

5th Grade Standards, Questions, and Vocabulary

Standard/Element	Kid Friendly Terms	Vocabulary
ELA5R1 The student demonstrates comprehension and shows evidence of a warranted and responsible explanation of a variety of literary and informational texts.		
a. Identifies and analyzes the elements of setting, characterization, and conflict in plot.	How do the elements of literature work together to create a story?	Setting, character, conflict, plot, problem/solution, rising action, climax, resolution/outcome, characteristics, traits
b. Identifies and analyzes the structural elements particular to dramatic literature (e.g., scenes, acts, cast of characters, stage directions) in the plays read, viewed, written, and performed.	What are the components that make up dramatic literature?	Scenes, acts, cast of characters, stage directions, drama, play, perform
c. Identifies and analyzes the similarities and differences between a narrative text and its film or play version.	What are the similarities and differences between a narrative story and its film version?	Narrative, text, film, play
d. Relates a literary work to information about its setting (historically or culturally).	How is the setting of a story influenced by its historical or cultural context?	setting
e. Identifies imagery, figurative language (e.g., personification, metaphor, simile, hyperbole), rhythm, or flow when responding to literature.	How can figurative language be used to enhance writing?	Figurative language, imagery, personification, metaphor, simile, hyperbole, rhythm, flow, literature, onomatopoeia, alliteration
f. Identifies and analyzes the author's use of dialogue and description.	How does the author use dialogue and description to build story elements?	Dialogue, description, characters
g. Applies knowledge of the concept that theme refers to the message about life and the world that the author wants us to understand whether implied or stated.	How can you identify the theme of a story?	Theme, message, implied, stated
h. Responds to and analyzes the effects of sound, figurative language, and graphics in order to uncover meaning in poetry. i. Sound (e.g., alliteration, onomatopoeia, rhyme scheme) ii. Figurative language (e.g., personification, metaphor, simile, hyperbole) iii. Graphics (i.e., capital letters, line length, stanzas). evidence from the text.	How can figurative language be used to enhance writing?	Figurative language, imagery, personification, metaphor, simile, hyperbole, rhythm, flow, literature, onomatopoeia, alliteration, line length, stanzas, rhyme scheme
i. Makes judgments and inferences about setting, characters, and events and supports them with elaborating and convincing evidence from the text.	How can you make inferences about setting, characters, and events within text?	Settings, characters, events

j. Identifies similarities and differences between the characters or events and theme in a literary work and the actual experiences in an author's life.	How can you connect the events in a story to events in the author's life?	Similarities, differences, characters, events, theme, experiences, author
k. Identifies common structures and stylistic elements (e.g., hyperbole, refrain, simile) in traditional literature.	How can you identify figurative language in writing?	Hyperbole, refrain, simile, structures, stylistic elements
For informational texts, the student reads and comprehends in order to develop understanding and expertise and produces evidence of reading that:		
a. Locates facts that answer the reader's questions.	How do you use facts from the text to answer questions?	Locate, facts
b. Identifies and uses knowledge of common textual features (e.g., paragraphs, topic sentences, concluding sentences, glossary).	How can topic sentences and concluding sentences in your paragraphs enhance your writing?	Text features, paragraphs, topic sentences, concluding sentences, glossary
c. Identifies and uses knowledge of common graphic features (e.g., charts, maps, diagrams, captions, and illustrations).	How do you use graphic features to better understand what you read?	Graphic features, charts, maps, diagrams, captions, illustrations
d. Identifies and uses knowledge of common organizational structures (e.g., chronological order, logical order, cause and effect, classification schemes).	How does an author select an appropriate organizational structure for writing?	Text, organizational structures, chronological order, sequencing, logical order, cause and effect, classification, compare and contrast, problem and solution, main idea and supporting details
e. Distinguishes cause from effect in context.	How do readers and writers use cause and effect to better understand what you read?	Cause and effect
f. Identifies and analyzes main ideas, supporting ideas, and supporting details.	How do readers and writers use main ideas and supporting details to better understand what you read?	Main ideas, supporting ideas, supporting details
g. Makes perceptive and well-developed connections.	How can you make connections in reading and writing?	Perceptive, connections
h. Relates new information to prior knowledge and experience and makes connections to related topics or information.	How can you make connections in reading and writing?	Prior knowledge, experience
a. Reads a variety of texts and incorporates new words into oral and written language.	How can I utilize new vocabulary I learn from reading?	Texts
b. Determines the meaning of unfamiliar words using context clues (e.g., definition, example).	How can I figure out the meaning of a word?	Unfamiliar words, context clues, definition
c. Determines the meaning of unfamiliar words using knowledge of common roots, suffixes, and prefixes.	How do I use word parts to determine word meanings?	Unfamiliar words, common roots, suffixes, prefixes

d. Determines pronunciations, meanings, alternate word choices, and parts of speech of words using dictionaries and thesauruses.	How can a thesaurus and dictionary be used to enhance my writing?	Pronunciation, meaning, alternate word choices, parts of speech, dictionaries, thesaurus
e. Identifies the meaning of common prefixes (e.g., un-, re-, dis-).	How can I figure out the meaning of a prefix?	Prefixes
f. Identifies the meaning of common idioms and figurative phrases.	How can I figure out the meaning of an idiom?	Idioms, figurative phrases
g. Identifies playful uses of language (e.g., puns, jokes, palindromes).	How can I figure out the meaning of puns, jokes, and palindromes?	Puns, jokes, palindromes
h. Recognizes and uses words with multiple meanings (e.g., sentence, school, hard) and determines which meaning is intended from the context of the sentence.	How can I figure out the meaning of a word?	Multiple meanings, context clues
i. Identifies and applies the meaning of the terms antonym, synonym, and homophone.	What is a synonym? What is an antonym? What is a homophone?	Antonym, synonym, homophone
ELA5R4 The student reads aloud, accurately (in the range of 95%), familiar material in a variety of genres, in a way that makes meaning clear to listeners. The student		
a. Uses letter-sound knowledge to decode written English and uses a range of cueing systems (e.g., phonics and context clues) to determine pronunciation and meaning.	How can I figure out the pronunciation of a word?	context clues
b. Uses self-correction when subsequent reading indicates an earlier miscue (self-monitoring and self-correcting strategies).	How do I use the strategy of self-correction?	
c. Reads with a rhythm, flow, and meter that sounds like everyday speech (prosody).	How can I improve my fluency?	Rhythm, flow, meter
ELA5W1 The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals a satisfying closure. The student		
a. Selects a focus, an organizational structure, and a point of view based on purpose, genre expectations, audience, length, and format requirements.	How do we determine the most appropriate form of communication for a specific message?	Focus, organizational structure, point of view, genre, audience, length
b. Writes texts of a length appropriate to address the topic or tell the story.	How can I ensure that my writing addresses the topic?	Text, topic
c. Uses traditional structures for conveying information (e.g., chronological order, cause and effect, similarity and difference, and posing and answering a question).	How can I organize my writing for conveying information?	Chronological order, cause and effect, similarity and difference, problem and solution
d. Uses appropriate structures to ensure coherence (e.g., transition elements).	How do I transition from one topic to another?	transition

ELA5W2 The student demonstrates competence in a variety of genres.		
The student produces a narrative that:		
a. Engages the reader by establishing a context, creating a point of view, and otherwise developing reader interest.	How do I engage the audience?	Point of view, reader interest
b. Establishes a plot, point of view, setting, and conflict, and/or the significance of events.	How do I engage the audience?	Plot, point of view, setting, conflict, events
c. Creates an organizing structure.	How do I organize my narrative so the audience can follow the plot?	Organizing structure
d. Includes sensory details and concrete language to develop plot and character.	How do I use sensory details and concrete language to create dimensional characters and an engaging plot?	Sensory details, plot, character
e. Excludes extraneous details and inconsistencies.	How do I choose appropriate details for my narrative?	Extraneous details, inconsistencies
f. Develops complex characters through actions describing the motivation of characters and character conversation.	How do I use dialogue and action to build dimension in characters?	Characters, actions, conversation, motivation
g. Uses a range of appropriate narrative strategies such as flashback, foreshadowing, dialogue, tension, or suspense.	What strategies can be used to engage the audience in narrative writing?	Flashback, foreshadowing, dialogue, tension, suspense
h. Provides a sense of closure to the writing.	How do I create a closure that answers all the reader's questions?	Closure
i. Lifts the level of language using appropriate strategies including word choice.	How do I use appropriate vocabulary for my topic?	Word choice
The student produces informational writing (e.g., report, procedures, correspondence) that:		
a. Engages the reader by establishing a context, creating a speaker's voice, and otherwise developing reader interest.	How do I establish a context to engage the reader? How do I create a speaker's voice to engage the reader?	Context, speaker's voice, reader interest
b. Develops a controlling idea that conveys a perspective on a subject.	How can I develop a controlling idea in my writing?	Controlling idea
c. Creates an organizing structure appropriate to a specific purpose, audience, and context.	How do I create an organizing structure appropriate to my purpose, audience, and context?	Purpose, audience, context
d. Includes appropriate facts and details.	How do I choose appropriate details for my writing?	Facts, details
e. Excludes extraneous details and inappropriate information.	How do I choose appropriate details for my writing?	Extraneous details
f. Uses a range of appropriate strategies, such as providing facts and details,	How do I use appropriate strategies to create an engaging	Relevant anecdote

describing or analyzing the subject, and narrating a relevant anecdote.	informed informational piece?	
g. Draws from more than one source of information such as speakers, books, newspapers, and online materials.	What resources can I use to enhance my writing?	Speakers, books, newspapers, online materials
h. Provides a sense of closure to the writing.	How do I create a closure that answers all the reader's questions?	Closure
i. Lifts the level of language using appropriate strategies including word choice.	How do I use appropriate vocabulary for my topic?	Word choice
The student produces a response to literature that:		
a. Engages the reader by establishing a context, creating a speaker's voice, and otherwise developing reader interest.	How establish a context to engage the reader? How do I create a speaker's voice?	Context, speaker's voice, reader interest
b. Advances a judgment that is interpretive, evaluative, or reflective.	How do I use information from the literature to make judgments?	Judgment, interpretive, evaluative, reflective
c. Supports judgments through references to the text, other works, authors, or non-print media, or references to personal knowledge.	How do I use evidence from the literature to support my judgment?	References, supports
d. Develops interpretations that exhibit careful reading and demonstrate an understanding of the literary work.	How can I comprehend what I read?	Interpretation
e. Excludes extraneous details and inappropriate information.	How do I choose appropriate details for my writing?	Extraneous details, inappropriate information
f. Provides a sense of closure to the writing.	How do I create a closure that answers all the reader's questions?	Closure
g. Lifts the level of language using appropriate strategies including word choice.	How do I use appropriate vocabulary for my topic?	Word choice
The student produces a persuasive essay that:		
a. Engages the reader by establishing a context, creating a speaker's voice, and otherwise developing reader interest.	How can I engage the reader?	Context, speaker's voice, reader interest
b. States a clear position in support of a proposal.	How do I develop a position on a topic?	Position
c. Supports a position with relevant evidence.	How do I support my position with evidence?	Evidence
d. Creates an organizing structure appropriate to a specific purpose, audience, and context.	How do I create an organizing structure that is convincing to my audience?	Purpose, audience, context
e. Addresses reader concerns.	How do I address reader concerns?	Concerns
f. Excludes extraneous details and inappropriate information.	How do I choose appropriate details for my writing?	Extraneous details, inappropriate information

g. Provides a sense of closure to the writing.	How do I create a closure that answers all the reader's questions?	Closure
h. Raises the level of language using appropriate strategies (word choice).	How do I use appropriate vocabulary for my topic?	Word choice
ELA5W3 The student uses research and technology to support writing. The student		
a. Acknowledges information from sources.	How do I acknowledge information from sources?	Sources
b. Uses organizational features of printed text (i.e., citations, end notes, bibliographic references, appendices) to locate relevant information.	How can I locate relevant information from bibliographies?	Citations, end notes, bibliographic references, appendices
c. Uses various reference materials (i.e., dictionary, thesaurus, encyclopedia, electronic information, almanac, atlas, magazines, newspapers) as aids to writing.	How do I use reference materials?	Reference materials, dictionary, thesaurus, encyclopedia, electronic information, almanac, atlas, magazines, newspapers
d. Uses the features of texts (e.g., index, table of contents, guide words, alphabetical/numerical order) to obtain and organize information and thoughts.	How do I use features of text to obtain and organize information and thoughts?	Index, table of contents, guide words, alphabetical/numerical order
e. Demonstrates basic keyboarding skills and familiarity with computer terminology (e.g., software, memory, disk drive, hard drive).	How do I type?	Software, memory, disk drive, hard drive
f. Creates simple documents by using electronic media and employing organizational features (e.g., passwords, entry and pull-down menus, word searches, thesaurus, spell check).	How do I create simple documents?	Passwords, entry and pull-down menus, word searches, thesaurus, spell check
g. Uses a thesaurus to identify alternative word choices and meanings.	How do I use a thesaurus to identify word choice and meaning?	Thesaurus
ELA5W4 The student consistently uses a writing process to develop, revise, and evaluate writing. The student		
a. Plans and drafts independently and resourcefully.	How do I plan my writing? How do I follow the writing process?	Plans, drafts
b. Revises manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.	How do I revise my writing to make it better?	Revise
c. Edits to correct errors in spelling, punctuation, etc	How do I use grammatical rules to correct my writing?	Edits, errors
ELA5C1 The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written		

and spoken formats. The student		
a. Uses and identifies the eight parts of speech (e.g., noun, pronoun, verb, adverb, adjective, conjunction, preposition, interjection).	How do conventions of standard English promote clarity and understanding?	Noun, pronoun, verb, adverb, adjective, conjunction, preposition, interjection, part of speech
b. Expands or reduces sentences (e.g., adding or deleting modifiers, combining or revising sentences).	How do conventions of standard English promote clarity and understanding?	Modifiers, combining, revising
c. Uses and identifies verb phrases and verb tenses.	How do conventions of standard English promote clarity and understanding?	Verb phrases, verb tenses
d. Recognizes that a word performs different functions according to its position in the sentence.	How do conventions of standard English promote clarity and understanding?	
e. Varies the sentence structure by kind (declarative, interrogative, imperative, and exclamatory sentences and functional fragments), order, and complexity (simple, compound, complex, and compound-complex).	How do I vary my sentence structures so my writing is engaging to the audience?	Declarative, interrogative, imperative, exclamatory sentences, functional fragments, simple, compound, complex, compound-complex
f. Uses and identifies correct mechanics (e.g., apostrophes, quotation marks, comma use in compound sentences, paragraph indentations) and correct sentence structure (e.g., elimination of sentence fragments and run-ons).	How do I use grammatical rules to identify correct mechanics?	Apostrophes, quotation marks, comma, fragments, run-ons
g. Uses additional knowledge of correct mechanics (e.g., apostrophes, quotation marks, comma use in compound sentences, paragraph indentations), correct sentence structure (e.g., elimination of fragments and run-ons), and correct Standard English spelling (e.g., commonly used homophones) when writing, revising, and editing.	How do I use grammatical rules to identify correct mechanics?	Apostrophes, quotation marks, paragraph indentation, comma
ELA5LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions. The student		
a. Initiates new topics in addition to responding to adult-initiated topics.		
b. Asks relevant questions.		
c. Responds to questions with appropriate information.		
d. Uses language cues to indicate different levels of certainty or hypothesizing		

(e.g., “What if. . .”; “Very likely. . .”; “I’m unsure whether. . .”).		
e. Confirms understanding by paraphrasing the adult’s directions or suggestions.		
f. Displays appropriate turn-taking behaviors.		
g. Actively solicits another person’s comments or opinions.		
h. Offers own opinion forcefully without domineering.		
i. Responds appropriately to comments and questions.		
j. Volunteers contributions and responds when directly solicited by teacher or discussion leader.		
k. Gives reasons in support of opinions expressed.		
ELA5LSV2 The student listens to and views various forms of text and media in order to gather and share information, persuade others, and express and understand ideas.		
When responding to visual and oral texts and media (e.g., television, radio, film productions, and electronic media), the student:		
a. Demonstrates an awareness of the presence of the media in the daily lives of most people.		Media
b. Evaluates the role of the media in focusing attention and in forming an opinion.		Role, opinion
c. Judges the extent to which media provide a source of entertainment as well as a source of information.		Entertainment
When delivering or responding to presentations, the student:		
a. Shapes information to achieve a particular purpose and to appeal to the interests and background knowledge of audience members.		Audience
b. Uses notes, multimedia, or other memory aids to structure the presentation.		Notes, multimedia
c. Engages the audience with appropriate verbal cues and eye contact.		
d. Projects a sense of individuality and personality in selecting and organizing content and in delivery.		
e. Shapes content and organization according to criteria for importance and		

impact rather than according to availability of information in resource materials.		
f. Uses technology or other memory aids to structure the presentation.		

5th Grade Standards, Questions, and Vocabulary

Standard/Element		Vocabulary
M5N1. Students will further develop their understanding of whole numbers.		
a. Classify the set of counting	How can I classify counting	odd, even, prime, composite,

numbers into subsets with distinguishing characteristics (odd/even, prime/composite)	numbers? How do I know if a number is odd? Even? How do I know if a number is prime? Composite?	whole
b. Find multiples and factors	How do I find the least common multiple of a set of numbers? How do I find the greatest common factor between a set of numbers?	multiple, factor, Least Common Multiple (LCM), Greatest Common Factor (GCF), divisible
c. Analyze and use divisibility rules	What are the divisibility rules?	divisible, remainder, factor
M5N2. Students will further develop their understanding of decimal fractions as part of the base-ten number system.		
a. Understand place value.	What affect does the place of a number have on its value? Why does placement or position of a number matter? How can I use models to demonstrate decimal values?	period, place value, tenths (10^{-1}), hundredths (10^{-2}), ones (10^0), tens (10^1), hundreds (10^2), thousands (10^3), ten-thousands (10^4), hundred-thousands (10^5), millions (10^6)
b. Analyze the effect on the product when a number is multiplied by 10, 100, 1000, 0.1, and 0.01	What happens to a number when I multiply it by a multiple of 10? What happens when you multiply decimals by powers of 10?	product, multiple of 10
M5N3. Students will further develop their understanding of the meaning of multiplication and division with decimal fractions and use them.		
a. Model multiplication and division of decimal fractions by another decimal fraction.	What happens when you multiply a decimal by a decimal? How do I multiply a decimal fraction by a decimal fraction? How do I divide a decimal fraction by another decimal?	multiply, divide, decimal fraction, decimal point, multiplier, divisor, product
b. Explain the process of multiplication and division, including situations in which the multiplier and divisor are both whole numbers and decimal fractions.	How can I use models to explain how to multiply decimals? How can I use models to explain how to divide decimals?	multiply, divide, decimal fractions, mixed decimal fraction, quotient, product, decimal point, multiplier, divisor
c. Multiply and divide with decimal fractions including decimal fractions less than one and greater than one.	What happens when you divide a decimal by a decimal? What are the various uses of decimals?	multiply, divide, decimal fractions, mixed decimal fraction, quotient, product, decimal point, multiplier, divisor
d. Understand the relationships and rules for multiplication and division of whole numbers also apply to decimal fractions.	How do the rules of multiplying whole numbers relate to multiplying decimals?	divide, multiply, remainder, place holder

<p>M5N4. Students will continue to develop their understanding of the meaning of common fractions and compare them.</p>		
<p>a. Understand division of whole numbers can be represented as a fraction ($a/b = a \div b$).</p>	<p>Why can you represent division of whole numbers as a fraction?</p>	<p>division, divisor, dividend, fraction, numerator, denominator, whole</p>
<p>b. Understand the value of a fraction is not changed when both its numerator and denominator are multiplied or divided by the same number because it is the same as multiplying or dividing by one.</p>	<p>How can I represent one as a fraction? What happens when I divide a number by one?</p>	<p>numerator, denominator</p>
<p>c. Find equivalent fractions and simplify fractions.</p>	<p>How do I know if a number is prime? How can I find equivalent fractions? How do I determine which factors a number is divisible by? How does knowing the divisibility rules help me solve problems? How do you model equivalent fractions with unlike denominators? How do I find equivalent fractions for a whole number?</p>	<p>Equivalent fractions, simplest form, LCM, GCF, prime,</p>
<p>d. Model multiplication and division of common fractions.</p>	<p>How is multiplying fractions and mixed numbers different than addition and subtraction? How are multiplication and division related? How are factors and multiples related to multiplication and division? How do you multiply fractions and simplify products? How do you model multiplications of fractions? How do you model division of fractions?</p>	<p>invert</p>
<p>e. Explore finding common denominators using concrete, pictorial, and computational models.</p>	<p>How do I use models to help me find common denominators?</p>	<p>common denominators,</p>
<p>f. Use $<$, $>$, or $=$ to compare fractions and justify the comparison.</p>	<p>How do you compare fractions with like denominators? How do you model equivalent fractions with unlike denominators? How do I identify fractions as</p>	<p>common denominators, equivalent, greater than, less than, equal to</p>

	locations on number lines? How is the ordering of fractions and decimals the same as ordering whole numbers and how is it different?	
g. Add and subtract common fractions and mixed numbers with unlike denominators.	How do you subtract fractions with like denominators? How do you subtract fractions with unlike denominators? How do you regroup to subtract? How do you add fractions with like denominators? How do you add fractions with unlike denominators? What is the greatest common factor and least common multiple? How do you add mixed numbers?	Mixed number, greatest common factor least common multiple equivalent regrouping mixed fractions
h. Use fractions (proper and improper) and decimal fractions interchangeably.	How are fractions and decimals related?	mixed number, proper fraction, improper fraction, decimal
i. Estimate products and quotients.	How do I use front-end estimation and rounding to find a range in which the actual product may fall? How many digits should be in the estimated quotient? Which multiplication fact will help me find compatible numbers?	compatible numbers, round, front-end estimation
M5N5. Students will understand the meaning of percentage.		
a. Model percent on 10 by 10 grids.	How do I use a 10 x 10 grid to model percent?	percent, per hundred
b. Apply percentage to circle graphs.	How do I use percent to create a circle graph?	circle graph,
M5M1. Students will extend their understanding of area of fundamental geometric plane figures.		
a. Estimate the area of fundamental geometric plane figures.	How do I estimate the area of plane figures?	Plane figures, estimate, area
b. Derive the formula for the area of a parallelogram (e.g., cut the parallelogram apart and rearrange it into a rectangle of the same area).	How can I use the area of a rectangle to derive the formula for the area of a parallelogram?	area, base, height, parallelogram, rectangle
c. Derive the formula for the area of a triangle (e.g. demonstrate and explain its relationship to the area of a rectangle with the same base	How can I use the area of a rectangle to derive the formula for the area of a triangle?	area, base, height, rectangle, triangle

and height).		
d. Find the areas of triangles and parallelograms using formulae.	How do I use the formula for the area of a triangle to find the area? How do I use the formula for the area of a parallelogram to find the area?	area, base, height, parallelogram, rectangle, triangle
e. Estimate the area of a circle through partitioning and tiling and then formula (let $\pi = 3.14$). (Discuss square units as they apply to circles.)	How can I use partition in and tiling to find the area of a circle? How can I use the formula for finding the area of a circle to find the area? How can I find the area of a circle if I know the radius?	diameter, radius, circumference, pi, square units, partitioning, tiling
f. Find the area of a polygon (regular and irregular) by dividing it into squares, rectangles, and/or triangles and find the sum of the areas of those shapes.	How can I find the area of a polygon by dividing it into squares, rectangles, or triangles?	irregular polygon, sum, area
M5M3. Students will measure capacity with appropriately chosen units and tools.		
a. Use milliliters, liters, fluid ounces, cups, pints, quarts, and gallons to measure capacity.	What units are used to measure capacity?	Capacity, milliliters, liters, fluid ounces, cups, pints, quarts, gallons
b. Compare one unit to another within a single system of measurement (e.g., 1 quart = 2 pints)	Do I multiply or divide to change units?	customary units, gallon man
M5M4. Students will understand and compute the volume of a simple geometric solid.		
a. Understand a cubic unit (u^3) is represented by a cube in which each edge has the length of 1 unit.	How is a cubic unit represented?	capacity, volume, cubic unit,
b. Identify the units used in computing volume as cubic centimeters (cm^3), cubic meters (m^3), cubic inches (in^3), cubic feet (ft^3), and cubic yards (yd^3).	What units are used to compute volume?	cubic centimeters (cm^3), cubic meters (m^3), cubic inches (in^3), cubic feet (ft^3), cubic yards (yd^3).
c. Derive the formula for finding the volume of a cube and a rectangular prism using manipulatives.	How can I use manipulatives to derive the formula for finding the volume of a cube? How can I use manipulatives to derive the formula for finding the volume of a rectangular prism?	cube, rectangular prism, volume
d. Compute the volume of a cube and a rectangular prism using formulae.	How can I use the formula for finding the volume of a cube? Rectangular prism?	lengthxwidthxheight

e. Estimate the volume of a simple geometric solid.	How do I estimate the volume of a geometric solid?	estimate, geometric solid
f. Understand the similarities and differences between volume and capacity.	How are capacity and volume similar and different?	Capacity, volume
M5G1. Students will understand congruence of geometric figure and the correspondence of their vertices, sides, and angles.	Which sides are the same lengths? Which angles have the same measure? Are the angles acute? Obtuse? Right? What is the sum of the angle measures in a triangle?	congruent, congruence, vertex, vertices, sides, faces (surfaces), angles, corresponding, angles, acute angle, obtuse angle, equilateral, isosceles, scalene, right
M5G2. Students will understand the relationship of the circumference of a circle to its diameter is pi (π)	How does the circumference of a circle relate to its diameter? How can I use the radius of a circle to determine the diameter of the circle?	circumference, radius, diameter, π , π
M5A1. Students will represent and interpret the relationships between quantities algebraically.		
a. Use variables, such as n or x , for unknown quantities in algebraic expressions.	Does my expression match the information? Did I substitute a variable for the right number? What mathematical symbols can I substitute for words?	equation, expression, variable (unknown)
b. Investigate simple algebraic expressions by substituting numbers for the unknown.	Did I check my solution by substituting it into the equation?	variable, substitute
c. Determine that a formula will be reliable regardless of the type of number (whole numbers or decimal fractions) substituted for the variable.	Which property can I use to simplify the expression?	Commutative Property, Associative Property, Identity Property, Zero Property, Distributive Property
M5D1. Students will analyze graphs		
a. Analyze data presented in a graph.	Are there patterns in a set of data? How will I interpret a set of data? How do graphs help to explain real-world situations?	data, survey, frequency, cluster, gap, mean, median, mode, range
b. Compare and contrast multiple graphic representations (circle graphs, line graphs, bar graphs, etc.) for a single set of data and discuss the advantages/disadvantages of each.	How do I determine the most appropriate graph to use?	circle graph, line graph, bar graph, double bar graph, line plot, stem-and-leaf plot, histogram, frequency table
M5D2. Students will collect, organize, and display data using the most appropriate graph.	How is data collected? How do I determine who should take my survey and what my survey should be about?	survey, circle graph, line graph, bar graph, double bar graph, line plot, stem-and-leaf plot, histogram, frequency table

The following “Process Skill” standards are

M5P1. Students will solve problems (using appropriate technology).		
a. Build new mathematical knowledge through problem solving.		
b. Solve problems that arise in mathematics and in other contexts.		
c. Apply and adapt a variety of appropriate strategies to solve problems.		
d. Monitor and reflect on the process of mathematical problem solving.		
M5P2. Students will reason and evaluate mathematical arguments.		
a. Recognize reasoning and proof as fundamental aspects of mathematics.		
b. Make and investigate mathematical conjectures.		
c. Develop and evaluate mathematical arguments and proofs.		
d. Select and use various types of reasoning and methods of proof.		
M5P3. Students will communicate mathematically.		
a. Organize and consolidate their mathematical thinking through communication.		
b. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.		
c. Analyze and evaluate the mathematical thinking and strategies of others.		
d. Use the language of mathematics to express mathematical ideas precisely.		
M5P4. Students will make connections among mathematical ideas and to other disciplines.		
a. Recognize and use connections among mathematical ideas.		
b. Understand how mathematical		

ideas interconnect and build on one another to produce a coherent whole.		
c. Recognize and apply mathematics in contexts outside of mathematics.		
M5P5. Students will represent mathematics in multiple ways.		
a. Create and use representations to organize, record, and communicate mathematical ideas.		
b. Selects, apply, and translate among mathematical representations to solve problems.		
c. Use representations to model and interpret physical, social, and mathematical phenomena.		

Standard	Kid-Friendly EQ	Vocabulary
<p>S5CS1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.</p>		
<p>a. Keep records of investigations and observations and do not alter the records later.</p>		
<p>b. Carefully distinguish observations from ideas and speculation about those observations.</p>		
<p>c. Offer reasons for findings and consider reasons suggested by others.</p>	<p>How do I support my findings?</p>	<p>reasoning</p>
<p>d. Take responsibility for understanding the importance of being safety conscious.</p>	<p>How can I stay safe while completing investigations?</p>	<p>safety rules</p>
<p>S5CS2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.</p>		
<p>a. Add, subtract, multiply, and divide whole numbers mentally, on paper, and with a calculator.</p> <p>b. Use fractions and decimals, and translate</p>		

<p>between decimals and commonly encountered fractions – halves, thirds, fourths, fifths, tenths, and hundredths (but not sixths, sevenths, and so on) – in scientific calculations.</p>		
<p>c. Judge whether measurements and computations of quantities, such as length, area, volume, weight, or time, are reasonable answers to scientific problems by comparing them to typical values.</p>		
<p>S5CS3. Students will use tools and instruments for observing, measuring, and manipulating objects in scientific activities.</p>		
<p>a. Choose appropriate common materials for making simple mechanical constructions and repairing things.</p>		
<p>b. Measure and mix dry and liquid materials in prescribed amounts, exercising reasonable safety.</p>		
<p>c. Use computers, cameras and recording devices for capturing information.</p> <p>d. Identify and practice accepted safety procedures in manipulating science</p>		

materials and equipment.		
S5CS4. Students will use ideas of system, model, change, and scale in exploring scientific and technological matters.		
a. Observe and describe how parts influence one another in things with many parts.		
b. Use geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories to represent corresponding features of objects, events, and processes in the real world. Identify ways in which the representations do not match their original counterparts.		
c. Identify patterns of change in things—such as steady, repetitive, or irregular change—using records, tables, or graphs of measurements where appropriate.		
d. Identify the biggest and the smallest possible values of something.		
S5CS5. Students will communicate scientific ideas and activities clearly.		
a. Write instructions that others can follow in carrying out a scientific procedure.		

b. Make sketches to aid in explaining scientific procedures or ideas.		
c. Use numerical data in describing and comparing objects and events.		
d. Locate scientific information in reference books, back issues of newspapers and magazines, CD-ROMs, and computer databases.		
S5CS6. Students will question scientific claims and arguments effectively.		
a. Support statements with facts found in books, articles, and databases, and identify the sources used.		
b. Identify when comparisons might not be fair because some conditions are different.		
S5CS7. Students will be familiar with the character of scientific knowledge and how it is achieved.		
a. Similar scientific investigations seldom produce exactly the same results, which may differ due to unexpected differences in whatever is being investigated, unrecognized differences in the methods or circumstances of the investigation, or observational uncertainties.	Why is it possible for all scientific investigations to not provide the same conclusion?	Investigation Scientific method conclusion

b. Some scientific knowledge is very old and yet is still applicable today.		
S5CS8. Students will understand important features of the process of scientific inquiry.	What is scientific inquiry?	inquiry
a. Scientific investigations may take many different forms, including observing what things are like or what is happening somewhere, collecting specimens for analysis, and doing experiments.	What are the different types of scientific investigations that I might conduct?	Observation Analyzing Experiment Investigation
b. Clear and active communication is an essential part of doing science. It enables scientists to inform others about their work, expose their ideas to criticism by other scientists, and stay informed about scientific discoveries around the world.	How do I communicate my results to others?	
c. Scientists use technology to increase their power to observe things and to measure and compare things accurately.	How is technology used in the science lab?	
d. Science involves many different kinds of work and engages men and women of all ages and backgrounds.		
S5E1. Students will identify surface features of the Earth caused by constructive and destructive	How are features of the Earth affected by constructive and destructive forces?	

processes.		
<p>a. Identify surface features caused by constructive processes.</p> <ul style="list-style-type: none"> • Deposition (Deltas, sand dunes, etc.) • Earthquakes • Volcanoes • Faults 	<p>What are constructive forces?</p> <p>How do constructive forces affect the surface of the Earth?</p>	<p>Constructive forces</p> <p>Deposition</p> <p>Delta</p> <p>Sand dune</p> <p>Earthquake</p> <p>Volcano</p> <p>fault</p>
<p>b. Identify and find examples of surface features caused by destructive processes.</p> <ul style="list-style-type: none"> • Erosion (water—rivers and oceans, wind) • Weathering • Impact of organisms • Earthquake • Volcano 	<p>What are destructive forces?</p> <p>How do destructive forces affect the surface of the Earth?</p>	<p>Erosion</p> <p>Weathering</p> <p>Earthquake</p> <p>Deconstructive forces</p> <p>volcano</p>
<p>c. Relate the role of technology and human intervention in the control of constructive and destructive processes. Examples include, but are not limited to</p> <ul style="list-style-type: none"> • Seismological studies, • Flood control, (dams, levees, storm drain management, etc.) • Beach reclamation (Georgia coastal islands) 	<p>How do technology and human intervention play a part in deconstructive and constructive processes?</p>	<p>Seismological studies</p> <p>Flood control</p> <p>Dams</p> <p>Levees</p> <p>Storm drain management</p> <p>Beach reclamation</p>
	<p>How do you prove that an</p>	<p>mass</p>

S5P1. Students will verify that an object is the sum of its parts.	object is the sum of its parts?	
a. Demonstrate that the mass of an object is equal to the sum of its parts by manipulating and measuring different objects made of various parts.	How do you prove that an object is the sum of its parts?	Mass balance
b. Investigate how common items have parts that are too small to be seen without magnification.	How can I use magnification to see parts of item not shown to the human eye?	microscope
S5P2. Students will explain the difference between a physical change and a chemical change.	What is the difference between a physical change and a chemical reaction?	Physical change Chemical reaction
a. Investigate physical changes by separating mixtures and manipulating (cutting, tearing, folding) paper to demonstrate examples of physical change.	How can I produce a physical change?	
b. Recognize that the changes in state of water (water vapor/steam, liquid, ice) are due to temperature differences and are examples of physical change.	What causes the changes in the states of matter?	Evaporation Boiling Freezing Condensation Sublimation
c. Investigate the properties of a substance before, during, and after a chemical reaction to find evidence of change.	What signifies a chemical reaction?	Chemical reaction
S5P3. Students will investigate the electricity, magnetism, and their relationship.	How do electricity and magnetism relate?	Electricity Static electricity Magnetism

a. Investigate static electricity.	What is static electricity?	Static electricity
b. Determine the necessary components for completing an electric circuit.	What is needed to complete an electric circuit?	Electric circuit Switch Parallel circuit Series circuit Insulators Conductors
c. Investigate common materials to determine if they are insulators or conductors of electricity.	What are insulators and conductors?	Insulator Conductor
d. Compare a bar magnet to an electromagnet.	What is a bar magnet? What is an electromagnet? What are the similarities and differences between a bar magnet and an electromagnet?	Bar magnet Electromagnet
S5L1. Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.	What are the classification groups? How do we classify plants and animals into groups?	Classification
a. Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal).	What are the five classification groups for animals?	Vertebrate Invertebrate Fish Amphibian Reptile Bird mammal
b. Demonstrate how plants are sorted into groups.	How do we group plants?	Vascular plants Non-vascular plants
S5L2. Students will	What are inherited traits?	Inherited traits Learned behaviors

recognize that offspring can resemble parents in inherited traits and learned behaviors.	What are learned behaviors?	Offspring
a. Compare and contrast the characteristics of learned behaviors and of inherited traits.	What are the similarities and differences of learned behaviors and inherited traits?	
b. Discuss what a gene is and the role genes play in the transfer of traits.	What are genes? How are genes related to heredity?	Genes
S5L3. Students will diagram and label parts of various cells (plant, animal, single-celled, multi-celled).	What are cells? What are the purpose of cells for all animals and plants?	Cell Plant cell Animal cell Single-celled Multi-celled
a. Use magnifiers such as microscopes or hand lenses to observe cells and their structure.	What scientific tools do I use to view cells?	Microscope Hands lens Cell
b. Identify parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus) and determine the function of the parts.	What parts make up a cell?	Membrane Wall Cytoplasm Nucleus chloroplasts
c. Explain how cells in multi-celled organisms are similar and different in structure and function to single-celled organisms.	What are the similarities and differences in the structure of a single-celled organism and a multi-celled organism?	Single cell Multi-cell Organism
S5L4. Students will relate	What are microorganisms?	Microorganisms

how microorganisms benefit or harm larger organisms.		
a. Identify beneficial microorganisms and explain why they are beneficial.	How are microorganisms beneficial? What are some examples of beneficial microorganisms?	
b. Identify harmful microorganisms and explain why they are harmful.	How are microorganisms harmful? What are some examples of harmful microorganisms?	