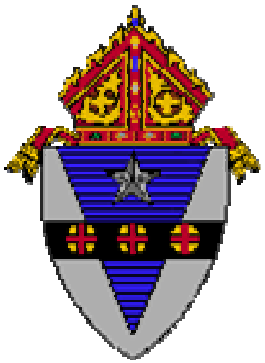
Archdiocese of Philadelphia



Curriculum Standards

English Language Arts and Mathematics

Grade Five

INTRODUCTION

The mission statement of the Office of Catholic Education boldly proclaims that:

Catholic Schools form Catholic students to be full and practicing members of the Church, are centers of evangelization that call all to live fully the message of Jesus Christ, and are centers of academic excellence that rigorously prepare students to be life-long learners and contributing members of the global community.

From this we draw our primary focus, the faith formation of our students. Of major importance, too, is the academic preparation our students receive which will enable them to be college- and career-ready upon commencement from their experience in archdiocesan schools.

This document is a response to the call to prepare our students to become "contributing members of the global community." It is the product of an in-depth study of the data related to existing curriculum, current research, input from respected professional organizations and hours of intense work and dialogue on the part of teachers and administrators from throughout the archdiocese.

Our data study encouraged us to build on the patterns of excellence which have been a hallmark of education in Archdiocesan schools. A review of the existing curriculum and input from many teachers called us to re-focus curriculum content so that instruction and learning would incorporate higher-level thinking and in-depth teaching. At the recommendation of the National Governors' Association, we are moving forward with the adoption of the Common Core State Standards as the basis for curriculum content.

Included in this document are the Common Core State Standards for this level as well as the implementation guides prepared by the curriculum committee members who spent a great deal of time working on them.

As we move forward in the period of transition to full adoption of the Standards and to assessing archdiocesan students using national assessments, we feel confident that our teachers will continue to move forward with the same dedication that will prepare our students to stand shoulder-to-shoulder with the best students both nationally and internationally.

ACKNOWLEDGEMENTS

We would like to acknowledge the following curriculum committee members for their tireless efforts in the preparation of this document:

English Language Arts	**Mathematics**	
Mary Tremper, Chairperson	Kate Reardon, Chairperson	
Mary Battson	Diane Brown	Jane Ries-Jacoby
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Sister Joan Felicia O'Reilly	Sue Macrone	
Early Childhood – Kathleen Smith	**Assessment** – Debbie Jaster	

We are also grateful to the **Elementary Technology Committee** for preparing web links to these guidelines.

CONTENTS

NOTE:

The English Language Arts and Mathematics content are intentionally contained in the same document. With research indicating that skills should be presented in an integrated context, it is the hope that teachers will be more aware of the total curriculum at this level rather than isolated subject matter and make deliberate connections between skills presented in each area.

Also included at each level (with the exception of Kindergarten) are the Common Core State Standards for the grade below and the grade above each level. These are placed here so that, during the transition period leading up to full implementation of the Standards, the teacher is aware of skills that should have been presented at an earlier level and makes plans to incorporate these skills in the event that they have not been presented. It is important, too, that skills designated for higher levels are not anticipated at the current instructional level.

English Language Arts

Grade 5

Common Core State Standards – English Language Arts –Grade 4
Common Core State Standards – English Language Arts – Grade 5
Common Core Standards – English Language Arts – Grade 6
Archdiocesan Implementation Guides – Grade 5

Key Points In English Language Arts

Reading

- The standards establish a "staircase" of increasing complexity in what students must be able to read so that all students are ready for the demands of college- and career-level reading no later than the end of high school. The standards also require the progressive development of reading comprehension so that students advancing through the grades are able to gain more from whatever they read.
- Through reading a diverse array of classic and contemporary literature as well as challenging informational texts in a range of subjects, students are expected to build knowledge, gain insights, explore possibilities, and broaden their perspective. Because the standards are building blocks for successful classrooms, but recognize that teachers, school districts and states need to decide on appropriate curriculum, they intentionally do not offer a reading list. Instead, they offer numerous sample texts to help teachers prepare for the school year and allow parents and students to know what to expect at the beginning of the year.
- The standards mandate certain critical types of content for all students, including classic myths and stories from around the world, foundational U.S. documents, seminal works of American literature, and the writings of Shakespeare. The standards appropriately defer the many remaining decisions about what and how to teach to states, districts, and schools.

Writing

- The ability to write logical arguments based on substantive claims, sound reasoning, and relevant evidence is a cornerstone of the writing standards, with opinion writing---a basic form of argument---extending down into the earliest grades.
- Research---both short, focused projects (such as those commonly required in the workplace) and longer term in depth research---"is emphasized throughout the standards but most prominently in the writing strand since a written analysis and presentation of findings is so often critical.
- Annotated samples of student writing accompany the standards and help establish adequate performance levels in writing arguments, informational/explanatory texts, and narratives in the various grades.

Speaking and Listening

- The standards require that students gain, evaluate, and present increasingly complex information, ideas, and evidence through listening and speaking as well as through media.
- An important focus of the speaking and listening standards is academic discussion in one-on-one, small-group, and whole-class settings. Formal presentations are one important way such talk occurs, but so is the more informal discussion that takes place as students collaborate to answer questions, build understanding, and solve problems.

Language

- The standards expect that students will grow their vocabularies through a mix of conversations, direct instruction, and reading. The standards will help students determine word meanings, appreciate the nuances of words, and steadily expand their repertoire of words and phrases.
- The standards help prepare students for real life experience at college and in 21st century careers. The standards recognize that students must be able to use formal English in their writing and speaking but that they must also be able to make informed, skillful choices among the many ways to express themselves through language.
- Vocabulary and conventions are treated in their own strand not because skills in these areas should be handled in isolation but because their use extends across reading, writing, speaking, and listening.

Media and Technology

- Just as media and technology are integrated in school and life in the twenty-first century, skills related to media use (both critical analysis and production of media) are integrated throughout the standards.

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 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

Anchor Standards for Reading K-5

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.[1]
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.

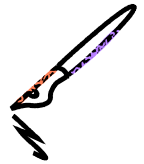
Anchor Standards for Writing K-5

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 in 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.

Anchor Standards for Speaking and Listening K-5

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.

Anchor Standards for Language K-5

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 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.

ELA Standards – Grade 4

Reading Standards for Literature

Key Ideas and Details

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.

RL.4. 2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.

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).

Craft and Structure

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., Herculean).

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.

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.

Integration of Knowledge and Ideas

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.

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.

Range of Reading and Level of Text Complexity

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.

Reading Standards for Informational Text

Key Ideas and Details

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.

RI.4.2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.

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.

Craft and Structure

RI.4.4. Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a *grade 4 topic or subject area*.

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.

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.

Integration of Knowledge and Ideas

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.

RI.4.8. Explain how an author uses reasons and evidence to support particular points in a text.

RI.4.9. Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

Range of Reading and Level of Text Complexity

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.

Reading Standards: Foundational Skills

Phonics and Phonemic Awareness

RF4.3. Know and apply grade-level phonics and word analysis skills in decoding words.

- 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

RF4.4. Read with sufficient accuracy and fluency to support comprehension.

- Read on-level text with purpose and understanding.
- Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
- Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing Standards

Text Types and Purposes

W.4.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

- 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.
- Provide reasons that are supported by facts and details.
- Link opinion and reasons using words and phrases (e.g., *for instance*, *in order to*, *in addition*).
- Provide a concluding statement or section related to the opinion presented.

W.4.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- 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.
- Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Link ideas within categories of information using words and phrases (e.g., *another*, *for example*, *also*, *because*).
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Provide a concluding statement or section related to the information or explanation presented.

W.4.3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

- Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
- Use dialogue and description to develop experiences and events or show the responses of characters to situations.
- Use a variety of transitional words and phrases to manage the sequence of events.

- Use concrete words and phrases and sensory details to convey experiences and events precisely.
- Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

W.4.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

W.4.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

W.4.6. 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.

Research to Build and Present Knowledge

W.4.7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.

W.4.8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

W.4.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

- 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].").
- 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").

Range of Writing

W.4.10. 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.

Speaking and Listening Standards

Comprehension and Collaboration

SL.4.1. 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.

- 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.
- Follow agreed-upon rules for discussions and carry out assigned roles.
- 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.
- Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.

SL.4..2. Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.4..3. Identify the reasons and evidence a speaker provides to support particular points.

Presentation of Knowledge and Ideas

SL.4.4. 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.

SL.4.5. Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

SL.4.6. Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

Language Standards

Conventions of Standard English

L.4.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

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

L.4.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- Use correct capitalization.
- Use commas and quotation marks to mark direct speech and quotations from a text.
- Use a comma before a coordinating conjunction in a compound sentence.
- Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language

L.4.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

- Choose words and phrases to convey ideas precisely.
- Choose punctuation for effect.
- Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).

Vocabulary Acquisition and Use

L.4.4. 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.

- Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
- Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
- 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.

L.4.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context.
- Recognize and explain the meaning of common idioms, adages, and proverbs.
- Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).

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., *wildlife, conservation,* and *endangered* when discussing animal preservation).

ELA Standards – Grade 5

Reading Standards for Literature

Key Ideas and Details

RL.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

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.

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).

Craft and Structure

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.

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.

RL.5.6. Describe how a narrator's or speaker's point of view influences how events are described.

Integration of Knowledge and Ideas

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).

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.

Range of Reading and Level of Text Complexity

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.

Reading Standards for Informational Text

Key Ideas and Details

RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

RI.5.2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

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.

Craft and Structure

RI.5.4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.

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.

RI.5.6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

Integration of Knowledge and Ideas

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.

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).

RI.5.9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Range of Reading and Level of Text Complexity

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.

Reading Standards: Foundational Skills

Phonics and Word Recognition

RF.5.3. Know and apply grade-level phonics and word analysis skills in decoding words.

- 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

RF.5.4. Read with sufficient accuracy and fluency to support comprehension.

- Read on-level text with purpose and understanding.
- Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
- Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing Standards

Text Types and Purposes

W.5.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

- 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.
- Provide logically ordered reasons that are supported by facts and details.
- Link opinion and reasons using words, phrases, and clauses (e.g., *consequently*, *specifically*).
- Provide a concluding statement or section related to the opinion presented.

W.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- 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.
- Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Link ideas within and across categories of information using words, phrases, and clauses (e.g., *in contrast*, *especially*).
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Provide a concluding statement or section related to the information or explanation presented.

W.5.3. Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

- Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.
- Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.
- Use a variety of transitional words, phrases, and clauses to manage the sequence of events.
- Use concrete words and phrases and sensory details to convey experiences and events precisely.
- Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

W.5.6. 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

W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

W.5.8. 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.

W.5.9. 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

W.5.10. 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.

Speaking and Listening Standards

Comprehension and Collaboration

SL.5.1. 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.

- 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.
- Follow agreed-upon rules for discussions and carry out assigned roles.
- Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
- Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

SL.5.2. Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.5.3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas

SL.5.4. 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.

SL.5.5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

SL.5.6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

Language Standards

Conventions of Standard English

L.5.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences.
- Form and use the perfect (e.g., *I had walked; I have walked; I will have walked*) verb tenses.
- Use verb tense to convey various times, sequences, states, and conditions.
- Recognize and correct inappropriate shifts in verb tense.
- Use correlative conjunctions (e.g., *either/or, neither/nor*).

L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- Use punctuation to separate items in a series.
- Use a comma to separate an introductory element from the rest of the sentence.
- 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?*).
- Use underlining, quotation marks, or italics to indicate titles of works.
- Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language

L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

- Expand, combine, and reduce sentences for meaning, reader/listener interest, and style.
- Compare and contrast the varieties of English (e.g., dialects, registers) used in stories, dramas, or poems.

Vocabulary Acquisition and Use

L.5.4. 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.

- Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
- Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
- 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.

L.5.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- Interpret figurative language, including similes and metaphors, in context.
- Recognize and explain the meaning of common idioms, adages, and proverbs.
- Use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

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., *however, although, nevertheless, similarly, moreover, in addition*).

ELA Standards – Grade 6

Anchor Standards for Reading 6-12

The grades 6–12 standards 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.[1]

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.

[1] 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.

Anchor Standards for Writing

Text Types and Purposes[1]

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 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.

Anchor Standards for Listening and Speaking 6-12

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.

Anchor Standards for Language 6-12

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 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.

ELA Standards for Grade 6

Reading: Literature

Key Ideas and Details

RL.6.1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

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.

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.

Craft and Structure

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.

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.

RL.6.6. Explain how an author develops the point of view of the narrator or speaker in a text.

Integration of Knowledge and Ideas

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.

RL.6.8. (Not applicable to literature)

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.

Range of Reading and Level of Text Complexity

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 Text

Key Ideas and Details

RI.6.1. Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

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.

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).

Craft and Structure

RI.6.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

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.

RI.6.6. 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

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.

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.

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).

Range of Reading and Level of Text Complexity

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.

Writing

Text Types and Purposes

W.6.1. Write arguments to support claims with clear reasons and relevant evidence.

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

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.

- 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.
- Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
- Use appropriate transitions to clarify the relationships among ideas and concepts.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from the information or explanation presented.

W.6.3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.

- 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.
- Use narrative techniques, such as dialogue, pacing, and description, to develop experiences, events, and/or characters.
- Use a variety of transition words, phrases, and clauses to convey sequence and signal shifts from one time frame or setting to another.
- Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.
- Provide a conclusion that follows from the narrated experiences or events.

Production and Distribution of Writing

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.)

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.

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.

Research to Build and Present Knowledge

W.6.7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

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.

W.6.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

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”).

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”).

Range of Writing

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.

Speaking and Listening

Comprehension and Collaboration

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.

- 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.

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.

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.

Presentation of Knowledge and Ideas

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.

SL.6.5.. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

SL.6.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

Language

Conventions of Standard English

L.6.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- Ensure that pronouns are in the proper case (subjective, objective, possessive).
- Use intensive pronouns (e.g., myself, ourselves).
- Recognize and correct inappropriate shifts in pronoun number and person.*
- Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).*
- 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.6.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.*
- Spell correctly.

Knowledge of Language

L.6.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

- Vary sentence patterns for meaning, reader/listener interest, and style.*
- Maintain consistency in style and tone.*

Vocabulary Acquisition and Use

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.

- 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.
- Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., audience, auditory, audible).

- 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.
- 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).

L.6.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

- Interpret figures of speech (e.g., personification) in context.
- Use the relationship between particular words (e.g., cause/effect, part/whole, item/category) to better understand each of the words.
- Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., stingy, scrimping, economical, unwasteful, thrifty).

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.

Literacy Standards for History/Social Studies 6-8

Key Ideas and Details

RH.6-8.1. Cite specific textual evidence to support analysis of primary and secondary sources.

RH.6-8.2. 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.

RH.6-8.3. 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

RH.6-8.4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RH.6-8.5. Describe how a text presents information (e.g., sequentially, comparatively, causally).

RH.6-8.6. 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

RH.6-8.7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RH.6-8.8. Distinguish among fact, opinion, and reasoned judgment in a text.

RH.6-8.9. Analyze the relationship between a primary and secondary source on the same topic.

Range of Reading and Level of Text Complexity

RH.6-8.10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6–8 text complexity band independently and proficiently.

Literacy Standards for Science and Technical Subjects

Key Ideas and Details

RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.

RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

RST.6-8.3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

Craft and Structure

RST.6-8.4. 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.

RST.6-8.5. 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.

RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

Integration of Knowledge and Ideas

RST.6-8.7. 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).

RST.6-8.8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

Range of Reading and Level of Text Complexity

RST.6-8.10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

Writing Standards for History/Science/Technical Subjects 6-8

Text Types and Purposes

WHST.6-8.1. Write arguments focused on discipline-specific content.

- 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.
- Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.
- Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.

WHST.6-8.2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

- 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.

- Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.
- Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Establish and maintain a formal style and objective tone.
- Provide a concluding statement or section that follows from and supports the information or explanation presented.

WHST.6-8.3. (See note; not applicable as a separate requirement)

Production and Distribution of Writing

WHST.6-8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.5. 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.

WHST.6-8.6. 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

WHST.6-8.7. 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.

WHST.6-8.8. 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.

WHST.6-8.9. Draw evidence from informational texts to support analysis reflection, and research.

Range of Writing

WHST.6-8.10. 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.

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.

Measuring Text Complexity

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)**

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	**Dramas**	**Poetry**	**Literary Nonfiction and Historical, Scientific, and Technical Texts**
Includes children's adventure stories, folktales, legends, fables, fantasy, realistic fiction, and myth	Includes staged dialogue and brief familiar scenes	Includes nursery rhymes and the subgenres of the narrative poem, limerick, and free verse poem	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, & Range of Student Reading 4-8

	Literature: Stories, Drama, Poetry	Informational Texts: Literary Nonfiction and Historical, Scientific, and Technical Texts
4-5	• *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)	• *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)
6-8	• *Little Women* by Louisa May Alcott (1869) • *The Adventures of Tom Sawyer* by Mark Twain (1876) • "The Road Not Taken" by Robert Frost (1915) • *The Dark Is Rising* by Susan Cooper (1973) • *Dragonwings* by Laurence Yep (1975) • *Roll of Thunder*, Hear My Cry by Mildred Taylor (1976)	• "Letter on Thomas Jefferson" by John Adams (1776) • *Narrative of the Life of Frederick Douglass, an American Slave* by Frederick Douglass (1845) • "Blood, Toil, Tears and Sweat: Address to Parliament on May 13th, 1940" by Winston Churchill (1940) • *Harriet Tubman: Conductor on the Underground Railroad* by Ann Petry (1955) • *Travels with Charley: In Search of America* by John Steinbeck (1962)

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 of the Common Core Standards 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.

Staying on Topic Within a Grade & Across Grades

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.

This is only a sample. Full chart can be found on Standards web site.

Exemplar Texts on a Topic Across Grades	4-5
The Human Body Students can begin learning about the human body starting in kindergarten and then review and extend their learning during each subsequent grade.	**Circulatory system** *The Heart* by Seymour Simon (2006) *The Heart and Circulation* by Carol Ballard (2005) *The Circulatory System* by Kristin Petrie (2007) *The Amazing Circulatory System* by John Burstein (2009) **Respiratory system** *The Lungs* by Seymour Simon (2007) *The Respiratory System* by Susan Glass (2004) **Endocrine system** *The Endocrine System* by Rebecca Olien (2006)

Implementation Guide – Grade 5 ELA

COMMON CORE STANDARDS: ELA

Implementing the Common Core Standards may seem to be a daunting task, however, the ELA Curriculum Committee has created four sample guidelines/templates to introduce you to the standards. We have provided a guideline for each of the four types of writing prescribed for each grade. You will see that we have correlated Reading Standards with each Writing piece. These guidelines are meant to be a starting point and while they are comprehensive they do not include every standard. Our intent is that teachers will plug-in other standards as needed. The book companies have created correlations to the Common Core Standards so you will have them to use as well, and you will have the flexibility to add ELA standards from each category (Reading, Writing, Speaking and Listening, and Language) depending on the theme or story.

Coding: ELA.5.A.1 refers to English Language Arts –Grade 5 Topic A – Skill 1

Persuasive Essay - Grade 5	**Writing Standards: ELA.5.K – Write opinion piece on topics or texts, supporting a point of view with reasons and information.**	**Reading Standards: ELA.5.G- Integration and Ideas**
Essential Questions *What should I be able to answer?* *What guides my thinking?*	What is an *opinion*? How is an opinion different from a fact? How do you support an opinion? What kind of organization is expected in an opinion piece of writing? What kind of words do I use to link reasons and opinions? What should the conclusion look like?	Can you identify an opinion in the text? Can you identify a fact from the text? How do we distinguish the difference between fact and interpretation? How reliable is the author's information?

Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	Developed an argument to support an opinion. Created an organizational structure which begins with a topic stating an opinion, followed by ideas which are logically grouped to support the writer's purpose. Developed the topic with facts, definitions, details, quotations and/or other examples related to the topic. Provided logically ordered reasons that are supported by facts and details. Linked opinion and reasons using words phrases and clauses (for example, in contrast, especially). Provided a concluding statement to summarize the idea. Sequential and logical arguments are able to change someone's opinion. Used peer review and editing to improve text. Completed report and/or presentation	Reader can explain how an author uses reasons and evidence to support particular points in a text. Reader can identify which reasons and evidence support which points in a text. Reader can identify opposing point of view with possible arguments.

Skills *What skills do I need to have in order to answer the essential questions?*	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. 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]"). Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. Describe how a narrator's or speaker's point of view influences how events are described. 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. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a *grade 5 topic or subject area*.

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

Content *What content do I need to know in order to answer the essential questions?*	Fact/Opinion Transition words that connect opinions to reasons General/Specific words Organization for clarity and support of opinions	Key words that signal an opinion Are ideas supported with sufficient facts Are the arguments strong enough to change an opinion
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Content area topics Social Studies-writing constructive responses Science-Hypothesis or proven fact Math-Reliability of answer Research-Reliability of information/sources	Social Studies Text-Develop a travel brochure for the 3 best sites to visit in the U.S. Research- Determine what makes a site or an author reliable for information
Tools for Learning *Which tools will I use that will assist me in my learning?*	Digital resources Reference materials Primary sources	Expository texts Newspapers-editorials Digital resources

Which 21st Century Skills are woven into this standard? __Critical Thinking/Problem Solving _____Collaboration
__Communications __Creativity/Innovation

What level of rigor will I be using? (A, C)__ _ What level of relevance will I be using?__ ____ (B,D)

Narrative – Grade 6	**Writing Standards: ELA. 5.M.3 Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences**	**Reading Standards: ELA.5.E.; Key Ideas ELA.5.F, Details, craft and structure**
Essential Questions *What should I be able to answer?* *What guides my thinking?*	How to I introduce a character? How do I tell a story? How do I tell the story in sequential order that flows naturally?	How do I determine a theme of a story, drama or poem? How do the characters in a story, drama or poem respond to challenges?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	I will be able to use narrative techniques, such as dialogue, , description, and pacing to develop the character. I will use a variety of transitional words, phrases, and clauses to manage the sequence of events. I will use sensory language to convey experiences and events in the eye of the reader. I will provide a conclusion that follows from the narrated experiences or events.	I will be able to quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. I will be able to identify the theme of a story, drama, or poem from details in the text. I will be able to respond to the challenges the author presents. I will compare and contrast tow or more characters, settings, or events in a story or drama.

Skills *What skills do I need to have in order to answer the essential questions?*	Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. Use of narrative techniques Use a variety of transitional words, phrases, and clauses to manage the sequence of events. Use concrete words and phrases and sensory details to convey experiences and events precisely. Provide a conclusion that follows from the narrated experiences or events. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. L5.5; develop and strengthen writing through the writing process.	Quote accurately from a text when explaining what the text says and what we can infer. Determine the theme of a story, drama, or poem from details in the text; summarize the text. Compare and Contrast two or more characters, settings, or events in a story or drama. Determine the meaning of words and phrases as they are used in a text, including figurative language. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem. Describe how a narrator's or speaker's point of view influences how events are described.

Content *What content do I need to know in order to answer the essential questions?*	Demonstrate command of conventions when writing: Capitalization, punctuation, and spelling. Elements of a story The author's Point of View .	Figurative language: metaphors and similes Inference and how to draw it out of a story Narrator's point of view How to summarize Compare and Contrast stories in the same genre
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Incorporate the use of technology through the publishing stage. Tell the story of the First Pilgrims settling in America (This is just an example of how you could incorporate it) You are your sandwich that you just ate for lunch, write a story in the first person as you travel through the digestive tract.	Compare and Contrast The East Coast and the West Coast. What are the advantages of living in each coast? What are the disadvantages of living in each coast? Find authors living in your own state and write a biography on that author.
Tools for Learning *Which tools will I use that will assist me in my learning?*	Microsoft Word for publishing final story. Samples of student's stories Smartboard	Geography textbook Reference materials; such as an encyclopedia, Google, and multimedia print Digital resources

Which 21st Century Skills are woven into this standard? _Critical Thinking/Problem Solving _Collaboration
__Communications __Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

Informative/ explanatory text – Grade 5	**Writing Standards: ELA. 5.M.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.**	**Reading Standards: ELA. 5.H. Read and comprehend informational texts, including, history/social studies, science, and technical texts, at the high end of Grades 4 and 5 text complexity band independently and proficiently.**
Essential Questions *What should I be able to answer?* *What guides my thinking?*	How do I develop the topic with relevant facts and details? How do I introduce a topic clearly, provide a general observation, which would include formatting, illustrations, and multimedia to aid comprehension? Does my introductory paragraph grab the reader's attention? How do I convey my ideas to the reader so that they will understand? Will the reader be able to explain the topic after reading my essay?	Can I predict the topic of the passage after previewing pictures or illustrations from the selection? Can I distinguish between what is fact and what is opinion? What is the author's viewpoint and how does that determine your reaction to that text?

Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	I will be expected to develop the topic with facts, definitions, concrete and specific details, quotations related to the topic. I will be able to develop key questions; such as, What are the causes of? What would happen if? I will use appropriate transitions to clarify the relationship among key ideas and concepts. I will use precise language to inform the reader on the topic. I will provide a concluding statement or sections that follow form the information explanation presented.	Analyze text for what is explicitly stated as well as what is inferred. Determine the author's point of view Integrate information presented in different media Determine two or more main ideas of a text and explain The supporting details Write a summary of the text.
Skills *What skills do I need to have in order to answer the essential questions*	5.K2.a; Introduce a topic, organization of ideas, using strategies such as definition, sequential order, etc. 5.K2b; develop the topic with relevant facts, definitions, details, and examples 5.K2c;Use of transition words to link ideas using words, phrases and clauses 5.K2d; Use of precise language to inform or explain topic	5.E1; Quote accurately from a text to support analysis – and be able to draw inferences. 5.E2: Determine the main ideas of a text and explain how they are supported by details. 5.E3; Explain the relationships or interactions between two or more characters, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

	5.K2e:Provide a concluding statement related to the information or explanation given in the essay.	5.F4 Determine the meaning of grade specific vocabulary 5.F5 Compare and contrast the overall structure of events, ideas, concepts, or information in more than one text; events, ideas, concepts or information in more than one text. 5.F6; Analyze multiple accounts noting differences and similarities 5.G9; Integrate information from several texts on the same topic in order to write or speak about the subject presented.
Content *What content do I need to know in order to answer the essential questions?*	The difference between fact and opinion Write a good, clear topic sentence to hook your reader Be able to write good supporting details Write an informative paragraph with precise language that will enable the reader to understand the topic.	Main Idea and details and be able to pull them from the text Read informational passages with subheadings removed and replaced with numbers Support subheadings with details Classify sections into categories Use of key words to identify structure (chronology, cause and effect)

Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Develop key questions in science such as What would happen if the chain of events were different? Use of Web organizers to plan and structure explanatory writing placing the topic in the center and branching out the details. Develop outlines from Social studies or science to enable the student to write an effective paragraph for each reason/argument with at least one sentence for each fact or detail.	After reading informational texts, students can record events in history on graphic organizers to resemble a chain reaction. This would work with science too. Gather information to create newscasts or advertisements explaining the message of a text. Compare and contrast the government of two different states.
Tools for Learning *Which tools will I use that will assist me in my learning?*	Web organizers; outlines, list of transition words, phrases or clauses Samples of informative or explanatory paragraphs Science or Social Studies textbooks	Provide a list of words that will enable the reader to understand the text Contextual clues Classification Sticky notes to record key ideas in text

Which 21st Century Skills are woven into this standard? _Critical Thinking/Problem Solving _Collaboration
__Communications __Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

Research – Grade 5	**Writing Standards: ELA.5. M. 7Research to build and present Knowledge**	**Reading Standards: ELA.5.G.7: Draw evidence from literary or informational text to support research**

Essential Questions *What should I be able to answer?* *What guides my thinking?*	How do I gather information to answer a constructed response? How do I write an outline? How to I write a note card? How do I paraphrase?	How do I assess the credibility of each source? How do I draw evidence from Literary or informational text to support my research?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	I should be able to identify the main idea of a paragraph. I should be able to support the main idea with supporting details. I should be able to assess the credibility of each source and information to answer the constructed response or short research project.	Analyze text for what is explicitly stated as well as what is inferred. I should be able to gather relevant information from multiple print and digital sources.

Skills *What skills do I need to have in order to answer the essential questions?*	5.M.7; draw on several sources and refocus the inquiry when appropriate 5.M.8; gather information from multiple print and digital sources; quote or paraphrase the data; provide basic bibliographic information for sources 5.M.9; draw evidence from literary or informational texts to support analysis, reflection, and research 5.P.4: Integrate information presented in different media or formats	5.F.5; Compare and contrast texts in different forms or genres 5.F.6; Analyze multiple accounts of the same topic, noting important similarities and differences 5.G.9; Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
Content *What content do I need to know in order to answer the essential questions?*	Write a short research report Select good resources Organize information and write an outline Create a visual presentation (i.e. Power Point, poster, brochure)	Main Ideas and details of a text Distinguishing claims that are supported by reasons and those that are not Paraphrase the data and conclusions of others while avoiding plagiarism
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Use Technology to produce and publish writings as well as to interact and collaborate with others on the same topic. Compare the information from primary source documents with the secondary sources (biographies read.	Choose informational text about one of the U.S. states, Mexico, or Canada and write a short article for *National Geographic* magazine.

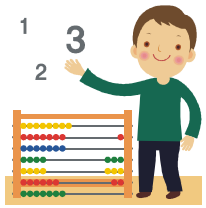
Tools for Learning *Which tools will I use that will assist me in my learning?*	Use of Noodle tools for gathering information and sources Multimedia print Encyclopedia, web 2.0 Primary sources depending on the topic given	Digital resources Reference materials Primary sources

Which 21st Century Skills are woven into this standard? _Critical Thinking/Problem Solving __ Collaboration
__Communications __Creativity/Innovation

What level of rigor will I be using? (A, C)___ What level of relevance will I be using?____ (B,D)

Mathematics

Grade 5



Common Core State Standards – Grade Four
Common Core State Standards – Grade Five
Common Core State Standards – Grade Six
Implementation Guide – Grade Five

Key Points In Mathematics

- The K-5 standards provide students with a *solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions and decimals*—which help young students build the foundation to successfully apply more demanding math concepts and procedures, and move into applications.
- In kindergarten, the standards follow successful international models and recommendations from the National Research Council's Early Math Panel report, by focusing kindergarten work on the number core: learning how numbers correspond to quantities, and learning how to put numbers together and take them apart (the beginnings of addition and subtraction).
- The K-5 standards build on the best state standards to provide detailed guidance to teachers on how to navigate their way through knotty topics such as *fractions, negative numbers, and geometry*, and do so by maintaining a continuous progression from grade to grade.
- The standards stress not only procedural skill but also conceptual understanding, to make sure students are learning and absorbing the critical information they need to succeed at higher levels - rather than the current practices by which many students learn enough to get by on the next test, but forget it shortly thereafter, only to review again the following year.
- Having built a strong foundation K-5, students can do hands on learning in geometry, algebra and probability and statistics. Students who have completed 7th grade and mastered the content and skills through the 7th grade will be *well-prepared for algebra* in grade 8.
- The middle school standards are robust and provide a coherent and rich *preparation for high school mathematics*.
- The high school standards call on students to *practice applying mathematical ways of thinking to real world issues and challenges*; they prepare students to think and reason mathematically.
- The high school standards set a *rigorous definition of college and career readiness*, by helping students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do.
- The high school standards *emphasize mathematical modeling*, the use of mathematics and statistics to analyze empirical situations, understand them better, and improve decisions. For example, the standards state: Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. It 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.

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 × 5 + 7 × 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 andthe 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 Standards

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.

Operations and Algebraic Thinking

Use the four operations with whole numbers to solve problems.

4.OA.1. Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 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.

4.OA.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.

4.OA.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.OA.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.

4.OA.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.

Number and Operations in Base Ten

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

Generalize place value understanding for multi-digit whole numbers.

4..NBT.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 ÷ 70 = 10 by applying concepts of place value and division.

4..NBT.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.

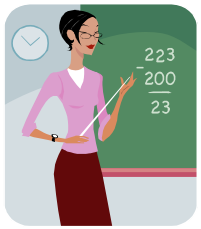
4..NBT.3. Use place value understanding to round multi-digit whole numbers to any place.

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

4..NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

4..NBT.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.

4..NBT.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—Fractions

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

Extend understanding of fraction equivalence and ordering.

4.NF.1. Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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.

4.NF.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.

4.NF.3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b.

- Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
- 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.
- 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.
- 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.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

- 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 × (1/4), recording the conclusion by the equation 5/4 = 5 × (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 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × 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?

Understand decimal notation for fractions, and compare decimal fractions.

4.NF.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. [Students 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.] For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.

4.NF.6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

4.NF.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

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

4.MD.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), ...

4.MD.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.

4.MD.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.MD.4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 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.

4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

- 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 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles.
- An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

4.MD.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.

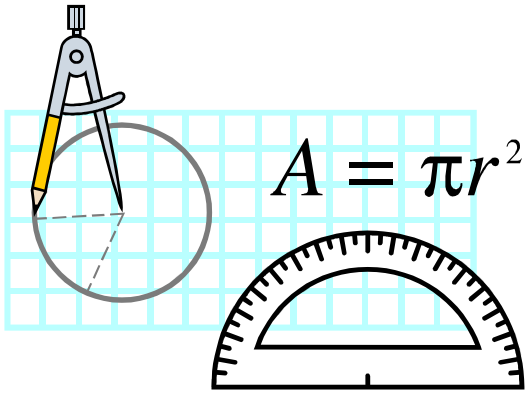
Geometry

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

4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.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.

4.G.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.



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.

Operations and Algebraic Thinking

Write and interpret numerical expressions.

5.OA.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

5.OA.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 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.*

Analyze patterns and relationships.

5.OA.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.*

Number and Operations in Base Ten

Understand the place value system.

5.NBT.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.

5.NBT.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.

5.NBT.3. Read, write, and compare decimals to thousandths.

- Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
- Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

5.NBT.4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5.NBT.5. Fluently multiply multi-digit whole numbers using the standard algorithm.

5.NBT.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.

5.NBT.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.

Number and Operations—Fractions

Use equivalent fractions as a strategy to add and subtract fractions.

5.NOF.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.)*

5.NOF 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.

5.NOF 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?*

5.NOF 4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

- 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) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.)*

- 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.NOF 5. Interpret multiplication as scaling (resizing), by:

- 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.
- 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.

5.NOF 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.

5.NOF 7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. *[Students 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.]*

- Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3.*
- Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.*
- 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

Convert like measurement units within a given measurement system.

5.MD.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.

5.MD.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.

5.MD.3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

- 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.
- 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.

5.MD.4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5.MD.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

- 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.
- 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.
- 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.

Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems.

5.G,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).

5.G,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.

5.G,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.*

5.G,4. Classify two-dimensional figures in a hierarchy based on properties.

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.
  - Multiply and divide 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.

Ratios and Proportional Relationships

Understand ratio concepts and use ratio reasoning to solve problems.

6.RP.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."*

6.RP.2. Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 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."*[1]

6.RP.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.

- 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.
- 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?*
- 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.
- Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

[1] Expectations for unit rates in this grade are limited to non-complex fractions

The Number System

Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

6.NS.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) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (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.*

Compute fluently with multi-digit numbers and find common factors and multiples.

6.NS.2. Fluently divide multi-digit numbers using the standard algorithm.

6.NS.3. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

6.NS.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). Apply and extend previous understandings of numbers to the system of rational numbers.*

Apply and extend previous understandings of numbers to the system of rational numbers.

6.NS.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.NS.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.

- 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.
- 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.
- 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.

- 6.NS.7. Understand ordering and absolute value of rational numbers.
  - 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.*
  - Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3 ^{o}C > –7 ^{o}C to express the fact that –3 ^{o}C is warmer than –7 ^{o}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.*
  - 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.*

6.NS.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

Apply and extend previous understandings of arithmetic to algebraic expressions.

6.EE.1. Write and evaluate numerical expressions involving whole-number exponents.

6.EE.2. Write, read, and evaluate expressions in which letters stand for numbers.

- 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.*
- 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.*
- 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 $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2.*

6.EE.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.*

6.EE.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.*

Reason about and solve one-variable equations and inequalities.

6.EE.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.EE.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.

6.EE.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.

6.EE.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.

6.EE.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

Solve real-world and mathematical problems involving area, surface area, and volume.

6.G.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.

6.G.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.

6.G.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.

6.G.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

Develop understanding of statistical variability.

6.SP.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.*

6.SP.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.

6.SP.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.

6.SP.4. Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

6.SP.5. Summarize numerical data sets in relation to their context, such as by:

Reporting the number of observations.

Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

- 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.
- 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.

Implementation Guide – Grade 5 Mathematics

Code: M.5.A.1 refers to: Mathematics –Grade 5 – Topic A – Skill 1

CATEGORY: Operations and Algebraic Thinking. Standard:M5A Write and Interpret Numerical Expressions	
Essential Questions *What should I be able to answer? What guides my thinking?*	How do I deal with questions that have multiple math operations? Why is the strategy of order of operations both effective and efficient for me? When am I going to see and use this skill?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students can discuss in small groups what they have learned about numerical expressions and order of operations. Students can write in math journal, "I used to think I could solve a series of equations by working from left to right. Now I know I have to follow order of operations because…" Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, student will devise an activity or game (such as Hopscotch) that can use steps that will simulate order of operations. Explanations, illustrations, and game rules will be included.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.A.** 1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. **M.5.A.** 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 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product*
Content *What content do I need to know in order to answer the essential questions?*	Simplify Order of Operations through the use of parentheses, braces, or brackets. Do those operations that are in parentheses, braces, or brackets first. PEMDASFLTR – Please Excuse My Dear Aunt Sally From Leaving The Room Parentheses, Exponents, Multiplication **OR** Division, Addition **OR** Subtraction, From Left To Right Use mathematical representation to solve problems.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science, Computer Programming, and Accounting: Investigate how and why mathematical calculations in these areas need order of operations. Technology: Use several different types of calculators, E.G., four function, fraction, etc. Give students a series of equations to be put into each type of calculator. Decide which type of calculator automatically solves the equations using order of operations. Student will write the results and decide why certain types of calculators do/do not automatically use order of operations.
Tools for Learning *Which tools will I use that will assist me in my learning?*	Trade books, text books, calculators, computers, interactive boards NCTM website, C&I website, commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Operations and Algebraic Thinking. Standard: M.5.B. Analyze patterns and relationships

Essential Questions *What should I be able to answer? What guides my thinking?*	How can I relate mathematical patterns to patterns in life? How do patterns shape my understanding of mathematics? How can I change patterns in mathematics to rules of mathematics?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students can use physical patterns such as in card games, checkers, chess, skip counting, patterns in nature, etc., and relate them to mathematical number patterns. In small groups, each student will create number patterns, graph these, then discuss these patterns. Students can use pattern blocks to create tessellations. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, students can create games that use patterns. Explanations will include how the game is played, what patterns are used, how patterns help to solve the game, etc. Illustrations should include the actual game and game pieces. These can be made of cardboard or other simple materials. Graphs can be used to illustrate the game.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.B.1**. 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.*
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: patterns, ordered pairs, corresponding terms, coordinate plane, sequence. Compare patterns of one sequence to patterns of another sequence. E.G., 0,3,5,7,9 (add **2** to each number). 0,4,8,12,16 (add **4** to each number). Describe the relationship between the "add" numbers in the patterns. E.G., "add" 4 is twice as much as "add" 2. Form ordered pairs, e.g., (2,4), then graph these on a coordinate plane.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Social Science: Make numerical and logical predictions for various real world activities. History: Discuss patterns in history, such as wars, diseases, migration, inventions, medical advances, etc. Science: Discuss patterns in science and nature, such as lunar cycles, scientific inventions, the growth cycle of plants, etc.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, calculators, computers, pattern blocks, graphs, interactive boards NCTM, C& I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Number and Operation in Base Ten. Standard: M.5.C. Understand the Place Value System

Essential Questions *What should I be able to answer? What guides my thinking?*	What does zero mean? Where do I see and use zeros? How do I compare powers of ten to the use of zeros in the place value system? Where will I use decimals in real life situations? How does expanding numbers help me to understand place value?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students will model whole numbers and decimals using base ten blocks. Students will use 100 grid paper to demonstrate decimals. Use several colors to show comparison of decimals. In groups of two, students will write the expansion of whole numbers, decimal numbers, and numbers with exponents. Each student will write a portion of the expansion and will critique her/his partner's written work. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment:: In a long-range activity, students will use whole numbers, money, and decimals in comparison shopping. In small groups, students will choose a grocery or dry goods product. Compare the prices of the same item in three different stores. Investigate or deduce why there is a difference in prices. Use store ads or actual trips to the store. Use rounding of decimals and whole numbers.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.C.** 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. **M.5.C.** 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. **M.5.C.** 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 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (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. **M.5.C.** 4. Use place value understanding to round decimals to any place.
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: decimal, decimal point, exponents, powers of 10, tenths, hundredths, thousandths, expanded form. Stress: The word "and" is used when reading decimals only, not with large whole numbers. Decimals are read as "and," not as "point." 1.E.G. Use the number 5327. Show how the 5 is 5x1000, the 3 is 3x100, etc. Show how each decimal digit is 1/10 of the place to the left. 2.Show how multiplying by 10^2 will result in a product ending in two zeros. E.G. 525 x10^2 = 52500. Explain how the decimal point is moved to the right when multiplying by powers of 10 and to the left when dividing by powers of 10. 3.Expand whole numbers and decimal numbers. a) in tenths, hundredths, thousandths. b) compare decimals to the thousandths place. E.G. 0.123 <0256. c) round decimals to any place.

Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Investigate how science formulas, engineering, and computer science use exponents, expanded notation. Health/science: Use labels from cans, boxes that show volume or weight as decimal numbers. Compare these numbers. Social Studies: Compare the population of several United States cities. Make inferences as to why the population in some cities is larger/smaller than others. Round these numbers.
Tools for Learning *Which tools will I use that will assist me in my learning?*	Investigate how science formulas, engineering, and computer science use exponents and expanded notation. Health/Science: Use labels from cans, boxes, etc. that show volume or weight as decimal numbers. Compare these numbers/ Social Studies: Investigate the populations of several cities. Make inferences as to why populations in some cities are larger/smaller than other cities. Text books, trade books, calculators, computers, graphs, base ten blocks, grid paper, interactive boards NCTM , C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Number and Operation in Base Ten. M 5 D Standard: Perform operations with multi-digit whole numbers and with decimals to hundredths.

Essential Questions *What should I be able to answer? What guides my thinking?*	Where will I use multiplication of whole numbers and decimals in real world situations? How do I multiply multi-digit whole numbers? How can I find the relationship between multiplication and division? How can I use concrete models to demonstrate addition, subtraction, multiplication, and division of decimals? How can models help me to understand mathematical concepts?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students will use concrete objects, such as base ten blocks to illustrate whole numbers and decimals. Use grid paper and colored pencils/ crayons to illustrate whole numbers and decimals. Write explanations of these in math journals. Math Journal: Students will answer one or more of the Essentials Questions. **Summative**: Performance Assessment: In a long-range activity, students will create a school bank, with deposits, loans, and interest, using addition, subtractions, multiplication, and division of whole numbers, money, and decimals. Write an on-going explanation of what has been done and keep records of each process. In a long-range activity, students will make flash cards. The cards will illustrate addition, subtraction, multiplication, and division of multi-digit whole numbers and decimals. Each card will list the concept and the process for solving the equation, and create pictures of the operations. A word problem should be included on each card. One card can be used for each concept. The flash cards can vary according to teacher specifications.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.D.1**. Fluently multiply multi-digit whole numbers using the standard algorithm. **M.5.D.2**. 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. **M.5.D.3**. 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.
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: properties, quotient, dividend, divisor, digit, equation, arrays, concrete model algorithm (teacher use). Stress the word "and" not "point" when reading decimal numbers. When reading numbers, the word "and" should be used with decimals only, not with large whole numbers. 1) Mastery of multi-digit whole numbers using standard form of multiplication. 2) Divide whole numbers with 4-digit dividends and 2-digit divisors. Show how division is the inverse (opposite) of multiplication. 3) Addition, subtraction, multiplication, and division of decimals to the hundredths place using models, drawings, and written explanations to relate this to the use of numbers.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Technology: In groups of three students, a series of math problems will be solved to determine the most efficient method. Student 1uses pencil and paper. Student 2 uses mental math. Student 3 uses a calculator calculator. Students can interview people in professions that use decimals, such as engineering, carpentry, plumbing, manufacturing to discover how math is used in those jobs. Student 1 uses pencil and paper. Student 2 uses mental math. Student 3 uses a calculator

	Social Science: Students can interview people in professions such as engineering, carpentry, plumbing, and manufacturing, that use decimals to discover how math is used in these jobs.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, calculators, computers, pattern blocks, graphs, interactive board NCTM, C & I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Standard: Number and Operations-Fractions M 5 E Use equivalent fractions as a strategy to add and subtract fractions.	
Essential Questions *What should I be able to answer? What guides my thinking?*	Where will I use portions of numbers? Where do I see fractions or portions of objects/numbers used in real world situations? Where can I use addition and subtraction of fractions in real world situations? How do I use equivalent fractions used to add and subtract fractions with unlike denominators? How can I use benchmark fractions to understand if my answer is logical?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students will use fraction dominoes to create games that add and subtract fractions. Use fraction strips to compare fractions, E.G., How many eighth strips equal a ¼ strip? Is 2/5 greater or less than 3/8? Use fractions strips to compare mixed numbers to improper fractions. Measure objects to the nearest fraction. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance assessment: In a long-range activity, students will explore real-world use of fractions. Obtain newspapers, magazines, TV advertisements to demonstrate sale items with "fraction off." E.G. The sales is ½ off the regular price. Student will write a report describing this, and will use illustrations, computation, word problems, and written explanations. Performance assessment: Students will investigate and create a report on occupations that use fractions. Demonstrate how the occupation uses addition and subtraction of fractions.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.E.** 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.)* **M.5.E.** 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.*
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: numerator, denominator, equivalent fractions, mixed numbers, sum, difference, benchmark fractions, visual fraction model 1) Add and subtract unlike fractions and mixed numbers. 2) Use the least common denominator to make equivalent fractions. 3) Use representations, diagrams, illustrations, manipulatives and equations to solve word problems. Use bench mark fractions and number line to decide if an answer is reasonable.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science: Discuss how science formulas use fractions and decimals. Language: use a Venn diagram to determine if fractions that are greater than, less than, or equal to a designated fractions. Music – Compare whole, half, quarter, eighth, and sixteenth notes. Decide on various arrangements of real life occupations: carpentry, landscaping, automotive, plumbing, painting, flooring, etc. notes

	that will make a measure of four beats. Social Science/ Life Skills: Investigate how people in real life occupations, such as carpentry, landscaping, automotive, flooring, painting, plumbing, etc. that use fractions.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, calculators, computers, pattern blocks, grid paper, base 10 blocks, interactive boards NCTM. C & I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Number and Operations-Fractions. Standard: M 5 F Apply and extend previous understandings of multiplication and division to multiplication and division of fractions.

Essential Questions *What should I be able to answer? What guides my thinking?*	How can fraction models and drawings help me to understand multiplication and divisions of fractions? Where will I see portions of objects multiplied and divided in real life? Where in real life will I see fractions multiplied and divided?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students will use fraction dominoes to create games that use multiplication and division of fractions. Use fraction strips to demonstrate multiplication and division of fractions. With small groups of students, use dry erase boards to solve word problems: The first student creates a word problem, and passes the board to the next person who decide which operation is needed. The third student solves the equations. The fourth student describes why this solution is correct or incorrect. Use grid paper to show multiplication of fractions. Use several colors to show this.Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, each student will create a flip book. Page 1 shows the word problem. Page 2 shows the steps needed to solve the problem. Page 3 shows an illustrations of the solution. Page 4 shows the equation/s used to solve the problem and the answer. Page 5 is a written explanation of the solution and why this solution was chosen.

Skills *What skills do I need to have in order to answer the essential questions?*	M.5.F. Apply and extend previous understandings of multiplication and division to multiply and divide fractions. **M.5.F.1**. 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?* **M.5.F.2**. 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) × 4 = 8/3, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (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. **M.5.F.3**. 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. **M.5.F.4**. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. **M.5.F.5**. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. *[Students 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.]* a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 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 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (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?*
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: equivalent fractions, numerators, like and unlike denominators, sum, difference, benchmark, benchmark fractions, visual fraction model 1) Use models and equations to understand the meaning of a fraction. 2) Multiply a fraction, or a whole number, by a fraction. Use a visual model to show the equation. Find the area of a rectangle whose sides are fractions. Use unit squares. 3) Visualize the product by the size of the faction. E.G, 4/3 x 2 =2 2/3, which is greater than 2. 2/3 x 4 = 8/3 = 2 2/3, which is less than 4. 4) Use models in solving word problems. 5) Divide fractions by whole numbers. Divide whole numbers by fractions. Use visuals and stories to explain division of a fraction by a whole number. Use visuals and stories to explain division of a whole number by a fraction. Use real world word problems in division of fractions.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science: Investigate how and why fractions are used in science formulas, Technology: Investigate the role fractions play in calculators and computers. Social Science/ Life

	Skills: Double or half recipes that make use of fractions in their ingredients. Social Science/ Life Skills: Obtain newspaper ads showing the cost of products. Figure the sales price of items on sale for ½ off, 1/3 off, ¼ off.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, fractions strips, grid paper, dominoes, dry erase boards, calculators, computers, interactive boards NCTM , C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Measurement and Data. Standard: M. 5. G Convert like measurement units within a given measurement system.	
What should I be able to answer? What guides my thinking?	Can I learn different systems, other than customary/standard measurement, for measuring things? Will I find that metric measurement is needed more in today's world than standard measurement is? Where will I see standard measurement and metric measurement used in real life? Does it make sense to me to measure objects in a variety of ways to find the best method?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Students will work with partners: "My book is 30 cm long. How many mm is that? " The partner answers, then makes up her/his own problem. Students will create word problems using measurement in real life situations. Math journal: Students will answer one or more of the essential Questions. **Summative**: Performance Assessment: In a long-range activity, students will make a booklet using a theme, E.G., sports, toys, objects in the home, etc. The student will chose a variety of objects, measure each in several different ways, using both standard and metric measurement. The booklet will have illustrations of each object and its measurement conversion. The student will create word problems and write explanations of the activity.
Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.G. Convert like measurement units within a given measurement system.** **M.5.G.** 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.

Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: convert, all terms used in standard measurement, all terms used in metric measurement Convert measurements in multi-step, real world problems.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science: Investigate how measurement is used in science experiments. Technology: Investigate how measurement is used in computers, art, and graphic arts. Make measurements using virtual manipulatives. Social Science/Life Skills: Discover ways in which the conversion of measurement is used in occupations such as carpentry, flooring, plumbing, etc. Social Science: Discuss what might happen if carpenters building a deck did not use accurate measurements.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, metric and standard measuring tools, calculators, computers, interactive boards, virtual manipulatives NCTM, C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Measurement and Data. Standard: M 5 H Represent and interpret data.

Essential Questions *What should I be able to answer? What guides my thinking?*	How can line plots help me understand various types of information? Where will I find line plots used in the real world? Will I be able to use various methods to interpret data?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Math journal: Student will draw line plots showing various data, then write an explanation of what the information shows. Use grid paper to plot fractions. Place the number "one" on the far left, and the number "two" on the far right. Given a specific denominator, the student will fill in as many fractions as possible, placing them in an equidistant manner. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, the student will use line plots to represent various fractions in real life situations, such as comparing measurements of objects. Decide and explain how and why these measurements were chosen, and why precision is necessary in real-life measurements. Formulate word problems using data from line plots.
Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.H.1**. 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.*

Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: line plot, data, represent, interpret Make line plots using fractions, then interpret that data through models, written explanations.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science / Social Science: Observe and count the birds at a bird feeder for five minutes. Distinguish and count the types of birds. Plot these on a line plot. Also, note what kind and how many bird fly away, then return to the feeder. This also can be plotted. Social studies: Make line plots of the area and population of several cities and compare the results.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, grid paper, metric and standard measuring tools, calculators, computers, interactive boards, virtual manipulatives NCTM, C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Measurement and Data. Standard: M. 5. I Geometric Measurement: Understand the concepts of volume and relate volume to multiplication and addition.

Essential Questions *What should I be able to answer? What guides my thinking?*	Where and how is volume used in real life situations? When will I use volume? How can models help me to understand volume?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: Student, with a partner, obtains several square or rectangular boxes. Each person will guess the number of unit cubes needed to fill the containers. Keep score as to which person has the nearest estimate of the correct number of unit cubes. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, student will choose four containers of various sizes and shapes and fill each with cubic units. Write a detailed report on the amount of cubic units that are needed to fill each container. Decide which types of containers can or cannot be fully packed with cubic units. Explain why this is so and how this conclusion was reached. Use the mathematical formula for volume where it is applicable. Word problems should be created to show the results of the experiment.
Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.I.1**. 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. **M.5.I.2**. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. **M.5.I.3**. 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.
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: volume, solid figures, unit cubes, cubic cm, cubic in, cubic ft, base, rectangular prism, right rectangular prism 1) Volume and volume measurement. Use unit cubes to measure volume. If a solid figure is packed with 15 unit cubes, the volume is 15 unit cubes. 2) Use standard measures as well as non-standard measures.

	3) Use real world word problems involving volume. Compare the measuring of volume using unit cubes to the measuring of volume by multiplying the three side lengths. Use formulas for volume using real world word problems. Add the volumes of two right rectangular prisms. Real world: Find a way to ship two boxes which will fit into one box. Stack equal-sized boxes.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science / Life Skills: Given specific measurements (length, width, and height), calculate how much concrete will be needed to make a patio. Science / Life Skills: Given specific measurements (length, width, height), calculate how much soil will be needed to make a raised garden bed. Technology: Use virtual manipulatives to calculate the unit cubes needed to fill various types and sizes of containers.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text book, trade books, metric and standard measurement tools, calculators, computers, virtual manipulatives, interactive boards, NCTM, C & I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

CATEGORY: Geometry. Standard: M 5 J Graph points on the coordinate plane to solve real world and mathematical problems.

Essential Questions *What should I be able to answer? What guides my thinking?*	Where will I see graphs used in the real world, and how are they used? How will graphing in mathematics help me in understand graphs in other situations and other subject areas? Why is graphing important to me in solving mathematical problems?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: In small groups, list as many real-life situations in which graphs are useful. Use grid paper to plot a given table of ordered pairs. This can be done with partners – one person plots the X axis, the other plots the Y axis. Or one partner plots the ordered pair and the other person checks for correctness. Math Journal: Students will answer one or more of the Essential Questions. **Summative**: Performance Assessment: In a long-range activity, the student will choose a real-life political, economic, historical, or geographic situation and graph this. Make inferences as to why the graph is representative of the situation, and explain these inferences. Make predictions based on the graph as to the future of the situation. E.G. Will a drop in the stock market over a period of time cause a slow-down in other areas, such as jobs?

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.J.** 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). **M.5.J.** 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.
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: perpendicular, axes, ordered pair, coordinates, coordinate plane, quadrant 1) Graph X and Y axes on a coordinate plane. 2) Use real world problems involving graphing on a coordinate plane.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Science: Set up an experiment testing the life of certain batteries. Graph the results. Social Studies: Obtain and graph historical data on rain or snowfall in a series of years. Social Studies: Trace family histories of the students in the class and graph the number of students from various countries. Technology: Use spreadsheets to predict the direction and placement of lines on a coordinate plane. Write an explanation that hypothesizes about the direction and placement of these lines. science, history, geography, economics, art, technology

Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, calculators, computers, graphs, interactive boards, virtual manipulatives, NCTM, C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration
___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)

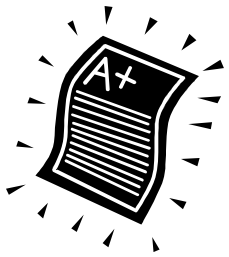
CATEGORY: Geometry. Standard: M 5 K Classify two-dimensional figures into categories based on their properties.

Essential Questions *What should I be able to answer? What guides my thinking?*	Where will I find two-dimensional figures used in the real world? Where, in the real world, do I see shapes that use two-dimensional figures? How can using models help me understand two-dimensional figures?
Assessment *What will I be expected to know, understand, and be able to do in order to demonstrate my learning?*	**Formative**: The student will make a tree diagram of two-dimensional figures based on their properties. Make a chart, similar to a computer flow chart, of two-dimensional figures based on their properties. Students can discuss why engineers must study two-dimensional figures as well as the computation of numbers used in these figures. **Summative**: Performance Assessment: In a long-range activity, the student will design and build a replica of a building which makes use of several types of two-dimensional figures. The building can be made of cardboard or some similar easily obtainable material. A written explanation of the process of designing and the types of figures used will be included. In order to observe examples needed to study the use of various types of figures in buildings, students can observe the variety of buildings in a large city, such as Philadelphia.

Skills *What skills do I need to have in order to answer the essential questions?*	**M.5.K.1**. 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.* **M.5.K.2+**. Classify two-dimensional figures in a hierarchy based on properties.
Content *What content do I need to know in order to answer the essential questions?*	Vocabulary: angle: acute, right, obtuse; two-dimensional figures, polygon, triangle: scalene, isosceles, equilateral; quadrilateral, parallelogram, trapezoid, rectangle, rhombus, square, pentagon, hexagon, heptagon, octagon, nonagon, hexagon 1) List attributes of two-dimensional figures. 2) Classify figures according to angles, sides, and shapes.
Integration of Learning *How does this learning connect to my other areas (subjects) of learning?*	Art/Architecture: Use pattern blocks, or attribute blocks to create designs or tessellations of two-dimensional figures. Technology: Use virtual manipulatives to create designs of two-dimensional figures. Art: Draw a chart showing hierarchy of figures, using colors to show comparison/contrast of those figures. This can also be done using a computer.
Tools for Learning *Which tools will I use that will assist me in my learning?*	text books, trade books, calculators, computers, virtual manipulatives, pattern blocks, attribute blocks, interactive boards MCTM, C&I, and commercial websites

Which 21st Century Skills are woven into this standard? ___Critical Thinking/Problem Solving ___Collaboration ___Communications ___Creativity/Innovation

What level of rigor will I be using? (A, C)_____ What level of relevance will I be using?_____ (B,D)



Assessment and Grading

Grading and Assessment

Report Cards

The change in curriculum has prompted a change in our reporting document.

- **Report cards** will not be grade specific.
    - **Kindergarten** students will receive reports aligned to the skills appropriate to that level.
    - Students in **grades 1 – 3** will receive the primary form of the report card.
        - The grading system will continue as letter grades.
        - **No** numerical equivalents are attached to these grades.
            - The children in grades 4 – 8 will receive the elementary form of the report card
        - The grading system will continue as number grades for major content areas: Religion, Math and English Language Arts, Science and Social Studies. The general average is calculated from these grades.
        - A number scale is used for other content areas: Art, Music, Physical Education, Technology and World Language.

- **Grading Practices:**
    - The students will receive **<u>one grade</u>** for ELA and **<u>one grade</u>** for Math
        - The overall grade for each of these content areas will be an average of the progress shown in all of the "sub-set" categories for that content area.
        - **ELA** -- Care must be taken to ensure that the assessments reflect the entirety of ELA
            - At a minimum 2 assessments must be planned to assess progress in each of the sub-categories.
            - In each "sub-category":
                - a "+" will indicate that the student meets or exceeds expectations in that area.
                - a "√" will indicate that the student continues to work towards meeting expectations.
        - In **Math**, the students will again receive one overall grade.
            - Progress in sub-categories" will be noted with a "+" or a " √" as indicated above.
            - Progress should be able to documented by at least two different assessments in each area.

Portfolios:

- Portfolio assessment is a *"perfect fit"* with the Core Curriculum State Standards
- Portfolios should be used to gather relevant samples of student work over time
- Students are involved in the selection of artifacts
    - Students do self-reflection of their work
    - Teachers and students periodically discuss the work contained in the portfolio

- **Minimum Requirements for Student Portfolios:**
    - Baseline writing samples – start and end of school year
    - 2 ELA Performance assessments (all stages with rubric attached.)
    - 2 Math Performance assessments
    - Standardized test scores
    - Social Studies, Science, Art, Technology, Music, World Language samples
    - Student Choices with entry slip attached
    - Other items deemed necessary by the local school
        - Writing pieces
        - Science experiments
        - Mathematics problems and solutions
        - Applied Mathematics
        - Book reviews
        - Research projects
        - Physical Fitness Summary
        - Interdisciplinary projects/assignments

Resources

Web site for Common Core Standards:

http://www.corestandards.org/the-standards/

- **Resources aligned to the Common Core Standards can be found at : http://teacherweb.com/PA/AOP/ETCC/apt1.aspx**

You will find a wealth of resources related to curriculum on the following Curriculum Committee web sites.

- **Curriculum web site: http://www.teacherweb.com/PA/AOP/ElementaryCurriculumandInstruction/h1.aspx English Language Arts web site: http://www.teacherweb.com/PA/AOP/ElementaryIntegratedLanguageArts%28ILA%29/ap2.aspx**
- **Mathematics web site: http://www.teacherweb.com/PA/AOP/ElementaryMathematicsCurriculumCommittee/apt1.aspx**
- **Library Media web site: http://www.teacherweb.com/PA/AOP/ElementaryLibraryMediaCommittee/h0.stm**
- **Early Childhood web site: http://www.teacherweb.com/PA/AOP/EarlyChildhood/**
- **Assessment: http://www.teacherweb.com/PA/AOP/ElementaryAssessmentCommittee/ap1.aspx**