

Georgia Standards of Excellence

Grade 5

English Language Arts

Reading Literature (RL)

Key Ideas and Details

ELAGSE5RL1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELAGSE5RL2: 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.

ELAGSE5RL3: 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

ELAGSE5RL4: Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.

ELAGSE5RL5: Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.

ELAGSE5RL6: Describe how a narrator's or speaker's point of view influences how events are described.

Integration of Knowledge and Ideas

ELAGSE5RL7: 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).

ELAGSE5RL8: (Not applicable to literature)

ELAGSE5RL9: 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

ELAGSE5RL10: 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 Informational (RI)

Key Ideas and Details

ELAGSE5RI1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

ELAGSE5RI2: Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.

ELAGSE5RI3: 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

ELAGSE5RI4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

ELAGSE5RI5: 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.

ELAGSE5RI6: 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

ELAGSE5RI7: 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.

ELAGSE5RI8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence supports which point(s).

ELAGSE5RI9: 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

ELAGSE5RI10: 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 Foundational (RF)

Phonics and Word Recognition

ELAGSE5RF3: Know and apply grade-level phonics and word analysis skills in decoding words. a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multi-syllabic words in context and out of context.

Fluency

ELAGSE5RF4: Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

Writing (W)

Text Types and Purposes

ELAGSE5W1: Write opinion pieces on topics or texts, supporting a point of view with reasons.

- 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.

ELAGSE5W2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- a. Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- b. Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- c. Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).
- d. Use precise language and domain-specific vocabulary to inform about or explain the topic.
- e. Provide a concluding statement or section related to the information or explanation presented.

ELAGSE5W3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

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

Production and Distribution of Writing

ELAGSE5W4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in Standards 1–3 above.)

ELAGSE5W5: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language Standards 1–3 up to and including grade 5.)

ELAGSE5W6: 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

ELAGSE5W7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

ELAGSE5W8: 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.

ELAGSE5W9: 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 supports which point[s]).

Range of Writing

ELAGSE5W10: 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 (SL)

Comprehension and Collaboration

ELAGSE5SL1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

- a. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
- b. Follow agreed-upon rules for discussions and carry out assigned roles.
- c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.
- d. Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions.

ELAGSE5SL2: Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

ELAGSE5SL3: Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

Presentation of Knowledge and Ideas

ELAGSE5SL4: 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.

ELAGSE5SL5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

ELAGSE5SL6: Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language Standards 1 and 3 for specific expectations.)

Language (L)

Conventions of Standard English

ELAGSE5L1: Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.

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

ELAGSE5L2: Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

- a. Use punctuation to separate items in a series.
- b. Use a comma to separate an introductory element from the rest of the sentence.
- c. Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?), and to indicate direct address (e.g., Is that you, Steve?).
- d. Use underlining, quotation marks, or italics to indicate titles of works.
- e. Spell grade-appropriate words correctly, consulting references as needed.

Knowledge of Language

ELAGSE5L3: Use knowledge of language and its conventions when writing, speaking, reading, or listening.

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

Vocabulary Acquisition and Use

ELAGSE5L4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.

- a. Use context (e.g., cause/effect relationships and comparisons in text) as a clue to the meaning of a word or phrase.
- b. Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., photograph, photosynthesis).
- c. Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

ELAGSE5L5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

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

ELAGSE5L6: Acquire and use accurately grade-appropriate general academic and domain-specific vocabulary, including words and phrases that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).

Mathematics

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.

Standards for Mathematical Practice

Standards for Mathematical Practice

Mathematical Practices are listed with each grade's mathematical content standards to reflect the need to connect the mathematical practices to mathematical content in instruction.

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).

Students are expected to:

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

Operations and Algebraic Thinking (OA)

Write and interpret numerical expressions.

MGSE5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

MGSE5.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 $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

Analyze patterns and relationships.

MGSE5.OA.3 Generate two numerical patterns using a given rule. Identify apparent relationships between corresponding terms by completing a function table or input/output table. Using the terms created, form and graph ordered pairs on a coordinate plane.

Numbers and Operations in Base Ten (NBT)

Understand the place value system.

MGSE5.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.

MGSE5.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.

MGSE5.NBT.3 Read, write, and compare decimals to thousandths.

a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

MGSE5.NBT.4 Use place value understanding to round decimals up to the hundredths place. Perform operations with multi-digit whole numbers and with decimals to hundredths.

MGSE5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm (or other strategies demonstrating understanding of multiplication) up to a 3 digit by 2 digit factor.

MGSE5.NBT.6 Fluently divide up to 4-digit dividends and 2-digit divisors by using at least one of the following methods: 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 or concrete models. (e.g., rectangular arrays, area models)

MGSE5.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.

Numbers and Operations - Fractions (NF)

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

MGSE5.NF.1 Add and subtract fractions and mixed numbers with unlike denominators by finding a common denominator and equivalent fractions to produce like denominators.

MGSE5.NF.2 Solve word problems involving addition and subtraction of fractions, 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.

MGSE5.NF.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. Example: 35 can be interpreted as “3 divided by 5 and as 3 shared by 5”.

MGSE5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

a. Apply and use understanding of multiplication to multiply a fraction or whole number by a fraction. Examples: $a \times b \times q$ as $a/b \times q$ and $a/b \times c/d = ac/bd$

b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.

MGSE5.NF.5 Interpret multiplication as scaling (resizing), by:

- a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. Example: 4×10 is twice as large as 2×10 .
- 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.
- MGSE5.NF.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.
- MGSE5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. 23
- a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.
- b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.
- c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?

Measurement and Data (MD)

Convert like measurement units within a given measurement system.

MGSE5.MD.1 Convert among different-sized standard measurement units (mass, weight, length, time, etc.) within a given measurement system (customary and metric) (e.g., convert 5cm to 0.05m), and use these conversions in solving multi-step, real world problems.

Represent and interpret data.

MGSE5.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 division.

MGSE5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

MGSE5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

MGSE5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.

c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Geometry (G)

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

MGSE5.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).

MGSE5.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.

MGSE5.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.

MGSE5.G.4 Classify two-dimensional figures in a hierarchy based on properties (polygons, triangles, and quadrilaterals).

In Georgia resources and assessments, trapezoids are defined using the inclusive definition: At least one pair of parallel sides.

Science

Earth and Space Science (E)

S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

a. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms).

b. Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.

c. Ask questions to obtain information on how technology is used to limit and/or predict the impact of constructive and destructive processes. *(Clarification statement: Examples could include seismological studies, flood forecasting (GIS maps), engineering/construction methods and materials, and infrared/satellite imagery.)*

Physical Science (P)

S5P1. Obtain, evaluate, and communicate information to explain the differences between a physical change and a chemical change.

a. Plan and carry out investigations of physical changes by manipulating, separating and mixing dry and liquid materials.

b. Construct an argument based on observations to support a claim that the physical changes in the state of water are due to temperature changes, which cause small particles that cannot be seen to move differently.

c. Plan and carry out an investigation to determine if a chemical change occurred based on observable evidence (color, gas, temperature change, odor, new substance produced).

S5P2. Obtain, evaluate, and communicate information to investigate electricity.

a. Obtain and combine information from multiple sources to explain the difference between naturally occurring electricity (static) and human-harnessed electricity.

b. Design a complete, simple electric circuit, and explain all necessary components.

c. Plan and carry out investigations on common materials to determine if they are insulators or conductors of electricity.

S5P3. Obtain, evaluate, and communicate information about magnetism and its relationship to electricity.

a. Construct an argument based on experimental evidence to communicate the differences in function and purpose of an electromagnet and a magnet. *(Clarification statement: Function is limited to understanding temporary and permanent magnetism.)*

b. Plan and carry out an investigation to observe the interaction between a magnetic field and a magnetic object. *(Clarification statement: The interaction should include placing materials of various types (wood, paper, glass, metal, and rocks) and thickness between the magnet and the magnetic object.)*

Life Science (L)

S5L1. Obtain, evaluate, and communicate information to group organisms using scientific classification procedures.

- a. Develop a model that illustrates how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal) using data from multiple sources.
- b. Develop a model that illustrates how plants are sorted into groups (seed producers, non-seed producers) using data from multiple sources.
- S5L2. Obtain, evaluate, and communicate information showing that some characteristics of organisms are inherited and other characteristics are acquired.
- a. Ask questions to compare and contrast instincts and learned behaviors.
- b. Ask questions to compare and contrast inherited and acquired physical traits. *(Clarification statement: Punnett squares and genetics are taught in future grades.)*
- S5L3. Obtain, evaluate, and communicate information to compare and contrast the parts of plant and animal cells.
- a. Gather evidence by utilizing technology tools to support a claim that plants and animals are comprised of cells too small to be seen without magnification.
- b. Develop a model to identify and label parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus).
- c. Construct an explanation that differentiates between the structure of plant and animal cells.
- S5L4. Obtain, evaluate, and communicate information about how microorganisms benefit or harm larger organisms. *(Clarification statement: Possible microorganisms could include Tardigrades, Lactobacillus, Probiotics, Rotifers, Salmonella, Clostridium botulinum (Botox), E-coli, Algae, etc. Students are not expected to know these specific microorganisms. The list is provided to give teachers examples.)*
- a. Construct an argument using scientific evidence to support a claim that some microorganisms are beneficial.
- b. Construct an argument using scientific evidence to support a claim that some microorganisms are harmful.

Social Studies

United States History

In fifth grade, students are in the final year of a three year study of United States history in which all four strands (history, geography, civics/government, and economics) are integrated. Students begin the year learning about the growth of 19th century industry and innovation in the United States, and culminate the study with the events and impact of September 11, 2001. The geography strand emphasizes the influence of geography on U.S. history during these same time periods. In the civics/government strand, students learn about the rights of citizens contained within the Constitution, and how changes have been made over time to the Constitution to protect the rights of citizens. In the economic strand, students explore the ways consumers and producers have interacted in the American economy.

Historical Understandings (H)

- SS5H1 Describe how life changed in America at the turn of the century.
- a. Describe the role of the cattle trails in the late 19th century; include the Black Cowboys of Texas, the Great Western Cattle Trail, and the Chisholm Trail.
- b. Describe the impact on American life of the Wright brothers (flight), George Washington Carver (science), Alexander Graham Bell (communication), and Thomas Edison (electricity).
- c. Explain how William McKinley and Theodore Roosevelt expanded America's role in the world; include the Spanish-American War and the building of the Panama Canal.
- d. Describe the reasons people immigrated to the United States, from where they emigrated, and where they settled.
- SS5H2 Describe U.S. involvement in World War I and post-World War I America.
- a. Explain how German attacks on U.S. shipping during the war in Europe (1914-1917) ultimately led the U.S. to join the fight against Germany; include the sinking of the Lusitania and concerns over safety of U.S. ships, U.S. contributions to the war, and the impact of the Treaty of Versailles in 1919.
- b. Describe the cultural developments and individual contributions in the 1920s of the Jazz Age (Louis Armstrong), the Harlem Renaissance (Langston Hughes), baseball (Babe Ruth), the automobile (Henry Ford), and transatlantic flight (Charles Lindbergh).
- SS5H3 Explain how the Great Depression and New Deal affected the lives of millions of Americans.
- a. Discuss the Stock Market Crash of 1929, Herbert Hoover, Franklin Roosevelt, the Dust Bowl, and soup kitchens.
- b. Analyze the main features of the New Deal; include the significance of the Civilian Conservation Corps, Works Progress Administration, and the Tennessee Valley Authority.

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- c. Discuss important cultural elements of the 1930s; include Duke Ellington, Margaret Mitchell, and Jesse Owens.
SS5H4 Explain America's involvement in World War II.
- Describe German aggression in Europe and Japanese aggression in Asia.
 - Describe major events in the war in both Europe and the Pacific; include Pearl Harbor, Iwo Jima, D-Day, VE and VJ Days, and the Holocaust.
 - Discuss President Truman's decision to drop the atomic bombs on Hiroshima and Nagasaki.
 - Identify Roosevelt, Stalin, Churchill, Hirohito, Truman, Mussolini, and Hitler.
 - Describe the effects of rationing and the changing role of women and African Americans or Blacks; include "Rosie the Riveter" and the Tuskegee Airmen.
 - Explain the role of Eleanor Roosevelt and the U.S. in the formation of the United Nations.
- SS5H5 Discuss the origins and consequences of the Cold War.
- Explain the origin and meaning of the term "Iron Curtain."
 - Explain how the United States sought to stop the spread of communism through the Berlin airlift, the Korean War, and the North Atlantic Treaty Organization.
 - Identify Joseph McCarthy and Nikita Khrushchev.
 - Discuss the importance of the Cuban Missile Crisis and the Vietnam War.
- SS5H6 Describe the importance of key people, events, and developments between 1950- 1975.
- Analyze the effects of Jim Crow laws and practices.
 - Explain the key events and people of the Civil Rights movement: Brown v. Board of Education (1954), Montgomery Bus Boycott, the March on Washington, Civil Rights Act, Voting Rights Act, and civil rights activities of Thurgood Marshall, Lyndon B. Johnson, Cesar Chavez, Rosa Parks, and Martin Luther King, Jr.
 - Describe the impact on American society of the assassinations of President John F. Kennedy, Robert F. Kennedy, and Martin Luther King, Jr.
 - Discuss the significance of the technologies of television and space exploration.
- SS5H7 Trace important developments in America from 1975 to 2001.
- Describe the collapse of the Soviet Union, including the role of Ronald Reagan.
 - Describe the events of September 11, 2001, and analyze their impact on American life.
 - Explain the impact of the personal computer and the Internet on American life.

Geographic Understandings (G)

- SS5G1 Locate important places in the United States. a. Locate important man-made places; include the Chisholm Trail; Pittsburgh, PA; Kitty Hawk, NC; Pearl Harbor, HI; Montgomery, AL.; and Chicago, IL.
- SS5G2 Explain the reasons for the spatial patterns of economic activities.
- Locate primary agricultural and industrial locations between the end of the Civil War and 1900 and explain how factors such as population, transportation, and resources have influenced these areas (e.g., Pittsburgh's rapid growth in the late nineteenth century).
 - Locate primary agricultural and industrial locations since the turn of the 20th century and explain how factors such as population, transportation, and resources have influenced these areas (e.g., Chicago's rapid growth at the turn of the century).

Government/Civic Understandings (CG)

- SS5CG1 Explain how a citizen's rights are protected under the U.S. Constitution.
- Explain the responsibilities of a citizen.
 - Explain the concept of due process of law and describe how the U.S. Constitution protects a citizen's rights by due process.
- SS5CG2 Explain the process by which amendments to the U.S. Constitution are made.
- Explain the amendment process outlined in the Constitution.
 - Describe the purpose for the amendment process.
- SS5CG3 Explain how amendments to the U. S. Constitution have maintained a representative democracy/republic.
- Explain how voting rights are protected by the 15th, 19th, 23rd, 24th, and 26th amendments.

Economic Understandings (E)

- SS5E1 Use the basic economic concepts of trade, opportunity cost, specialization, productivity, and price incentives to illustrate historical events.

Grade 5 Standards

- a. Describe opportunity costs and their relationship to decision-making across time (e.g., decisions by individuals in response to rationing during WWII).
 - b. Explain how price incentives affect people's behavior and choices (e.g., decisions to participate in cattle trails because of increased beef prices).
 - c. Describe how specialization can improve standards of living and productivity (e.g., how Henry Ford's use of the assembly line reduced the price of automobiles).
 - d. Describe how trade and voluntary exchange promotes economic activity (e.g., how the Panama Canal increases trade among countries).
- SS5E2 Describe the functions of four major sectors in the U. S. economy.
- a. Describe the household function in providing resources and consuming goods and services.
 - b. Describe the private business function in producing goods and services.
 - c. Describe the bank function in providing checking accounts, savings accounts, and loans.
 - d. Describe the government function in taxation and providing certain public goods and public services.
- SS5E3 Describe how consumers and producers interact in the U. S. economy.
- a. Describe how competition, markets, and prices influence consumer behavior.
 - b. Describe how people earn income by selling their labor to businesses.
 - c. Describe how entrepreneurs take risks to develop new goods and services to start a business.
- SS5E4 Identify the elements of a personal budget (income, expenditures, and saving) and explain why personal spending and saving decisions are important.