitions between logically sequenced sentences and includes topic and concluding sentences.
- 8TDO 2.4.4: Uses appropriate diction

Unit 3: Grammar

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 1: Conventions

Level 2

- 8C 1.2.1: Identifies correct capitalization.
- 8C 1.2.2: Identifies correct subject-verb agreement.
- 8C 1.2.3: Identifies complete simple sentences.
- 8C 1.2.4: Correctly defines the parts of speech.
- 8C 1.2.5: Identifies compound sentences.

Level 3

8C 1.3.1: Sometimes uses correct capitalization.

8C 1.3.2: Sometimes uses correct subject-verb agreement.

8C 1.3.3: Sometimes uses complete simple sentences.

8C 1.3.4: Sometimes identifies parts of speech correctly.

Level 4

8C 1.4.1: Consistently uses correct capitalization.

8C 1.4.2: Consistently uses correct subject-verb agreement.

8C 1.4.3: Consistently uses complete simple sentences.

8C 1.4.4: Consistently identifies parts of speech correctly.

Unit 4: Non-Fiction

Unit 4 Priority Standards and Learner Objectives:

- Same as Unit 2 & 3.

Unit 5: Poetry

Unit 5 Priority Standards and Learner Objectives:

- Same as Unit 1 & 2.

Unit 6: Drama

Unit 6 Priority Standards and Learner Objectives:

- Same as Unit 1 & 2 & 3.

ENGLISH 8

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 8

Prerequisites: Successful completion of English 7

Course Description: In preparation for AP courses and the SAT and using the Common Core Standards English Language Arts Standards, English 8 is designed to strengthen student reading, writing, speaking, and listening skills as the theme “What makes a hero a hero?” is studied. They will be exposed to five genres of literature: poetry, short stories, drama, media, and the novel. By the end of grade 8, students will be able to read and comprehend literature, including stories, dramas, and poems, in the grades 8-9 text complexity band proficiently, with scaffolding as needed at the high end of the range. Writing instruction will center on the process of writing (including topic development) and challenge students to produce responses to literature that include comparison/contrast, research, descriptive, and persuasive essays. Students will also develop strategies for oral literacy and collaborative learning to prepare them for higher level discussion-based classes.

Unit 1: Short Stories (Elements of Literature)

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 3: Analysis

Level 2

8A 3.2.1: Identify a claim.

8A 3.2.2: Identify evidence to support a given claim.

8A 3.2.3: Identify literary elements such as character, setting, or conflict.

8A 3.2.4: Identify and label figurative language.

Level 3

8A 3.3.1: Make a claim using sentence frames.

8A 3.3.2: Students can reference sections of text to prove a claim with some explanation.

8A 3.3.3: Specifically references the text being analyzed. (such as TAG)

8A 3.3.4: Accurately conveys correct comprehension of the text (i.e. through summary and explanation of figurative language or literary elements)

Level 4

- 8A 3.4.1: Make a statement about the text. (It may not be arguable enough to be considered a claim.)
- 8A 3.4.2: Students can reference and briefly analyze one to three sentences that work towards proving the claim.
- 8A 3.4.3: Uses MLA citation some of the time.

Unit 2: Novel Study

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Topic Development & Organization

Level 2

- 8TDO 2.2.1: Create a topic sentence.
- 8TDO 2.2.2: Create supporting details/evidence.
- 8TDO 2.2.3: List or identify sequential transition words.
- 8TDO 2.2.4: Identify appropriate diction.

Level 3

- 8TDO 2.3.1: Use a topic sentence.
- 8TDO 2.3.2: Supports the idea with details/evidence.
- 8TDO 2.3.3: Use sequential transitions between sentences.
- 8TDO 2.3.4: Use appropriate diction (see rubric).

Level 4

- 8TDO 2.4.1: The paragraph includes a central idea.
- 8TDO 2.4.2: The paragraph includes evidence/details that support the focus.
- 8TDO 2.4.3: Uses logical transitions between logically sequenced sentences and includes topic and concluding sentences.
- 8TDO 2.4.4: Uses appropriate diction

Unit 3: Grammar

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 1: Conventions

Level 2

- 8C 1.2.1: Identifies correct capitalization.
- 8C 1.2.2: Identifies correct subject-verb agreement.
- 8C 1.2.3: Identifies complete simple sentences.
- 8C 1.2.4: Correctly defines the parts of speech.
- 8C 1.2.5: Identifies compound sentences.

Level 3

8C 1.3.1: Sometimes uses correct capitalization.

8C 1.3.2: Sometimes uses correct subject-verb agreement.

8C 1.3.3: Sometimes uses complete simple sentences.

8C 1.3.4: Sometimes identifies parts of speech correctly.

Level 4

8C 1.4.1: Consistently uses correct capitalization.

8C 1.4.2: Consistently uses correct subject-verb agreement.

8C 1.4.3: Consistently uses complete simple sentences.

8C 1.4.4: Consistently identifies parts of speech correctly.

Unit 4: Non-Fiction

Unit 4 Priority Standards and Learner Objectives:

- Same as Unit 2 & 3.

Unit 5: Poetry

Unit 5 Priority Standards and Learner Objectives:

- Same as Unit 1 & 2.

Unit 6: Drama

Unit 6 Priority Standards and Learner Objectives:

Same as Unit 1 & 2 & 3.

ENGLISH 9

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 9

Prerequisites: Successful completion of English 8

Course Description: In preparation for AP courses and using the Common Core Standards English Language Arts Standards, English 9 is designed to strengthen student reading, writing, speaking, and listening skills as the theme “Coming of Age” is studied. They will be exposed to five genres of literature: poetry, short stories, drama, media, and the novel. By the end of grade 9, students will be able to read and comprehend literature, including stories, dramas, and poems, in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. Writing instruction will center on the process of writing and force students to produce responses to literature that include comparison/contrast, research, descriptive, and persuasive essays. Students will also develop strategies for oral literacy and collaborative learning to prepare them for higher level discussion-based classes.

CONCENTRATED ENGLISH 9

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 9

Prerequisites: NWEA performance and recommendation of English department

Course Description: In support of English 9 and in preparation for AP courses and using the Common Core Standards English Language Arts Standards, Concentrated English 9 is designed to strengthen student reading, writing, speaking, and listening skills as the theme “Coming of Age” is studied. This course can be taken in conjunction with or in place of English 9. The unit progression for both courses is identical, but to ensure growth, while avoiding too much frustration, the Lexile levels of the reading materials selected for Concentrated English 9 is slightly below English 9.

ENGLISH 9 (& CONCENTRATED ENGLISH) UNIT PROGRESSION

Unit 1: Short Stories

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1a: Conventions

Level 2

FC 1.2.1a: Sometimes uses correct capitalization.

FC 1.2.2a: Sometimes uses correct subject-verb agreement.

FC 1.2.3a: Sometimes uses complete simple sentences.
FC 1.2.4a: Sometimes identifies parts of speech correctly.

Level 3

FC 1.3.1a: Consistently uses correct capitalization.
FC 1.3.2a: Consistently uses correct subject-verb agreement.
FC 1.3.3a: Consistently uses complete simple sentences.
FC 1.3.4a: Consistently identifies parts of speech correctly.

Level 4

FC 1.4.1a: Always uses correct capitalization.
FC 1.4.2a: Always uses correct subject-verb agreement.
FC 1.4.3a: Always uses complete simple sentences.
FC 1.4.4a: Always identifies parts of speech correctly.

Priority Standard 2a: Topic Development & Organization

Level 2

FTDO 2.2.1a: Uses a topic sentence.
FTDO 2.2.2a: Supports the idea with vague details/evidence.
FTDO 2.2.3a: Uses sequential transitions between sentences.
FTDO 2.2.4a: Uses appropriate diction inconsistently.

Level 3

FTDO 2.3.1a: The paragraph includes a central idea.
FTDO 2.3.2a: The paragraph includes evidence/details that support the focus.
FTDO 2.3.3a: Uses logical transitions between logically sequenced sentences and includes topic and concluding sentences.
FTDO 2.3.4a: Uses appropriate diction

Level 4

FTDO 2.4.1a: The text includes a central idea.
FTDO 2.4.2a: The text uses evidence/details that support the focus and uses appropriate beginnings and endings.
FTDO 2.4.3a: Uses logical transitions between both paragraphs and sentences.
FTDO 2.4.4a: Uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice).

Priority Standard 3a: Analysis

Level 2

FA 3.2.1: Make a claim using sentence frames.

FA 3.2.2: Students can reference sections of text to prove a claim with some explanation.

FA 3.2.3: Specifically references the text being analyzed. (such as TAG)

FA 3.2.4: Accurately conveys correct comprehension of the text (i.e. through summary).

Level 3

FA 3.3.1: Make a statement about the text. (It may not be arguable enough to be considered a claim.)

FA 3.3.2: Students can reference and briefly analyze one to three sentences that work towards proving the claim.

FA 3.3.3: Uses MLA citation some of the time.

Level 4

FA 3.4.1: Make a claim about a literary element.

FA 3.4.2: Student can reference and analyze one to two sentences to prove a claim.

FA 3.4.3: Correctly uses MLA citation most of the time.

Unit 2: Exploring Poetic Voices

Unit 2 Priority Standards and Learner Objectives:

- Same as Unit 1.

Unit 3: Novel

Unit 3 Priority Standards and Learner Objectives:

- Same as Units 1 & 2.

Unit 4: Shakespeare

Unit 4 Priority Standards and Learner Objectives:

Priority Standard 1b: Conventions

Level 2

FC 1.2.1b: Consistently uses correct capitalization.

FC 1.2.2b: Consistently uses correct subject-verb agreement.

FC 1.2.3b: Consistently uses complete simple sentences.

FC 1.2.4b: Consistently uses compound sentences correctly.

Level 3

FC 1.3.1b: Always uses correct capitalization.

FC 1.3.2b: Always uses correct subject-verb agreement.

FC 1.3.3b: Always uses complete simple sentences.
FC 1.3.4b: Always uses compound sentences correctly.

Level 4

FC 1.4.1b: Consistently correctly uses lists (including correct parallel structure when necessary).
FC 1.4.2b: Consistently uses complex sentences correctly.
FC 1.4.3b: Consistently applies clear pronoun usage (i.e. not vague reference).

Priority Standard 2b: Topic Development and Organization

Level 2

FTDO 2.2.1b: The paragraph includes a central idea.
FTDO 2.2.2b: The paragraph includes evidence/details that support the focus.
FTDO 2.2.3b: Uses logical transitions between logically sequenced sentences and includes topic and concluding sentences.
FTDO 2.2.4b: Uses appropriate diction

Level 3

FTDO 2.3.1b: The text includes a central idea.
FTDO 2.3.2b: The text uses evidence/details that support the focus and appropriate beginnings and endings.
FTDO 2.3.3b: Uses logical transitions between both paragraphs and sentences.
FTDO 2.3.4b: Uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice).

Level 4

FTDO 2.4.1b: The text expresses a clear central idea.
FTDO 2.4.2b: The text engages the reader with adequate reasoning and/or detail and uses appropriate structures for the mode of writing.
FTDO 2.4.3b: Uses appropriate transitions and sequencing of ideas throughout the text.
FTDO 2.4.4b: Uses deliberate and unique/creative stylistic choices based on the mode of writing (e.g. diction, tone, voice)

Priority Standard 3b: Analysis

Level 2

FA 3.2.1: Make a claim using sentence frames.
FA 3.2.2: Students can reference sections of text to prove a claim with some explanation.
FA 3.2.3: Specifically references the text being analyzed.
FA 3.2.4: Accurately conveys correct comprehension of the text (i.e. through summary).

Level 3

FA 3.3.1: Make a statement about the text. (It may not be arguable enough to be considered a claim.)

FA 3.3.2: Students can reference and briefly analyze one to three sentences that work towards proving the claim.

FA 3.3.3: Uses MLA citation some of the time.

Level 4

FA 3.4.1: Make a claim about a literary element.

FA 3.4.2: Student can reference and analyze one to two sentences to prove a claim.

FA 3.4.3: Correctly uses MLA citation most of the time.

Priority Standard 4: Rhetoric

Level 2

FR 4.2.1: Identify speaker.

FR 4.2.2: Identify context (occasion/time period).

FR 4.2.3: Identify audience.

FR 4.2.4: Identify argument/main idea.

Level 3

FR 4.3.1: Identify purpose.

FR 4.3.2: Identify tone.

FR 4.3.3: Identify and explain how an example is an appeal (this is ethos and explain why).

Level 4

FR 4.4.1: Defend, with evidence, the argument.

FR 4.4.2: Identify implicit claims and/or explicit counterclaims.

FR 4.4.3: Evaluate the purpose of the author's use of appeals (how this impacts the other part of SOAPStone - or how this is effective on the given audience).

FR4.4.4: Identify and explain specific words and phrases or patterns of words and phrases that shape the meaning and tone of the text.

Unit 5: Novel

Unit 5 *Priority Standards and Learner Objectives:*

Same as *Unit 4*.

ENGLISH 10

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 10

Prerequisites: Successful completion of English 9

Course Description: In preparation for AP courses and in alignment with the Common Core English Language Arts Standards, English 10 is designed to strengthen student reading, writing, speaking, and listening skills as they study the theme “Cultural Voices.” They will be exposed to five genres of literature: poetry, short stories, drama, media, and the novel. Students will learn and practice critical reading comprehension strategies for each genre. Significant attention will be paid to literary analysis in each genre, including learning and applying new literary vocabulary. Students will focus on the process of writing and produce responses to literature that include comparison/contrast, research, descriptive, and persuasive essays. Mechanics, usage, and style will be reviewed as needed in coursework. Additional attention will be given to the use of primary sources, as well as MLA format. Students will also develop strategies for oral literacy and collaborative learning to prepare them for higher level discussion-based classes.

ENGLISH 10 UNIT PROGRESSION

Unit 1: Memoirs

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1a: Conventions

Level 2

SC 1.2.1a: Sometimes correctly uses lists (including correct parallel structure when necessary).

SC 1.2.2a: Sometimes uses complex sentences correctly.

SC 1.2.3a: Sometimes applies clear pronoun usage (i.e. not vague reference).

SC 1.2.4: Consistently uses all the freshman LTs.

Level 3

SC 1.3.1a: Consistently correctly uses lists (including correct parallel structure when necessary).

SC 1.3.2a: Consistently uses complex sentences correctly.

SC 1.3.3a: Consistently applies clear pronoun usage (i.e. not vague reference).

Level 4

SC 1.4.1a: Always correctly uses lists (including correct parallel structure when necessary).

SC 1.4.2a: Always uses complex sentences correctly.

SC 1.4.3a: Always applies clear pronoun usage (i.e. not vague reference).

Priority Standard 2a: Topic Development & Organization

Level 2

STDO 2.2.1: The text includes a central idea.

STDO 2.2.2: The text uses evidence/details that support the focus and includes beginnings and endings.

STDO 2.2.3: Uses logical transitions between both paragraphs and sentences.

STDO 2.2.4: Uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice)

Level 3

STDO 2.3.1: The text expresses a clear central idea.

STDO 2.3.2: The text engages the reader with adequate reasoning and/or detail and uses appropriate structures for the mode of writing.

STDO 2.3.3: Uses appropriate transitions and sequencing of ideas throughout the text.

STDO 2.3.4: Consistently uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice)

Level 4

STDO 2.4.1: The text expresses a precise central idea.

STDO 2.4.2: The text is written with a sophisticated structure that convincingly uses reasoning and/or details.

STDO 2.4.3: Uses sophisticated transitions (words, phrases, and clauses) throughout a text that creates cohesion and effectively links the ideas together.

STDO 2.4.4: Uses deliberate and unique/creative stylistic choices based on the mode of writing (e.g. diction, tone, voice)

Priority Standard 3a: Analysis

Level 2

SA 3.2.1 Make a statement about the text. (It may not be arguable enough to be considered a claim.)

SA 3.2.2 Students can reference and analyze large sections of text to prove a claim

SA 3.2.3: Uses MLA citation some of the time.

SA 3.2.4: Accurately conveys correct comprehension of the text (i.e. through summary).

Level 3

SA 3.3.1 Make a claim about a literary element.

SA 3.3.2 Students can reference and analyze one to two sentences to prove a claim.

SA 3.3.3: Correctly uses MLA citation most of the time.

Level 4

SA 3.4.1 Make a claim about how a literary element affects/influences another literary element.

SA 3.4.2 Students can reference and analyze specific words and phrases to prove a claim. (* See Appendix A)

SA 3.4.3: Correctly uses MLA citation all of the time.

Unit 2: Novel

Unit 2 *Priority Standards and Learner Objectives:*

- Same as Unit 1.

Unit 3: Research

Unit 3 *Priority Standards and Learner Objectives:*

Priority Standard 1b: Conventions

Level 2

SC 1.2.1b: Consistently correctly uses lists (including correct parallel structure when necessary).

SC 1.2.2b: Consistently uses complex sentences correctly.

SC 1.2.3b: Consistently applies clear pronoun usage (i.e. not vague reference).

SC 1.2.4: Consistently uses all the freshman LTs.

Level 3

SC 1.3.1b: Always correctly uses lists (including correct parallel structure when necessary).

SC 1.3.2b: Always uses complex sentences correctly.

SC 1.3.3b: Always applies clear pronoun usage (i.e. not vague reference).

Level 4

SC 1.4.1b: Consistently includes and uses colons and semicolons correctly.

SC 1.4.2b: Consistently includes and punctuates non-essential clauses correctly.

SC 1.4.3b: Consistently includes and uses introductory elements correctly.

Priority Standard 2b: Topic Development & Organization

Level 2

STDO 2.2.1: The text includes a central idea.

STDO 2.2.2: The text uses evidence/details that support the focus and includes beginnings and endings.

STDO 2.2.3: Uses logical transitions between both paragraphs and sentences.

STDO 2.2.4: Uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice).

Level 3

STDO 2.3.1: The text expresses a clear central idea.

STDO 2.3.2: The text engages the reader with adequate reasoning and/or detail and uses appropriate structures for the mode of writing.

STDO 2.3.3: Uses appropriate transitions and sequencing of ideas throughout the text.

STDO 2.3.4: Consistently uses appropriate stylistic choices based on the mode of writing (e.g. diction, tone, voice).

Level 4

STDO 2.4.1: The text expresses a precise central idea.

STDO 2.4.2: The text is written with a sophisticated structure that convincingly uses reasoning and/or details.

STDO 2.4.3: Uses sophisticated transitions (words, phrases, and clauses) throughout a text that creates cohesion and effectively links the ideas together.

STDO 2.4.4: Uses deliberate and unique/creative stylistic choices based on the mode of writing (e.g. diction, tone, voice)

Priority Standard 3b: Analysis

Level 2

SA3.2.1b: Support an idea from a teacher-provided list, with textual evidence using a text at or slightly above the student's reading level. (theme, central idea, characterization, style, etc.)

SA3.2.2b: Identify and determine the meaning of important words and phrases in a text at or slightly above the student's reading level, such as figurative language.

SA3.2.3b: Identifying explicit relationships between and among individuals, events, or ideas. (e.g. cause-effect, comparison-contrast, sequence)

SA3.2.4b: Summarize a grade appropriate text

Level 3

SA3.3.1b: Make and justify a claim regarding the development of an idea over the course of a text at or slightly above the student's reading level. (theme, central idea, characterization, style, etc.)

SA3.3.2b: Identify the purpose of important words and phrases in a text at or slightly above the student's reading level, such as figurative language, connotation, & denotation.

SA3.3.3b: Support the development of an idea over the course of a text by identifying explicit relationships between and among individuals, events, or ideas. (e.g. cause-effect, comparison-contrast, sequence)

Level 4

SA3.4.1b: Make and justify a claim regarding the development of an idea within an above-grade level text.

SA3.4.2b: Analyze the effect of important words and phrases in an above-grade level text such as figurative language, connotation, denotation, and syntax.

SA3.4.3b: Support the development of an idea over the course of a text by identifying implicit relationships between and among individuals, events, or ideas. (e.g. cause-effect, comparison-contrast, sequence)

SA3.4.4b: Predict an outcome for a new or similar situation by applying information and ideas from a text.

Priority Standard 6: Rhetoric

Level 2

SR6.2.1: Determine the point of view and/or perspective of a speaker

SR6.2.2: Determine the argument/ purpose of a text or of a particular part of a text.

SR6.2.3: Identify claims and/or counterclaims explicitly stated in text.

SR6.2.4: Identify rhetorical appeals

Level 3

SR6.3.1: Analyze the influence point of view and/or perspective has on content and/or style.

SR6.3.2: Defend, with evidence, the argument or purpose of a text or of a particular part of a text.

SR6.3.3: Identify implicit claims and counterclaims from text.

SR6.3.5: Identify specific words and phrases or patterns of words and phrases that shape the meaning and tone of a text.

Level 4

SR6.4.1: Synthesize information and ideas from paired texts (i.e. Comparing the differences between two claims with evidence from the texts).

SR6.4.2: Analyze how the selection of specific words and phrases or the use of patterns of words and phrases shapes meaning and tone in text.

SR6.4.3: Assess how an author uses or fails to use evidence to support a claim or counterclaim.

Unit 4: Shakespeare

Unit 4 Priority Standards and Learner Objectives:

- Same as *Unit 3*.

ENGLISH 11

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 11

Prerequisites: Successful completion of English 10

Course Description: In preparation for AP courses and in alignment with the Common Core English Language Arts Standards, English 11 is designed to strengthen student reading, writing, speaking, and listening skills as they study literature throughout American history. They will be exposed to five genres of literature: poetry, short stories, drama, media, and the novel. Students will learn and practice critical reading comprehension strategies for each genre. Significant attention will be paid to literary analysis in each genre as well as persuasive writing, including learning and applying new literary vocabulary. Students will focus on the process of writing and produce responses to literature that include comparison/contrast, research, descriptive, and persuasive essays. Mechanics, usage, and style will be reviewed as needed in coursework. Additional attention will be given to the use of primary sources, as well as MLA format. Students will also develop strategies for oral literacy and collaborative learning to prepare them for higher level discussion-based classes.

ENGLISH 11 UNIT PROGRESSION

Unit 1: Synthesis

Priority Standard 1a: Conventions

Level 2

JC1.2.1a: Apply subject verb/agreement. (compound subjects)

JC1.2.2a: Demonstrate correct punctuation usage. (comma use: introductory and closing elements)

On assessments, also responsible for:

FC1.3.1a: Apply subject/verb agreement. (simple/plural; simple/compound subjects, and with brief interrupters))

FC1.3.2a: Demonstrate correct punctuation usage. (end punctuation, apostrophes, separate independent clauses, comma use: lists and introductory material)

FC1.3.1b: Correctly place the appropriate modifier with the word or phrase it modifies.

FC1.3.2b: Apply correct and clear pronoun usage. (singular plural, and vague)

FC1.3.3b: Apply appropriate grammatical structure to subordinate (dependent) clauses (subordinate conjunctions)

SC1.3.1a: Apply subject verb/agreement. (compound subjects)

SC1.3.2a: Demonstrate correct punctuation usage. (comma use: introductory and closing elements)

SC1.3.1b: Correctly place the appropriate modifier with the word or phrase it modifies. (phrases)

SC1.3.2b: Apply correct and clear pronoun usage. (as subjects and objects)

Level 3

JC1.3.1a: Apply subject verb/agreement. (with text in between)

JC1.3.2a: Demonstrate correct punctuation usage. (comma use: parenthetical elements)

Level 4

JC1.4.1a: Consistently demonstrate mastery of 3.0, 2.0 and previously required skills across the semester

Priority Standard 2a: Topic Development & Organization

Level 2

JT2.2.1: Write an arguable thesis with reasons

JT2.2.2: Write a focused essay that makes connections from each logically sequenced reason to the argument

JT2.2.3: Write an introduction that introduces a topic

JT2.2.4: Write a concluding paragraph

JT2.2.5: Write using simple transitions in and between paragraphs (i.e. in conclusion, therefore, he writes, etc.)

On assessments, also responsible for:

FS2.2.1a: Logically sequence sentences within a paragraph, based on the purpose of the writing. (topic sentence, supporting ideas, supporting details, and a concluding sentence)

SS2.3.1a: Logically sequence of ideas within an essay

SS2.3.1b: Use appropriate transitions between logically sequenced paragraphs in an essay

Level 3

JT2.3.1: Write an arguable thesis with the most relevant and convincing reasons

JT2.3.2: Write an essay with logically sequenced reasons that connect to the thesis and build upon one another and use counterpoints when necessary

JT2.3.3: Write an introduction that states the purpose, hooks, and gives context for the essay

JT2.3.4: Write a concluding paragraph that supports the argument

JT2.3.5: Write using well developed transitions in and between paragraphs (i.e. phrases, connection of ideas, etc.)

Level 4

JT2.4.1: Write an essay that applies an organic structure with a clear and cohesive beginning, middle, and end. (inviting introduction, strong conclusion, smooth transitions between ideas)

JT2.4.2: Write an essay that contains consistent evidence with originality and depth of ideas that work together as a unified whole.

Priority Standard 5: Synthesis

Level 2

JS5.2.1: Identify similarities and differences between two or more texts (i.e. related ideas, evidence)

JS5.2.2 Use explicit evidence (refers to original source, but may not be correctly cited) from two or more sources to support similarities and differences.

Level 3

JS5.3.1: Synthesize information and ideas from two or more texts to support an idea (i.e. related ideas/evidence).

JS5.3.2: Use correctly cited specific evidence to synthesize two or more texts.

Level 4

JS5.4.1: Synthesize an outside source with the original sources.

JS5.4.2: Synthesize a credible, non-traditional source with the original sources.

Priority Standard 6: Rhetoric

Level 2

JR6.2.1: Identify specific words and phrases or patterns of words and phrases that shape the meaning and tone of a text.

JR6.2.3: Identify implicit claims and counterclaims from text.

Level 3

JR6.3.1: Analyze how the selection of specific words and phrases or the use of patterns of words and phrases shapes meaning and tone in text.

JR6.3.3: Assess how an author successfully or unsuccessfully uses evidence to support a claim or counterclaim.

Level 4

JR6.4.1: Critique how the selection of specific words and phrases or the use of patterns of words and phrases to shape the meaning and tone in text.

JR6.4.2: Generate additional text, in the style of the author, to further enhance the author's argument.

Unit 2: Novel

Unit 2 *Priority Standards and Learner Objectives:*

- Same as Unit 1.

Unit 3: Research

Unit 3 *Priority Standards and Learner Objectives:*

Priority Standard 1b: Conventions

Level 2

JC1.2.1b: Correctly place the appropriate modifier with the word or phrase it modifies. (Phrases)

JC1.2.2b: Apply correct and clear pronoun usage. (As subjects and objects)

On assessments, also responsible for:

FC1.3.1a: Apply subject/verb agreement. (simple/plural; simple/compound subjects, and with brief interrupters))

FC1.3.2a: Demonstrate correct punctuation usage. (End punctuation, apostrophes, separate independent clauses, comma use: lists and introductory material)

FC1.3.1b: Correctly place the appropriate modifier with the word or phrase it modifies.

FC1.3.2b: Apply correct and clear pronoun usage. (Singular plural, and vague)

FC1.3.3b: Apply appropriate grammatical structure to subordinate (dependent) clauses (subordinate conjunctions)

SC1.3.1a: Apply subject verb/agreement. (Compound subjects)

SC1.3.2a: Demonstrate correct punctuation usage. (Comma use: introductory and closing elements)

SC1.3.1b: Correctly place the appropriate modifier with the word or phrase it modifies. (Phrases)

SC1.3.2b: Apply correct and clear pronoun usage. (As subjects and objects)

JC1.2.1a: Apply subject verb/agreement. (Compound subjects)

JC1.2.2a: Demonstrate correct punctuation usage. (Comma use: introductory and closing elements)

JC1.3.1a: Apply subject verb/agreement. (With text in between)

JC1.3.2a: Demonstrate correct punctuation usage. (Comma use: parenthetical elements)

Level 3

JC1.3.1b: Correctly place the appropriate modifier with the word or phrase it modifies. (Clauses)

JC1.3.2b: Apply correct and clear pronoun usage. (In separate clauses)

Level 4

JC1.4.1a: Consistently demonstrate mastery of 3.0, 2.0 and previously required skills across the semester

Priority Standard 2b: Topic Development & Organization

Level 2

JT2.2.1b: Write an arguable thesis with reasons

JT2.2.2b: Write a focused essay that makes connections from each logically sequenced reason to the argument

JT2.2.3b: Write an introduction that introduces a topic

JT2.2.4b: Write a concluding paragraph

JT2.2.5b: Write using simple transitions in and between paragraphs (i.e. in conclusion, therefore, he writes, etc.)

On assessments, also responsible for:

FS2.2.1a: Logically sequence sentences within a paragraph, based on the purpose of the writing. (Topic sentence, supporting ideas, supporting details, and a concluding sentence)

SS2.3.1a: Logically sequence of ideas within an essay

SS2.3.1b: Use appropriate transitions between logically sequenced paragraphs in an essay

Level 3

JT2.3.1b: Write an arguable thesis with the most relevant and convincing reasons
JT2.3.2b: Write an essay with logically sequenced reasons that connect to the thesis and build upon one another and use counterpoints when necessary
JT2.3.3b: Write an introduction that states the purpose, hooks, and gives context for the essay
JT2.3.4b: Write a concluding paragraph that supports the argument
JT2.3.5b: Write using well developed transitions in and between paragraphs (i.e. phrases, connection of ideas, etc.)

Level 4

JT2.4.1b: Write an essay that applies an organic structure with a clear and cohesive beginning, middle, and end. (Inviting introduction, strong conclusion, smooth transitions between ideas)
JT2.4.2b: Write an essay that contains consistent evidence with originality and depth of ideas that work together as a unified whole.

Priority Standard 3b: Analysis

Level 2

JA3.2.1: Make and justify a claim regarding the development of an idea over the course of a text at or slightly above the student's reading level. (Topic or subject)
JA3.2.2: Identify the effect of important words and phrases in a text at or slightly above the student's reading level, such as figurative language, connotation, & denotation.
JA3.2.3: Support the development of an idea over the course of a text by identifying explicit relationships between and among individuals, events, or ideas. (E.g. cause-effect, comparison-contrast, sequence)

Level 3

JA3.3.1: Make and justify a claim regarding the development of a theme, central idea, or other purpose over the course of a grade appropriate text.
JA3.3.2: Analyze the purpose of a word, phrase, and/or sentence (figurative language, connotation, denotation and syntax) in a grade appropriate text.
JA3.3.3: Support the development of an idea over the course of a text by identifying implicit relationships between and among individuals, events, or ideas. (E.g. cause-effect, comparison-contrast, sequence)

Level 4

JA3.4.1: Analyze, compare and contrast two texts with similar themes
JA3.4.2: Predict an outcome for a new or similar situation by applying information and ideas from a text.

Priority Standard 4: Style

Level 2

JS4.2.1: Use sentences with varied structures and lengths.

On assessments, also responsible for:

FS2.3.1b: Use simple parallel structure within a paragraph

FS2.3.2b: Diction within paragraph is precise & effective.

Level 3

JS4.3.1: Write concisely. (without run ons or redundancies)

JS4.3.2: Use appropriate word choice (denotation and connotation).

Level 4

JS4.4.1: Use clear discernment of distinctive audience using appropriate tone and point of view.

Unit 4: Shakespeare

Unit 4 Priority Standards and Learner Objectives:

- Same as *Unit 3*.

AP LANGUAGE & COMPOSITION

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 11

Prerequisites: Successful completion of English 10

Course Description: In alignment with AP CollegeBoard expectations, AP Language and Composition is designed to enhance students' academic writing and critical reading abilities. Students study the writing of published authors, focusing mostly on non-fiction and visual texts. In studying the form and rhetorical strategies of published writing, students gain analytical skills and better understand the writing task. Writing instruction focuses on formal and informal analytical, expository, argumentative, and reflective writing. In addition, the course seeks to enhance students' ability to synthesize information from multiple sources into well-supported, well-organized research-based essays. Through writing and reading, students further develop their knowledge of writing conventions, stylistic techniques, organizational modes, and sentence structure. The course also requires students to obtain a college-ready vocabulary and deeper understanding of grammar. Students demonstrate their mastery of academic writing and analytical reading on the AP Language and Composition Exam, given in May. A passing score on the exam may earn students college English credit. Placement and credit are granted by institutions in accordance with their own policies, not by those of the College Board or the AP Program.

AP LANGUAGE & COMPOSITION UNIT PROGRESSION

Unit 1: Rhetorical Analysis & Satire

Unit 1 Common Core Standards:

- RL.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
- RL.11-12.5 Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
- RL.11-12.6 Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
- RL.11-12.10 By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11-CCR text complexity band independently and proficiently.
- RI.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the

text leaves matters uncertain.

- RI.11-12.2 Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
- RI.11-12.3 Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
- RI.11-12.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines faction in Federalist No. 10).
- RI.11-12.5 Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
- RI.11-12.6 Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness or beauty of the text.
- RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- RI.11-12.8 Delineate and evaluate the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist*, presidential addresses).
- RI.11-12.9 Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln's Second Inaugural Address) for their themes, purposes, and rhetorical features.
- RI.11-12.10 By the end of grade 11, read and comprehend literary nonfiction in the grades 11-CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11-CCR text complexity band independently and proficiently
- W.11-12.1a Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
- W.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
- W.11-12.1c Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
- W.11-12.1d Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- W.11-12.2a Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- W.11-12.2b Develop the topic thoroughly by selecting the most significant and relevant

facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

- W.11-12.2c Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- W.11-12.2d Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
- W.11-12.2e Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- W.11-12.3a Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
- W.11-12.3b Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
- W.11-12.3c Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).
- W.11-12.3d Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
- W.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- W.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- W.11-12.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.
- W.11-12.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- L.11-12.2 Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
- L.11-12.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- L.11-12.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
- L.11-12.5 Demonstrate understanding of figurative language, word relationships, and

- nuances in word meanings.
- L.11-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Unit 1 CollegeBoard Objectives:

- Analyze and interpret samples of good writing, identifying and explaining an author's use of rhetorical strategies and techniques
- Apply effective strategies and techniques in their own writing
- Create and sustain arguments based on readings, research and/or personal experience
- Write for a variety of purposes
- Produce expository, analytical and argumentative compositions that introduce a complex central idea and develop it with appropriate evidence drawn from primary and/or secondary sources, cogent explanations and clear transitions
- Demonstrate understanding and mastery of standard written English as well as stylistic maturity in their own writings
- Demonstrate understanding of the conventions of citing primary and secondary sources
- Move effectively through the stages of the writing process, with careful attention to inquiry and research, drafting, revising, editing and review;
- Write thoughtfully about their own process of composition
- Revise a work to make it suitable for a different audience
- Analyze image as text
- Evaluate and incorporate reference documents into researched papers

Unit 2: Free Response Argumentative

Unit 2 Common Core Standards:

- Same as Unit 1.

Unit 2 CollegeBoard Objectives:

- Same as Unit 1.

Unit 3: Synthesis

Unit 3 Common Core Standards:

- Same as Unit 1.

Unit 3 CollegeBoard Objectives:

- Same as Unit 1.

ENGLISH 12

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 12

Prerequisites: Successful completion of English 11

Course Description: In preparation for college courses and in alignment with the Common Core English Language Arts Standards, English 12 is designed to strengthen student reading, writing, speaking, and listening skills as they study British literature and undertake an independent research project. Students spend approximately the first two-thirds of the school year undertaking a survey of major movements in British and European literature. Movements covered include the Middle Ages, Shakespeare, Romanticism and Victorianism, and Modernism and Postmodernism. The year concludes with a major research project regarding a historical event and an independent research project analyzing the work and writing style of a significant European author. Additionally, each unit has a specific critical, thematic, and writing focus.

ENGLISH 12 UNIT PROGRESSION

Unit 1: The Middle Ages

Unit 1 Learner Objectives:

- Analyze the evolution of the English language from Old English to Late Modern English.
- Critically analyze various texts using feminist literary theory.
- Evaluate a Middle English text through the lens of feminist literary theory.

Unit 1 Common Core Standards:

- RL.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.2: Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RL.11-12.3: Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).
- RL.11-12.6: Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
- WL.11-12.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- WL.11-12.2: Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

Unit 2: Shakespeare

Unit 2 Learner Objectives:

- Critically analyze various texts using archetypal (or mythological) literary theory.
- Develop a claim and support it through textual evidence and valid reasoning.
- Synthesize knowledge of feminist and archetypal literary criticism in written and verbal analyses of a Shakespearean text.

Unit 2 Common Core Standards:

- RL.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.3: Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).
- RL.11-12.4: Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
- RL.11-12.7: Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)
- W.11-12.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- W.11-12.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Unit 3: Romanticism and Victorianism

Unit 3 Learner Objectives:

- Critically analyze various texts using cultural literary theory.
- Analyze the progression from the Elizabethan era to Romanticism.
- Identify and analyze the defining features of Romanticism and Victorianism.
- Synthesize their knowledge of feminist, archetypal, and cultural criticism in written and verbal analyses of Romantic and Victorian texts.

Unit 3 Common Core Standards:

- RL.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.2: Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RL.11-12.6: Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).
- W.11-12.2: Write informative/explanatory texts to examine and convey complex ideas,

concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- W.11-12.6: Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Unit 4: Modernism and Postmodernism

Unit 4 Learner Objectives:

- Critically analyze various texts using psychoanalytic literary theory.
- Identify and analyze the defining features and core tenets of modernist and postmodernist movements.
- Apply psychoanalytic literary theory to a postmodernist novel.
- Construct an effective written analysis of a modernist or postmodernist text.

Unit 4 Common Core Standards:

- RL.11-12.2: Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RL.11-12.5: Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
- RL.11-12.10: By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11-CCR text complexity band independently and proficiently.
- W.11-12.1: Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- W.11-12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- W.11-12.5: Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

Unit 5: Research Project

Unit 5 Learner Objectives:

- Synthesize a variety of informational and literary texts in order to critically analyze a major historical event.
- Evaluate a variety of historical texts in light of several thematic focuses.
- Utilize research and critical analysis to evaluate the personal, social, and psychological effects of a major historical event.

Unit 5 Common Core Standards:

- RI.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RI.11-12.3: Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.

- RI.11-12.7: Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.
- RI.11-12.10: By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11-CCR text complexity band independently and proficiently.
- W.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- W.11-12.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

Unit 6: Independent Research Project: Author Study

Unit 6 Learner Objectives:

- Be prepared for college reading expectations.
- Synthesize various critical analysis skills into a cumulative academic writing experience.
- Utilize a variety of critical focuses to evaluate texts through a variety of critical lenses.

Unit 6 Common Core Standards:

- W.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.8: Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
- W.11-12.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.
- W.11-12.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- RL.11-12.1: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.10: By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11-CCR text complexity band independently and proficiently.

AP ENGLISH LITERATURE & COMPOSITION

Course Length: 2 Semesters

Credits: 1

Recommended Grade Levels: 12

Prerequisites: Successful completion of English 11 or AP English Language and Composition

Course Description: In alignment with AP CollegeBoard expectations, AP Literature and Composition is designed to engage students in careful reading and analysis of a challenging set of literary works from a range of genres including the novel, short story, poetry, and drama. The focus of the course will be on intensive reading and discussion of the literature, as well as introducing secondary critical essays for discussion and evaluation. Emphasis will be placed on thoughtful and cogent analysis of the readings using a variety of theoretical frameworks and devices. The course is intended to provide students with an academic experience parallel to that of a college level literature course. This course will also include a writing component that focuses on expository, analytical and argumentative writing about the literature through both discussion and essay format. Students demonstrate their mastery of academic writing and analytical reading on the AP Literature and Composition Exam, given in May. A passing score on the exam may earn students college English credit. Placement and credit are granted by institutions in accordance with their own policies, not by those of the College Board or the AP Program.

AP ENGLISH LITERATURE AND COMPOSITION UNIT PROGRESSION

Unit 1: Literary Elements 101

Unit 1 Common Core Standards:

- RL.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
- RL.11-12.2 Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
- RL.11-12.3 Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama (e.g., where a story is set, how the action is ordered, how the characters are introduced and developed).
- RL.11-12.4 Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful. (Include Shakespeare as well as other authors.)
- RL.11-12.5 Analyze how an author's choices concerning how to structure specific parts of a text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.
- RL.11-12.6 Analyze a case in which grasping a point of view requires distinguishing what is directly stated in a text from what is really meant (e.g., satire, sarcasm, irony, or understatement).

- RL.11-12.9 Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics.
- RL.11-12.10 By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11-CCR text complexity band independently and proficiently.
- W.11-12.1a Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.
- W.11-12.1b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
- W.11-12.1c Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.
- W.11-12.1d Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- W.11-12.2a Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- W.11-12.2b Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- W.11-12.2c Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- W.11-12.2d Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
- W.11-12.2e Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- W.11-12.3a Engage and orient the reader by setting out a problem, situation, or observation and its significance, establishing one or multiple point(s) of view, and introducing a narrator and/or characters; create a smooth progression of experiences or events.
- W.11-12.3b Use narrative techniques, such as dialogue, pacing, description, reflection, and multiple plot lines, to develop experiences, events, and/or characters.
- W.11-12.3c Use a variety of techniques to sequence events so that they build on one another to create a coherent whole and build toward a particular tone and outcome (e.g., a sense of mystery, suspense, growth, or resolution).
- W.11-12.3d Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.
- W.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- W.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

- W.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- W.11-12.9a Apply grades 11–12 Reading standards to literature (e.g., “Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics”).
- W.11-12.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
- SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- L.11-12.1a Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.
- L.11-12.2 Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
- L.11-12.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- L.11-12.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 11–12 reading and content, choosing flexibly from a range of strategies.
- L.11-12.5 Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- L.11-12.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Unit 1 CollegeBoard Objectives:

- Analyze and interpret samples of good writing, identifying and explaining an author’s use of rhetorical strategies and techniques
- Apply effective strategies and techniques in their own writing
- Create and sustain arguments based on readings, research and/or personal experience
- Write for a variety of purposes
- Produce expository, analytical and argumentative compositions that introduce a complex central idea and develop it with appropriate evidence drawn from primary and/or secondary sources, cogent explanations and clear transitions
- Demonstrate understanding and mastery of standard written English as well as stylistic maturity in their own writings
- Demonstrate understanding of the conventions of citing primary and secondary sources
- Move effectively through the stages of the writing process, with careful attention to inquiry and research, drafting, revising, editing and review;
- Write thoughtfully about their own process of composition
- Revise a work to make it suitable for a different audience

- Analyze image as text
- Evaluate and incorporate reference documents into researched papers

Unit 2: Literary Elements 201

Unit 2 Common Core Standards:

- Same as Unit 1

Unit 2 CollegeBoard Objectives:

- Same as Unit 1

Unit 3: Literary Elements 301

Unit 3 Common Core Standards:

- Same as Unit 1

Unit 3 CollegeBoard Objectives:

- Same as Unit 1

Unit 4: Mythology 101

Unit 4 Common Core Standards:

- Same as Unit 1
- SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
- SL.11-12.3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
- SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
- SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- SL.11-12.6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Unit 4 CollegeBoard Objectives:

- Same as Unit 1

Unit 5: Tragedy 101

Unit 5 Common Core Standards:

- Same as Unit 1
- RI.11-12.8 Delineate and evaluate the reasoning in seminal U.S. texts, including the

application of constitutional principles and use of legal reasoning (e.g., in U.S. Supreme Court majority opinions and dissents) and the premises, purposes, and arguments in works of public advocacy (e.g., *The Federalist*, presidential addresses).

- RI.11-12.9 Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (including The Declaration of Independence, the Preamble to the Constitution, the Bill of Rights, and Lincoln’s Second Inaugural Address) for their themes, purposes, and rhetorical features.

Unit 5 CollegeBoard Standards:

- Same as Unit 1

Unit 6: Tragedy 201

During Unit 6, students extend the discovery of the tragedy by exploring Shakespeare’s *Macbeth* along with selected songs and short stories, such as “Everything that Rises Must Converge” by Flannery O’Connor and “Folsom Prison Blues” by Johnny Cash. These works are examined primarily for the elements of drama, focusing on the idea of guilt. Students practice writing by creating dialectical journals.

Unit 6 Common Core Standards:

- Same as Unit 1
- RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Unit 6 CollegeBoard Objectives:

- Same as Unit 1

Unit 7: Comedy 101

Unit 7 Common Core Standards:

- Same as Unit 1
- RL.11-12.7 Analyze multiple interpretations of a story, drama, or poem (e.g., recorded or live production of a play or recorded novel or poetry), evaluating how each version interprets the source text. (Include at least one play by Shakespeare and one play by an American dramatist.)

Unit 7 CollegeBoard Objectives:

- Same as Unit 1

Unit 8: Bible 101

Unit 8 Common Core Standards:

- Same as Unit 1
- SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any

discrepancies among the data.

Unit 8 CollegeBoard Objectives:

- Same as Unit 1

Unit 9: Poetry 101, 201, 301

Unit 9 Common Core Standards:

- Same as Unit 1

Unit 9 CollegeBoard Objectives:

- Same as Unit 1

Unit 10: The Victorian Novel 101

Unit 10 Common Core Standards:

- Same as Unit 1

Unit 10 CollegeBoard Objectives:

- Same as Unit 1

Unit 11: The Victorian Novel 201

Unit 11 Common Core Standards:

- Same as Unit 1

Unit 11 CollegeBoard Objectives:

- Same as Unit 1

Unit 12: Post Modernism 101

Unit 12 Common Core Standards:

- Same as Unit 1

Unit 12 CollegeBoard Objectives:

- Same as Unit 1

Unit 13: Bringing It All Together

Unit 13 Common Core Standards:

- Same as Unit 1

Unit 13 CollegeBoard Objectives:

- Same as Unit 1

MATHEMATICS

Math instruction at PrepNet schools is designed to provide a curriculum, teaching, and learning environment consistent with the Common Core Standards for Mathematical Practice, Common Core Standards for Mathematical Content, and the CollegeBoard Standards for College Success.

The Common Core Standards describe a developmental progression of quantitative skills and mathematics concepts that students should master to be ready for success in college level work, either during high school in Advanced Placement courses or during their freshman year in college. Within each standard are thematic strands, which develop a set of related process or content skills. The strands have been conceived at a level of granularity that will support meaningful diagnostic assessments and effective instruction. Within each strand are performance expectations, which teachers can use to evaluate specific student strengths and weaknesses within a strand.

Michigan Merit Curriculum HS Graduation Requirements – 4 credits Mathematics

PrepNet Mathematics Courses Available:

- Grade 7
- Grade 8
- Concentrated Math
- Algebra I
- Geometry
- Algebra II
- Foundations of Algebra II and Extended Algebra II
- Precalculus
- Personal Finance
- AP Calculus AB
- AP Calculus BC
- AP Statistics
- Survey of College Math

Grade 7 - Math

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 7

Prerequisites: Successful completion of K-6 grade mathematics. Basic knowledge of and experience with calculators.

Course Description: In preparing students for the rigors of middle school mathematics, Grade 7-Math is in alignment with the Common Core Mathematical Standards, Michigan HSCE's and SAT College Readiness Guidelines. This course is an entry-level mathematics course for middle school and is typically taken in the 7th grade. Aligned to Common Core Mathematical Content Standards, this course provides a comprehensive mathematical preview of topics required to be successful in high school mathematics courses. The Grade 7 - Math curriculum is focused on five standards: ratios and proportions, the number system, expressions and equations, geometry, and statistics and probability. Along with these standards is a focus throughout the year of increasing a student's ability to have a better sense of numbers by identifying and explaining errors, along with other skills. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. Even though this is an entry-level middle school mathematics course, content is taught with a focus on real-world application and problem solving with and without the aid of technology.

GRADE 7- MATH UNIT PROGRESSION

Unit 1: Mathematical Connections

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1: Apply and extend previous foundational understandings of mathematical concepts.

Level 2

- 1.2.1: Perform single step conversions of units.
- 1.2.2: Graph points on a coordinate plane.
- 1.2.3: Solve one step equations and inequalities.
- 1.2.4: Draw polygons with proper labeling.
- 1.2.5: Create a dot plot when given data or a box plot with the 5-number summary.

Level 3

- 1.3.1: Perform two or three step conversions of units.
- 1.3.2: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. (points must share an x-coordinate or a y-coordinate).
- 1.3.3: Solve real-world and mathematical problems by writing and solving one-step equations or

inequalities.

1.3.4: Represent three-dimensional figures using nets made up of rectangles and triangles

1.3.5: Summarize dot plots or box plots in relation to their context.

Level 4

1.4.1: Find the distance between two points on a coordinate graph. (non-straight line; use distance formula)

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 2: Ratios and Proportions

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Analyze proportional relationships and use them to solve real-world and mathematical problems.

Level 2

2.2.1: Divide and simplify proper fractions.

2.2.2: Identify a unit rate given a representation (table, graph, or scenario) in order to generate an equivalent rate.

2.2.3: Write and solve a direct variation equation.

2.2.4: Graph a direct variation equation.

2.2.5: Use proportional relationships to solve single ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Level 3

2.3.1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas

and other quantities measured in like or different units.

2.3.2: Decide whether two quantities are in a proportional relationship (tables, graphs, equations, and scenarios).

2.3.3: Represent proportional relationships by equations given a scenario in order to predict future values.

2.3.4: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.

2.3.5: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Level 4

2.4.1: Apply proportional reasoning and understanding to inform real world decisions.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 3: The Number System

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 3: Apply and extend previous understandings of operations with all types of numbers.

Level 2

3.2.1: Add and subtract fractions (proper, improper, and mixed).

3.2.2: Multiply and divide whole numbers 1 - 12.

3.2.3: Identify mathematical properties (additive inverse, multiplicative inverse, additive identity, etc.)

3.2.4: Add and subtract decimals and whole numbers.

Level 3

3.3.1: Solve story problems based on addition and subtraction of fractions.

3.3.2: Perform long division (100-1000 divided by 1 - 20) and 2 by 2 or 2 2 by 3 digit multiplication.

3.3.3: Simplify 4-5 step PEMDAS problems.

3.3.4: Solve story problems based on addition and subtraction of decimals and whole numbers.

Level 4

3.4.1: Solve real-world and mathematical problems involving the four operations with rational numbers

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 4: Expressions and Equations

Unit 4 Priority Standards and Learner Objectives:

Priority Standard 4: Use properties to simplify expressions and solve equations.

Level 2

4.2.1: Simplify given algebraic expressions to evaluate.

4.2.2: Translate between mathematical algebraic and verbal expressions.

4.2.3: Solve two step-equations.

4.2.4: Solve and graph two-step inequalities.

Level 3

- 4.3.1: Given two expressions, find a value of k that would make the expressions equal.
- 4.3.2: Translate between real-life algebraic and verbal expressions.
- 4.3.3: Write and solve two-step equations based on real life situations
- 4.3.4: Write and solve two-step inequalities based on real life situations.

Level 4

- 4.4.1: Write, solve and interpret a real life system of equations given in slope-intercept form.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 7.2.1: Check solutions to a problem to confirm it is correct.
- 7.2.2: Determine if a solution makes “sense” in the given context

Level 3

- 7.3.1: Identify and explain how to fix the error in another student’s process.
- 7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

- 7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 5: Geometry

Unit 5 Priority Standards and Learner Objectives:

Priority Standard 5: Apply geometric reasoning to figures and real life problem solving.

Level 2

- 5.2.1: Find the area and circumference of a given circle.
- 5.2.2: Find the angle measure in given complementary, supplementary, adjacent, and vertical angles.
- 5.2.3: Find the area and perimeter of triangles, squares, and rectangles.
- 5.2.4: Find the volume of a cube and right prism.
- 5.2.5: Use scale factor to determine characteristics of a new shape.

Level 3

- 5.3.1: Solve for the missing value of a circle when given area or circumference.
- 5.3.2: Setup and solve equations to find the angle measure in given complementary, supplementary, adjacent, and vertical angles.

- 5.3.3: Find composite area and perimeter of a given polygon shape.
- 5.3.4: Find the surface area of a cube and right prism.
- 5.3.5: Draw given real world situations based on a scale factor.

Level 4

- 5.4.1: Find volume and surface area of simple composite 3D shapes.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 7.2.1: Check solutions to a problem to confirm it is correct.
- 7.2.2: Determine if a solution makes “sense” in the given context

Level 3

- 7.3.1: Identify and explain how to fix the error in another student’s process.
- 7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

- 7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 6: Statistics and Probability

Unit 6 Priority Standards and Learner Objectives:

Priority Standard 6: Utilize understanding of statistics and probability to solve real world problems.

Level 2

- 6.2.1: Determine if a sample is random or not.
- 6.2.2: Identify trends in random samples.
- 6.2.3: Calculate and understand the range, IQR, and MAD of a data set (as well as traditional measures of center).
- 6.2.4: Express probabilities as a fraction, decimal or percent as a number from 0 - 1.
- 6.2.5: Calculate the experimental probability of a chance event.

Level 3

- 6.3.1: Use results of a random sample to validate inferences.
- 6.3.2: Generate inferences about an unknown characteristic of interest using data.
- 6.3.3: Compare data sets using measures of center and measures of variability.

6.3.4: Find the probability of simple and compound events..

6.3.5: Predict the approximate relative frequency using experimental results.

Level 4

6.4.1: Find the probability of independent and dependent events (with and without replacement.)

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Grade 8 - Math

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 8

Prerequisites: Successful completion of K-6 grade mathematics and Grade 7 - Math. Basic knowledge of and experience with calculators.

Course Description: In preparing students for the rigors of high school mathematics, Grade 8-Math is in alignment with the Common Core Mathematical Standards, Michigan HSCE's and SAT College Readiness Guidelines. This course is an exit-level mathematics course for middle school and is typically taken in the 8th grade. Aligned to Common Core Mathematical Content Standards, this course provides a comprehensive mathematical preview of topics required to be successful in high school mathematics courses. The Grade 8 - Math curriculum is focused on five standards: the number system, functions, expressions and equations, geometry, and statistics and probability. Along with these standards is a focus throughout the year of increasing a student's ability to have a better sense of numbers by identifying and explaining errors, along with other skills. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. Since this course is designed to prepare students for the rigors of high school mathematics, content is taught with a focus on real-world application and problem solving with and without the aid of technology.

GRADE 8- MATH UNIT PROGRESSION

Unit 2: The Number System

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2 - Apply and extend previous understandings of operations with all types of numbers.

Level 2

- 2.2.1: Identify rational and irrational numbers.
- 2.2.2: Graph rational and irrational numbers on a number line.
- 2.2.3: Convert between fractions, decimals, and percents.
- 2.2.4: Identify positive factors that meet a certain criteria.
- 2.2.5: Simplify expressions with all four operations. ($2x + 4x$)

Level 3

- 2.3.1: Classify real numbers.
- 2.3.2: Estimate expressions of rational and irrational numbers to the tenths or hundredths.
- 2.3.3: Use fractions, decimals, and percents to solve multi-step real world problems.
- 2.3.4: Identify positive and negative factors that meet a certain criteria.

2.3.5: FOIL 2 by 2 expressions.

Level 4

2.4.1: Find the GCF to factor a quadratic trinomial.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 3: Expressions and Equations

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 3 - Use properties to simplify expressions and solve equations.

Level 2

3.2.1: Simplify one-step numerical expressions with exponents.

3.2.2: Solve square roots of perfect squares and cube roots of perfect cubes for positive numbers less than or equal to 400.

3.2.3: Convert between scientific notation and standard form.

3.2.4: Solve equations with distribution and variables on both sides.

3.2.5: Solve inequalities with distribution and variables on both sides.

3.2.6: Solve a system of two linear equations in two variables in slope-intercept form.

Level 3

3.3.1: Simplify multi-step numerical expressions with exponents.

3.3.2: Simplify radicals less than or equal to 400 to their lowest terms.

3.3.3: Multiply or divide two terms in scientific notation based on a real-world context.

3.3.4: Find terms which would make an equation have one, none, and infinitely many solutions.

3.3.5: Solve and interpret solutions to real life inequality scenarios.

3.3.6: Solve and interpret a real-life solution to a system of two linear equations in two variables in slope-intercept form

Level 4

3.4.1: Solve and interpret a solution to an elimination style real life system of equations.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 4: Functions

Unit 4 Priority Standards and Learner Objectives:

Priority Standard 4 - Analyze and model functions.

Level 2

4.2.1: Identify linear functions from graphs, equations, and tables.

4.2.2: Identify the correct linear function given a scenario (include unnecessary information in problem).

4.2.3: Analyze a graph determining where the function is increasing or decreasing; linear or non-linear.

4.2.4: Graph a linear function in $y = mx + b$ form.

Level 3

4.3.1: Write the linear equation from graphs, tables, and a given point and slope.

4.3.2: Interpret the rate of change and initial value of a linear function in terms of the situation it models based on a graph or table.

4.3.3: Sketch a graph that exhibits the qualitative features of a real-world function.

4.3.4: Write and graph a real life linear function. (continuous)

Level 4

4.4.1: Graph piecewise linear functions.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 5: Geometry

Unit 5 Priority Standards and Learner Objectives:

Priority Standard 5: Apply geometric reasoning to figures and real life problem solving.

Level 2

5.2.1: Identify and explain characteristics of a given rotation, reflection, translation, or dilation.

5.2.2: Identify new coordinates of a point based on one given transformation.

5.2.3: Write and solve equations for the interior angles of a triangle.

5.2.4: Apply the pythagorean theorem to find the missing side length of a triangle.

5.2.5: Given formulas, find the volume of cones, cylinders, and spheres.

Level 3

5.3.1: Draw a rotation, reflection, dilation, or translation in a coordinate plane.

5.3.2: Identify new coordinates of a point based on two or more given transformations.

5.3.3: Write and solve equations for interior and exterior angles between a triangle and a transversal.

5.3.4: Apply the pythagorean theorem to find the missing side length of a triangle in a real life scenario.

5.3.5: Solve real world scenarios involving cones, cylinders, and spheres by finding a missing value

Level 4

5.4.1: Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 7.2.1: Check solutions to a problem to confirm it is correct.
- 7.2.2: Determine if a solution makes “sense” in the given context

Level 3

- 7.3.1: Identify and explain how to fix the error in another student’s process.
- 7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

- 7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

Unit 6: Probability and Statistics

Unit 6 Priority Standards and Learner Objectives:

Priority Standard 6: Utilize understanding of statistics and probability to solve real world problems.

Level 2

- 6.2.1: Draw a scatterplot based on a given data set.
- 6.2.2: Interpret and find predictions of a scatterplot with a given line of best fit.
- 6.2.3: Interpret the correlation coefficient and describe the relationship between data.
- 6.2.4: Statistically calculate if there is an outlier given a partially filled out table of steps.
- 6.2.5: Answer probability questions based on a given filled-out two-way table.

Level 3

- 6.3.1: Interpret scatter plots to investigate patterns of association between two quantities and patterns such as clustering, outliers, positive or negative association, linear or non-linear association.
- 6.3.2: Draw a line of best fit on a given scatterplot and calculate the linear function to interpret the slope and y-intercept.
- 6.3.3: Distinguish between correlation and causation in real-world situations.
- 6.3.4: Explain the effects on the measures of central tendency when an outlier is added or removed to data.
- 6.3.5: Fill out a two way table to examine patterns and associations.

Level 4

- 6.4.1: Use real data to create a misleading data display to persuade a viewer to a specific point of view

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

7.2.1: Check solutions to a problem to confirm it is correct.

7.2.2: Determine if a solution makes “sense” in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student’s process.

7.3.2: Justify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

Level 4

7.4.1: Apply and adapt a VARIETY of appropriate strategies to solve problems.

CONCENTRATED MATH

Course Length: 2 semesters

Credits: 1.0

Recommended Grade Levels: 9

Prerequisites: NWEA performance and recommendation of math department

Course Description: Aligned to Common Core Mathematical Content Standards, this course provides a comprehensive mathematical overview of topics required to be successful in high school and college mathematics courses. Either taken in conjunction with Algebra I or as a stand-alone course, Concentrated Math is intended to boost academic skills and background knowledge in basic topics such as, but not limited to, Whole Numbers, Fractions and Mixed Numbers, Decimals, and Measurement. Later units survey Algebra I, Geometry, Algebra II, Trigonometry and Precalculus. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. With the aid and facilitation of a certified math instructor course content is delivered primarily online through the National Repository of Online Courses (NROC).

CONCENTRATED MATH UNIT PROGRESSION

Unit 1: Whole Numbers

Unit 1 Topics Covered:

- Introduction to Whole Numbers
- Adding and Subtracting Whole Numbers
- Multiplying and Dividing Whole Numbers
- Properties of Whole Numbers
- Exponents, Square Roots, and the Order of Operations

Unit 1 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.
- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.
- CCSS.Math.Content.HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
- CCSS.Math.Content.HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
- CCSS.Math.Content.8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect

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Unit 2: Fractions and Mixed Numbers

Unit 2 Topics Covered:

- Introduction to Fractions and Mixed Numbers
- Multiplying and Dividing Fractions and Mixed Numbers
- Adding and Subtracting Fractions and Mixed Numbers

Unit 2 Common Core Standards:

- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

Unit 3: Decimals

Unit 3 Topics Covered:

- Introduction to Decimals
- Decimal Operations

Unit 3 Common Core Standards:

- CCSS.Math.Practice.MP2 Reason abstractly and quantitatively.
- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.
- CCSS.Math.Content.HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Unit 4: Ratios, Rates, and Proportions

Unit 4 Topics Covered:

- Ratio and Rates
- Proportions

Unit 4 Common Core Standards:

- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

Unit 5: Percents

Unit 5 Topics Covered:

- Introduction to Percents
- Solving Percent Problems

Unit 5 Common Core Standards:

- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.

Unit 6: Measurement

Unit 6 Topics Covered:

- U.S. Customary Units of Measurement
- Metric Units of Measurement

- Temperature

Unit 6 Common Core Standards:

- CCSS.Math.Practice.MP3 Construct viable arguments and critique the reasoning of others.
- CCSS.Math.Content.HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Unit 7: Geometry

Unit 7 Topics Covered:

- Basic Geometric Concepts and Figures
- Perimeter, Circumference, and Area
- Volume of Geometric Solids

Unit 7 Common Core Standards:

- CCSS.Math.Content.8.G.A.1a Lines are taken to lines, and line segments to line segments of the same length.
- CCSS.Math.Content.8.G.A.1b Angles are taken to angles of the same measure.
- CCSS.Math.Content.8.G.A.1c Parallel lines are taken to parallel lines.
- CCSS.Math.Content.8.G.A.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
- CCSS.Math.Content.8.G.A.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
- CCSS.Math.Content.8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.
- CCSS.Math.Content.8.G.B.6 Explain a proof of the Pythagorean Theorem and its converse.
- CCSS.Math.Content.8.G.B.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
- CCSS.Math.Content.8.G.C.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.
- CCSS.Math.Content.HSG-CO.A.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
- CCSS.Math.Content.HSG-CO.C.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
- CCSS.Math.Content.HSG-SRT.A.2 Given two figures, use the definition of similarity in

terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

- CCSS.Math.Content.HSG-SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
- CCSS.Math.Content.HSG-SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
- CCSS.Math.Content.HSG-GMD.A.3 Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.

Unit 8: Concepts in Statistics

Unit 8 Topics Covered:

- Statistical Graphs and Tables
- Measures of Center
- Probability

Unit 8 Common Core Standards:

- CCSS.Math.Content.8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
- CCSS.Math.Content.HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
- CCSS.Math.Content.HSS-ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal and conditional relative frequencies). Recognize possible associations and trends in the data.
- CCSS.Math.Content.HSS-IC.A.2 Decide if a specified model is consistent with results from a given data-generating process, e.g. using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?
- CCSS.Math.Content.HSS-CP.B.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems.
- CCSS.Math.Content.HSS-MD.B.5a Find the expected payoff for a game of chance. (For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.)

Unit 9: Real Numbers

Unit 9 Topics Covered:

- Introduction to Real Numbers
- Operations with Real Numbers
- Properties of Real Numbers
- Simplifying Expressions

Unit 9 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.

- CCSS.Math.Content.8.NS.A.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
- CCSS.Math.Content.HSN-RN.B. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

Unit 10: Solving Equations and Inequalities

Unit 10 Topics Covered:

- Solving Equations
- Solving Inequalities
- Compound Inequalities and Absolute Value

Unit 10 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Content.8.EE.C.a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
- CCSS.Math.Content.8.EE.C.b Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
- CCSS.Math.Content.HSA-CED.A. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .
- CCSS.Math.Content.HSA-REI.A.1 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
- CCSS.Math.Content.HSA-REI.B. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Unit 11: Exponents and Polynomials

Unit 11 Topics Covered:

- Integer Exponents
- Polynomials with Single Variables
- Polynomials with Several Variables

Unit 11 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Content.8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $2^3 \times 2^{-5} = 2^{-2} = \frac{1}{2^2} = \frac{1}{4}$.
- CCSS.Math.Content.8.EE.A. Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the

population of the United States as 3×10^8 and the population of the world as 6×10^9 , and determine that the world population is more than 20 times larger.

- CCSS.Math.Content.8.EE.A.1 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.
- CCSS.Math.Content.HSN-RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
- CCSS.Math.Content.HSA-SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.
- CCSS.Math.Content.HSA-APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
- CCSS.Math.Content.HSA-APR.C.5 (+) Know and apply the Binomial Theorem for the expansion of $(x + y)^n$ in powers of x and y for a positive integer n , where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.

Unit 12: Factoring

Unit 12 Topics Covered:

- Introduction to Factoring
- Factoring Polynomials
- Solving Quadratic Equations

Unit 12 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Content.HSA-SSE.A.1a Interpret parts of an expression, such as terms, factors, and coefficients.
- CCSS.Math.Content.HSA-SSE.B.1a Factor a quadratic expression to reveal the zeroes of the function it defines.
- CCSS.Math.Content.HSA-REI.B.1b Solve quadratic equations by inspection (e.g., for $x^2 = 9$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a plus-minus bi for real numbers a and b .
- CCSS.Math.Content.HSF-IF.C.8a Use the process of factoring and completing the square in a quadratic function to show zeroes, extreme values, and symmetry of the graph, and interpret these in terms of a context.

Unit 13: Graphing

Unit 13 Topics Covered:

- Graphs and Applications
- Slope and Writing the Equation of a Line

Unit 13 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Content.8.EE.B.5 Graph proportional relationships, interpreting the unit rate

as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.

- CCSS.Math.Content.8.EE.B.4 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .
- CCSS.Math.Content.8.F.A.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.
- CCSS.Math.Content.8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points $(1,1)$, $(2,4)$ and $(9,81)$, which are not on a straight line.
- CCSS.Math.Content.8.F.B.3 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
- CCSS.Math.Content.HSA-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- CCSS.Math.Content.HSA-REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
- CCSS.Math.Content.HSA-REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
- CCSS.Math.Content.HSA-REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.
- CCSS.Math.Content.HSF-IF.B.3 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
- CCSS.Math.Content.HSF-IF.B.4 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
- CCSS.Math.Content.HSF-IF.C.7a Graph linear and quadratic functions and show intercepts, maxima, and minima.
- CCSS.Math.Content.HSF-IE.A.1a Prove that linear functions grow by equal differences

over equal intervals, and that exponential functions grow by equal factors over equal intervals.

- CCSS.Math.Content.HSA-CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
- CCSS.Math.Content.HSA-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- CCSS.Math.Content.HSA-CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
- CCSS.Math.Content.HSF-BF.A.1a Determine an explicit expression, a recursive process, or steps for calculation from a context.
- CCSS.Math.Content.HSF-BF.B.1 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.
- CCSS.Math.Content.HSF-E.A.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
- CCSS.Math.Content.HSG-GPE.B.5 Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

Unit 14: Systems of Equations and Inequalities

Unit 14 Topics Covered:

- Graphing Systems of Equations and Inequalities
- Algebraic Methods to Solve Systems of Equations
- Systems of Equations in Three or More Variables

Unit 14 Common Core Standards:

- CCSS.Math.Practice.MP1 Make sense of problems and persevere in solving them.
- CCSS.Math.Content.8.EE.C.8a Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.
- CCSS.Math.Content.8.EE.C.8b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $x + 2y = 5$ and $x + 2y = 6$ have no solution because $x + 2y$ cannot simultaneously be 5 and 6.
- CCSS.Math.Content.8.EE.C.8c Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.
- CCSS.Math.Content.HSA-CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing

- nutritional and cost constraints on combinations of different foods.
- CCSS.Math.Content.HSA-REI.C.5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
- CCSS.Math.Content.HSA-REI.C.8 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
- CCSS.Math.Content.HSA-REI.D.11 Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.
- CCSS.Math.Content.HSA-REI.D.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

Unit 15: Rational Expressions

Unit 15 Topics Covered:

- Operations with Rational Expressions
- Rational Equations
- Formulas and Variation

Unit 15 Common Core Standards:

- CCSS.Math.Content.HSA-CED.A.8 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .
- CCSS.Math.Content.HSA-APR.D.6 Rewrite simple rational expressions in different forms; write $\frac{a(x)}{b(x)}$ in the form $q(x) + \frac{r(x)}{b(x)}$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
- CCSS.Math.Content.HSA-APR.D.7 Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.
- CCSS.Math.Content.HSF-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.
- CCSS.Math.Content.HSF-E.A.1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
- CCSS.Math.Content.HSA-REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
- CCSS.Math.Content.HSA-REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Unit 16: Radical Expressions and Quadratic Equations

Unit 16 Topics Covered:

- Introduction to Roots and Rational Exponents
- Operations with Radicals
- Complex Numbers
- Solving Quadratic Equations

Unit 16 Common Core Standards:

- CCSS.Math.Content.8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $2^3 \times 2^{-5} = 2^{-2} = \frac{1}{2^2} = \frac{1}{4}$.
- CCSS.Math.Content.8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes.
- CCSS.Math.Content.8.NS.A.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line. For example, locate $\sqrt{2}$ on a number line between 1.4 and 1.5, and explain how to continue on to get better approximations.
- CCSS.Math.Content.HSN-CN.A.1 Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.
- CCSS.Math.Content.HSN-CN.A.2 Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.
- CCSS.Math.Content.HSN-CN.A.3 (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.
- CCSS.Math.Content.HSN-CN.B.5 (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-3 + 2i)(3 + 2i) = 9 + 4i^2 = 5$.
- CCSS.Math.Content.HSN-CN.C.1 Solve quadratic equations with real coefficients that have complex solutions.
- CCSS.Math.Content.HSN-RN.A.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5(1)$ to hold, so $(5^{1/3})^3$ must equal 5.
- CCSS.Math.Content.HSN-RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.
- CCSS.Math.Content.HSA-REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

- CCSS.Math.Content.HSA-REI.B.4a Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
- CCSS.Math.Content.HSA-REI.B.4b Solve quadratic equations by inspection (e.g., for $x^2 = 9$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a plus-minus bi for real numbers a and b .
- CCSS.Math.Content.HSF-IF.C.4b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
- CCSS.Math.Content.HSF-IF.C.8a Use the process of factoring and completing the square in a quadratic function to show zeroes, extreme values, and symmetry of the graph, and interpret these in terms of a context.

Unit 17: Functions

Unit 17 Topics Covered:

- Introduction to Functions
- Using Functions
- Operations with Functions

Unit 17 Common Core Standards:

- CCSS.Math.Content.8.EE.B.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
- CCSS.Math.Content.8.F.A.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
- CCSS.Math.Content.8.F.B.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
- CCSS.Math.Content.HSA-APR.A.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.
- CCSS.Math.Content.HSF-BF.B.3 Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.
- CCSS.Math.Content.HSA-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- CCSS.Math.Content.HSF-IF.A.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.

- CCSS.Math.Content.HSF-IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
- CCSS.Math.Content.HSF-BF.A.1b Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.
- CCSS.Math.Content.HSF-IF.B.□ For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. □ey features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
- CCSS.Math.Content.HSF-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.
- CCSS.Math.Content.HSF-IF.C.□a Graph linear and quadratic functions and show intercepts, maxima, and minima.
- CCSS.Math.Content.HSF-IF.C.□b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
- CCSS.Math.Content.HSF-IF.C.□d (+) Graph rational functions, identifying zeroes and asymptotes when suitable factorizations are available, and showing end behavior.
- CCSS.Math.Content.HSF-□E.A.1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
- CCSS.Math.Content.HSA-REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Unit 18: Exponential and Logarithmic Functions

Unit 18 Topics Covered:

- Exponential Functions
- □ogarithmic Functions
- Natural □ogarithms
- □ogarithmic and Exponential Equations

Unit 18 Common Core Standards:

- CCSS.Math.Content.HSF-BF.B.□ Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.
- CCSS.Math.Content.HSF-BF.B.5 (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.
- CCSS.Math.Content.HSF-IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the

positive integers would be an appropriate domain for the function.

- CCSS.Math.Content.HSF-IF.C.8e Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.
- CCSS.Math.Content.HSF-IF.C.8b Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, and classify them as representing exponential growth or decay.
- CCSS.Math.Content.HSF-E.A.1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
- CCSS.Math.Content.HSF-E.A.2 For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.
- CCSS.Math.Content.HSN-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.
- CCSS.Math.Content.HSA-SSE.B.3c Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be

interest rate if the annual rate is 15%.

Unit 19: Trigonometry

Unit 19 Topics Covered:

- Introduction to Trigonometric Functions
- Graphing Trigonometric Functions

Unit 19 Common Core Standards:

- CCSS.Math.Content.8.G.A.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.
- CCSS.Math.Content.8.G.B.1 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
- CCSS.Math.Content.HSF-TF.A.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
- CCSS.Math.Content.HSF-TF.A.2 Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
- CCSS.Math.Content.HSF-TF.A.3 (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosines, and tangent for $\pi-x$, $\pi+x$, and $2\pi-x$ in terms of their values for x , where x is any real number.

- CCSS.Math.Content.HSF-TF.A.4 (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
- CCSS.Math.Content.HSF-TF.B.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.
- CCSS.Math.Content.HSF-TF.B.6 (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
- CCSS.Math.Content.HSF-TF.B.7 (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.
- CCSS.Math.Content.HSG-SRT.C.4 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.
- CCSS.Math.Content.HSG-SRT.C.5 Explain and use the relationship between the sine and cosine of complementary angles.
- CCSS.Math.Content.HSG-SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
- CCSS.Math.Content.HSG-CO.C.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180° ; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
- CCSS.Math.Content.HSG-C.B.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.
- CCSS.Math.Content.HSF-IF.C.6e Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

ALGEBRA I

Course Length: 2 Semesters

Credits: 1.0

Recommended Grade Levels: 9

Prerequisites: Successful completion of middle school mathematics through pre-algebra. Basic knowledge of and experience with graphing calculators.

Course Description: In preparation for AP courses and in alignment with the Common Core Mathematical Standards, Michigan HSCE's and ACT College Readiness Guidelines, Algebra I is an entry-level mathematics course, typically taken in the 9th grade. This course exposes students to the mathematical themes of numbers and operations, solving equations, patterns and relations, and linear functions. Exponential functions, quadratic functions, reasoning and proof, conversions, measures, and probability simulations are also explored. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. Even though this is an entry-level high school mathematics course, content is taught with a focus on real-world application and problem solving with and without the aid of technology.

ALGEBRA I UNIT PROGRESSION

Unit 1: Equations

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1: Create and solve linear equations, inequalities, and literal equations.

Level 2

1.2.1: Solve a two-or three step equation (two-step, variables both sides, and distribute)

1.2.2: Identify the correct equation given a scenario (include unnecessary information in problem).

1.2.3: Write a literal equation to represent a scenario.

1.2.4: Solve and graph a linear inequality in one variable (two step and both sides)

1.2.5: Identify the correct inequality given a scenario (include unnecessary information in problem).

Level 3

1.3.1: Solve a multi-step (variables on both sides, distribution, combine like terms) linear equation in one variable

1.3.2: Create and solve an equation based upon a real world scenario

1.3.3: Solve a literal equation for specified variable (any random literal equation; can be made up)

1.3.4: Solve and graph a multi-step linear inequality in one variable (variables on both sides, distribution, combine like terms)

1.1.5: Create and solve an inequality based upon a real world scenario

Level 1

1.1.1: Given a real world scenario that incorporates systems of equations, develop a strategy to find the solution to the scenario and solve.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

1.2.1: Check solutions to a problem to confirm it is correct.

1.2.2: Determine if a solution makes “sense” in the given context

Level 3

1.3.1: Identify and explain how to fix the error in another student’s process.

1.3.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level 4

1.4.1 - Apply and adapt a variety of appropriate strategies to solve problems.

Unit 2: Linear Equations

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Graph and interpret linear functions

Level 2

2.2.1: Calculate slope given two points

2.2.2: Given slope and a point, calculate the y-intercept.

2.2.3: Graph a continuous linear equation (slope intercept and standard form).

2.2.4 - Given a linear function, create one linear function that is parallel and one that is perpendicular to the original.

2.2.5a: Identify the slope, intercepts, whether the graph is increasing or decreasing from a graph.

2.2.5b: Identify the slope, intercepts, whether the graph is increasing or decreasing from an equation.

Level 3

2.3.1: Given two linear representations, determine their slopes to make interpretations on their rate of change.

2.3.2: Create a linear equation based on a context given two points

2.3.3: Graph a linear equation based on a real-world context (including discrete and continuous) explain why it is continuous or discrete

2.3.4: Given two equations in different forms, identify if they are parallel, perpendicular, coinciding or none of the above.

2.3.5: Interpret a graph of a linear equation based on a context. (independent and dependent variable units and meaning, rate of change units and meaning, y-intercept units and meaning)

Level 1

2.1.1: Given a piecewise scenario, create a graph or function.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 2.2.1: Check solutions to a problem to confirm it is correct.
- 2.2.2: Determine if a solution makes “sense” in the given context

Level 3

- 7.3.1: Identify and explain how to fix the error in another student’s process.
- 3.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level 4

- 4.1 - Apply and adapt a variety of appropriate strategies to solve problems.

Unit 3: Systems

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 3: Solve and interpret systems of equations and systems of inequalities.

Level 2

- 2.1: Solve a system of linear equations without the use of manipulation.
- 2.2: Determine which system of equations is set up properly, given a real world scenario. (IE: multiple choice of some in slope-intercept form and some in standard form)
- 2.3: Create a graph based on a given inequality.
- 2.4: Solve a system of equations by graphing (include parallel and infinite).

Level 3

- 3.1: Choose and use an appropriate method to solve a system of linear equations.
- 3.2: Write and solve a standard form system of equations within a real-world situation.
- 3.3: Graph a system of inequalities and identify different points to check and explain solutions.
- 3.4: Given a real world system, graph and interpret its solution (include parallel and infinite).

Level 4

- 4.1: Solve a three variable system.
- 4.2: Solve a nonlinear system of equations or inequalities.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 2.1: Check solutions to a problem to confirm it is correct.
- 2.2: Determine if a solution makes “sense” in the given context

level □

- 7.3.1: Identify and explain how to fix the error in another student’s process.
- 2: □ustify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

level □

- 1 - Apply and adapt a □ARIET□ of appropriate strategies to solve problems.

Unit 4: Polynomials

Unit 4 Priority Standards and Learner Objectives:

Priority Standard 4: Apply arithmetic operations to simplify polynomials.

level 2

- 2.1: Identify key characteristics in a polynomial expression. (degree, leading coefficient, number of terms, written in standard form)
- 2.2: Simplify a polynomial expression. (addition, subtraction, and binomial multiplication)
- 2.□ Simplify one-step exponent rules (product, quotient, power, zero)
- 2.□ Determine the Greatest Common Factor between two terms
- 2.5: Convert between scientific notation and standard form

level □

- 1: Given a polynomial, interpret information based on its characteristics. (end behavior, □ of potential zeros, □ of max and mins, y-intercept)
- 2: Find the area and perimeter of a shape when given polynomial side lengths. (2 x □ or higher)
- Simplify expressions using properties of exponents
- Apply a GCF to factor a quadratic trinomial.
- 5: Multiply or divide two terms in scientific notation based on a real-world context (using exponent rules or by converting from standard to scientific notation before solving).

level □

- 1: Divide a polynomial

Priority Standard 7: Apply number sense and logical reasoning.

level 2

- 2.1: Check solutions to a problem to confirm it is correct.
- 2.2: Determine if a solution makes “sense” in the given context

Level 1

- 1.1: Identify and explain how to fix the error in another student's process.
- 1.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level 2

- 2.1 - Apply and adapt a variety of appropriate strategies to solve problems.

Unit 5: Quadratics

Unit 5 Priority Standards and Learner Objectives:

Priority Standard 5: Graph, interpret, create, justify, and solve quadratic functions.

Level 2

- 5.2.1: Given a graph, identify the type of function, x-intercepts, y-intercepts, vertex, directionality, and line of symmetry.
- 5.2.2: Graph a quadratic in vertex form using a table.
- 5.2.3: Solve a quadratic equation to identify the roots (using square roots, factoring, not set equal to 0.)
- 5.2.4: Identify key characteristics of a real-world quadratic graph (max/min, x-intercept, y-intercept)
- 5.2.5: Given the discriminant formula, identify the number of solutions for a quadratic.

Level 3

- 5.3.1: Given an equation, identify the type of function, x-intercepts, y-intercept, vertex, directionality, max/min, and line of symmetry.
- 5.3.2: Graph a quadratic using a table and the line of symmetry formula.
- 5.3.3: Solve for the zeros of a quadratic when a is not equal to 1.
- 5.3.4: Solve for the zeros by applying quadratic formula to real world situations.
- 5.3.5: Use the discriminant to complete a partial quadratic that satisfies a given number of solutions.

Level 4

- 5.4.1: Using the acceleration due to gravity formula, create and apply a projectile problem to find its maximum height.
- 5.4.2: Complete the square.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

- 2.1: Check solutions to a problem to confirm it is correct.
- 2.2: Determine if a solution makes "sense" in the given context

Level 3

7.3.1: Identify and explain how to fix the error in another student's process.

□.□.2: Justify (explain with reasoning what I did and why) my problem solving steps in mathematical terms.

Level □

□.□.1 - Apply and adapt a variety of appropriate strategies to solve problems.

Unit 6: Functions

Unit 6 Priority Standards and Learner Objectives:

Priority Standard 6: Compare function families represented in different forms.

Level 2

□.2.1: Given a graph, determine the function family it represents (linear, quadratic, exponential, non-functions, radical, rationals, absolute value)

□.2.2: Identify the common difference or ratio in a sequence

□.2.□ Evaluate an equation represented in function notation for a given x-value

□.2.□ Identify the domain and range from a set of data of points and identify if the relation is a function.

□.2.5: Describe in words the two transformations that happened when given the parent function.

Level □

□.□.1: Given a table of values, determine the function family it represents (linear, quadratic, exponential, non-functions)

□.□.2: Write an equation to represent a given arithmetic or geometric sequence and use the equation to find the nth term.

□.□.□ Evaluate composite function notation expressions ($2f(x)$ or $g(f(x))$ or $(f + g)(x)$ or $(fg)(x)$)

□.□.□ Determine the domain and range of a function or relation from a graph

□.□.5: Write a new function given a transformation and interpret its meaning.

Level □

□.□.1: Create a piecewise function representing two or more function families. Identify the two functions you used and state your domain and range for each of your functions.

□.□.2 : Determine the domain and range for a quadratic function from an equation.

Priority Standard 7: Apply number sense and logical reasoning.

Level 2

□.2.1: Check solutions to a problem to confirm it is correct.

□.2.2: Determine if a solution makes "sense" in the given context

Level □

7.3.1: Identify and explain how to fix the error in another student's process.

□□2: □ustify (explain with reasoning what I did and why)my problem solving steps in mathematical terms.

□evel □

□□1 - Apply and adapt a □ARIET□ of appropriate strategies to solve problems.

GEOMETRY

Course □ength: 2 semesters

Credits: 1.0

Recommended Grade □evels: 9, 10

Prerequisites: Successful completion of Algebra I or permission of the mathematics department.

Course Description: In preparation for AP courses and in alignment with the Common Core Mathematical Standards, Michigan High School Content Expectations and ACT College Readiness Guidelines, Geometry is a course normally taken after Algebra I and before Algebra II. This course covers topics such as geometric reasoning, polygon relationships, similarity, trigonometric laws, and area of figures. Algebraic reasoning, geometric proofs, circles, spatial reasoning, and transformations are also explored. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. Course content is taught with a focus on real-world application and problem solving with and without the aid of technology.

GEOMETRY UNIT PROGRESSION

Unit 1: Foundations of Geometry

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1: Apply and justify fundamental theorems to find measures of angles and segments.

Level 2

- 1.2.1a: Identify parts of a geometric figure using proper notation.
- 1.2.1b: Solve for missing lengths and angle measures. (Segment Addition Postulate, Angle Addition Postulate, Definition of a Midpoint, Definition of an Angle Bisector)
- 1.2.2: Determine an angle measure using the congruent supplements theorem or the congruent complements theorem.
- 1.2.□ Find the complement and supplement of a given angle measure.
- 1.2.□ Sketch a figure that meets a set of criteria using planes, lines, and points.

Level □

- 1.□.1: Choose and apply the appropriate theorems for angles and sides (Segment Addition Postulate, Angle Addition Postulate, Vertical Angles Theorem, Definition of bisectors, complementary angles, supplementary angles, midpoints, right angle theorem, linear pair theorem)
- 1.□.2: Solve problems using the Congruent Complements or Congruent Supplements Theorem
- 1.□.□ Complete a proof using properties of angles and lines. (vertical angles theorem, segment addition postulate, and angle addition postulate.)
- 1.□.□ Construct congruent segments, congruent angles, and angle bisectors using a compass.

Level □

- 1.□.1: Prove the Linear Pair Theorem

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

9.2.1: Identify errors.

9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

9.3.1: Analyze and explain error.

9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a statement.

Level 4

9.4.1: Prove a theorem learned in class from scratch in a paragraph form.

9.4.2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 2: Lines and Angles

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Interpret angle and line relationships given multiple lines and a transversal.

Level 2

2.2.1: Identify parallel, perpendicular, and skew lines/planes through proper notation.

2.2.2: Given two parallel lines and a transversal, classify angle types and relationships.

2.2.3: Determine two lines parallel using basic converse angle relationships.

2.2.4: Given a perpendicular bisector solve for an angle.

Level 3

2.3.1: Using a compass, construct a perpendicular bisector.

2.3.2: Given two parallel lines and a transversal, solve equations based on angle relationships.

2.3.3: Fill out a two-column proof on two parallel lines using the converse of angle relationships.

2.3.4: Fill out a two-column proof on two perpendicular lines using the transversal theorem.

Level 4

2.4.1: Construct a rectangle on a coordinate plane with no side parallel to a major axis.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

9.2.1: Identify errors.

9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

9.3.1: Analyze and explain error.

9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a statement.

Level 4

9.4.1: Prove a theorem learned in class from scratch in a paragraph form.

9.4.2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 3: Triangles

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 3: Apply the properties of triangles to find measures and solve problems.

Level 2

3.2.1: Classify triangles based on their angle measures and side lengths.

3.2.2: Solve for missing measurements in a triangle given the appropriate theorem to apply.

- Triangle Sum Theorem
- Isosceles Triangle Theorem
- Converse of the Isosceles Triangle Theorem
- Equilateral/Equiangular Triangle Theorem
- Exterior Angle Theorem,
- Triangle Midsegment Theorem
- Pythagorean Theorem

Level 3

3.3.1 Prove the given triangle theorem.

3.3.2 Choose, apply, and justify the appropriate theorem to solve for missing measurements.

- Triangle Sum Theorem
- Isosceles Triangle Theorem
- Converse of the Isosceles Triangle Theorem
- Equilateral/Equiangular Triangle Theorem
- Exterior Angle Theorem,
- Triangle Midsegment Theorem

Level 1

1.1: Prove the Triangle Midsegment Theorem using a coordinate proof.

Unit 4: Congruence

Unit 4 Priority Standards and Learner Objectives:

Priority Standard 4: Apply properties and theorems of triangles to determine congruence.

Level 2

2.1a: Given a labeled diagram, identify the correct congruence theorem and write a triangle congruence statement.

2.1b: Given a proof and phrase bank, identify missing statements or reasons.

2.2: Given a statement and/or labeled diagram, identify corresponding parts in congruent triangles.

2.3: Given a figure, determine the type of rigid motion illustrated

Level 3

3.1: Using the appropriate method (SSS, SAS, AAS, ASA, or HL), prove triangles are congruent.

3.2: Prove corresponding parts of congruent triangles are congruent (CPCTC).

3.3: Perform a rigid motion (rotation, translation, or reflection) using modern tools.

Level 4

4.1: Given two triangles in a coordinate plane, develop a strategy to prove a triangle congruence problem.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

9.2.1: Identify errors.

9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

9.3.1: Analyze and explain error.

9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a statement.

Level 4

- 9.□1: Prove a theorem learned in class from scratch in a paragraph form.
- 9.□2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 5: Similarity

Unit 5: Priority Standards and Learner Objectives:

Priority Standard 5: Determine if polygons are similar and use properties of similarities to solve problems.

Level 2

- 5.2.1a: Given a labeled diagram, determine if two polygons are similar using the definition of similarity. (Congruent angles, Similarity Ratio)
- 5.2.1b: Identify the perimeter ratio and area ratio of two polygons.
- 5.2.2: Given a labeled diagram determine if two polygons are similar by using SAS, AA, SSS.
- 5.2.□: Given a labeled diagram, solve for the missing value of similar polygons.

Level □

- 5.□1: Apply properties of similar figures to real world contexts. (Missing lengths, perimeter, area)
- 5.□2: Prove that two triangles are similar using AA Similarity Postulate, SSS and SAS Similarity Theorems
- 5.□□: Utilize properties of similar triangles to solve problems involving the Triangle Proportionality Theorem (and converse), Triangle Angle Bisector Theorem, and Two Transversal Proportionality Corollary .

Level □

- 5.□1: Prove triangles are similar in the coordinate plane.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

- 9.2.1: Identify errors.
- 9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level □

- 9.□1: Analyze and explain error.
- 9.□2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a statement.

Level 1

- 9.1.1: Prove a theorem learned in class from scratch in a paragraph form.
- 9.1.2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 6: Trigonometry

Unit 6 Priority Standards and Learner Objectives:

Priority Standard 6: Compare trigonometric ratios and use appropriately to solve problems with triangles

Level 2

- 12.1a: Find the three trigonometric ratios of an angle when given a right triangle.
- 12.1b: Solve for missing side length using trig ratios.
- 12.2: Solve for missing angle measure using trig ratios.
- 12.3 Identify which Law (Sines or Cosines) would be used for a given problem and justify.
- 12.4 Draw and label a special right triangle.

Level 3

- 13.1: Apply the appropriate trigonometric ratio and/or inverses to find the missing measurement in real world contexts.
- 13.2: Find measurements using the Angle of Elevation or Angle of Depression, and trigonometric functions.
- 13.3 Use the Law of Sines and Law of Cosines to find measures in triangles.
- 13.4 Determine the length of missing sides in special right triangles.

Level 4

- 14.1: Prove the Laws of Sines and Cosines and use them to solve problems.
- 14.2: Create a real world angle of elevation or depression, and accurately solve for a missing measurement.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

- 9.2.1: Identify errors.
- 9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

- 9.3.1: Analyze and explain error.
- 9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a

statement.

Level 1

- 9.1.1: Prove a theorem learned in class from scratch in a paragraph form.
- 9.1.2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 7: Polygons (Area/Surface Area/Volume)

Unit 7 Priority Standards and Learner Objectives:

Priority Standard 7.0: Using properties of polygons and 3-dimensional figures determine area, surface area and volume

Level 2

- 7.2.1: Given formulas, find the area of 2D figures.
- 7.2.2: Given the apothem and side length, find the perimeter and area of a regular polygon.
- 7.2.3: Given formula, find the surface area of 3D figures.
- 7.2.4: Given formulas, find the volume of 3D figures.
- 7.2.5: Given a polygon, identify the sum of the interior and exterior angles.

Level 3

- 7.3.1: Find area of shaded region.
- 7.3.2: Find the perimeter and area of a regular polygon.
- 7.3.3: Find the surface area of 3D composite figures.
- 7.3.4: Find the volume of 3D composite figures.
- 7.3.5: Use the Polygon Angle Sum Theorem and Polygon Exterior Angle Sum Theorem to find measures in polygons.

Level 4

- 7.4.1: Find the surface area and volume of an object in the classroom.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

- 9.2.1: Identify errors.
- 9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

- 9.3.1: Analyze and explain error.
- 9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a

statement.

Level 1

- 9.1.1: Prove a theorem learned in class from scratch in a paragraph form.
- 9.1.2: Classify Geometry theorems as either conditional or biconditional and explain why.

Unit 8: Circles

Unit 8 Priority Standards and Learner Objectives:

Priority Standard 8.0: Understand and apply properties of circles to solve problems

Level 2

- 8.2.1: Identify all segments or lines that intersect a circle.
- 8.2.2: Identify minor and major arcs
- 8.2.3: Given all information, determine area of a sector
- 8.2.4: Given all information, determine the arc length of a circle.
- 8.2.5: Identify the center and radius given the equation of a circle.

Level 3

- 8.3.1: Use properties of lines (chords, secants, and tangents, inscribed angles) to solve problems.
- 8.3.2: Find the measure of arcs.
- 8.3.3: Use properties of sectors to find segment areas.
- 8.3.4: Solve the real world application dealing with arc length.
- 8.3.5: Develop the equation for a circle given various information.

Level 4

- 8.4.1: Find the volume of a sector of a cylinder.

Priority Standard 9: Employ inductive and deductive reasoning skills to prove concepts and justify ideas.

Level 2

- 9.2.1: Identify errors.
- 9.2.2: Given information (formulas, points, graph, equation, etc.), use coordinate geometry to solve problems (distance between two points, midpoint, parallel/perpendicular, etc.)

Level 3

- 9.3.1: Analyze and explain error.
- 9.3.2: Use coordinate geometry (distance formula, midpoint formula, slope, etc.) to justify a statement.

Level

9.1: Prove a theorem learned in class from scratch in a paragraph form.

9.2: Classify Geometry theorems as either conditional or biconditional and explain why.

ALGEBRA II

Course Length: 2 Semesters

Credits: 1.0

Recommended Grade Levels: 10-11

Prerequisites: Successful completion of Algebra I and Geometry or admitted in with department approval. Basic knowledge of and experience with graphing calculators.

Course Description: In preparation for AP courses and in alignment with the Common Core Mathematical Standards, Michigan HSCE's and ACT College Readiness Guidelines, Algebra II is an advanced math course typically taken after Geometry and before Precalculus. Students are exposed to topics like number and operations, solving equations, patterns and relations, and linear functions. These topics, as well as, the topics of exponential functions, quadratic functions, and probability simulations allow for the practice of advanced skills. Matrices, logarithmic functions, and radical and rational functions are also addressed. All instruction is aligned with the Common Core Standards for Mathematical Practice with emphasis on the process standards of problem solving, reasoning and proof, communication, representation and connections and the proficiency standards of adaptive reasoning, strategic competence, conceptual understanding, procedural fluency and productive disposition. Course content is taught with a focus on real-world application and problem solving with and without the aid of technology.

ALGEBRA II UNIT PROGRESSION

Unit 1: Linear Functions and Systems

Unit 1 Priority Standards and Learner Objectives:

Priority Standard 1: Graph and explore linear functions and systems.

Level 2

- 1.2.1: Given a linear equation, identify the matching graph.
- 1.2.2: Given a linear equation in standard form, convert it to slope-intercept form.
- 1.2.□ Write the equation of a parallel or perpendicular line that goes through the given point.
- 1.2.□ Graph a linear inequality.
- 1.2.5: Solve a system graphically.
- 1.2.□ Solve a system algebraically.

Level □

- 1.□.1: Given a linear graph, write the linear equation while creating a real-world scenario with given parameters.
- 1.□.2: Write and graph a linear function based on calculating the slope and finding y-intercept.
- 1.□.□ Given a line segment on a coordinate graph, find the linear function which is perpendicular or parallel through a given point.
- 1.□.□ Write and graph a linear inequality based on a real world context.
- 1.□.5: Graph a given system of linear inequalities and explain a point that satisfies the system.

1.1.1 Write a system of linear equations based on a real world context and solve the system.

Level 1

1.1.1: Set up and solve a system in 2 variables.

Unit 2: Quadratics

Unit 2 Priority Standards and Learner Objectives:

Priority Standard 2: Graph and Explore Quadratic Functions.

Level 2

2.2.1a : Given a quadratic graph, describe its characteristics (max/min, axis of symmetry, vertex, intercepts, directionality).

2.2.1b: Given a quadratic equation, identify all the key characteristics (max/min, axis of symmetry, vertex, intercepts) and graph.

2.2.2: Solve a quadratic equation to identify the roots (using square roots, factoring, not set equal to 0.)

2.2.3 Perform operations on complex numbers. (add, subtract, multiply)

2.2.4 Apply the quadratic formula to find the zeros of a function (perfect squares, imperfect squares, and imaginary.)

2.2.5: Determine how many solutions a quadratic has using the discriminant

Level 3

2.3.1: Given a real world quadratic equation, graph and interpret information about it. (max/min, zeros, y-intercept, directionality)

2.3.2 Given the x-intercepts, find the vertex in order to write and graph a quadratic function

2.3.3 Rationalize a denominator (complex only)

2.3.4 Use quadratic inequalities with business applications.

2.3.5: Use the discriminant to complete a partial quadratic that satisfies a given number of solutions.

Level 4

2.4.1: Given three points, write a quadratic function.

2.4.2: Complete the square.

Unit 3: Polynomials

Unit 3 Priority Standards and Learner Objectives:

Priority Standard 3: Graph and explore polynomial functions.

Level 2

2.2.1: Perform operations on polynomial expressions (add, subtract, multiply).

2.2.2: Given a list of binomials, identify which is the factor of a polynomial by evaluating.