



Fourth Grade  
Curriculum Standards

## **READING STANDARDS FOR LITERATURE**

### **Key Ideas and Details**

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

### **Craft and Structure**

- 4: Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).
- 5: Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.
- 6: Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.

### **Integration of Knowledge and Ideas**

- 7: Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.
- 8: N/A
- 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**

- 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**

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

### **Craft and Structure**

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

### **Integration of Knowledge and Ideas**

- 7: Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
- 8: Explain how an author uses reasons and evidence to support particular points in a text.
- 9: Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

**READING STANDARDS FOR INFORMATIONAL TEXT (cont.)****Range of Reading and Level of Text Complexity**

10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, 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 Word Recognition**

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

- a: Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

**Fluency**

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

- a: Read 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 STANDARDS****Text Types and Purposes**

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

- a: Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
- b: Provide reasons that are supported by facts and details.
- c: Link opinion and reasons using words and phrases (e.g., *for instance, in order to, in addition*).
- d: Provide a concluding statement or section related to the opinion presented.

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

- a: Introduce a topic and group related in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- b: Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- c: Link ideas within categories of information using words and phrases (e.g., *another, for example, also, because*).
- d: Use precise language and domain-specific vocabulary to inform about or explain the topic.
- e: Provide a concluding statement or section related to the information or explanation presented.

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

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

- 4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- 5: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
- 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**

- 7: Conduct short research projects that build knowledge through investigation of different aspects of a topic.
- 8: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
- 9: Draw evidence from literary or informational texts to support analysis, reflection, and research.
  - a: Apply *grade 4 Reading standards* to literature (e.g., Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text such as a character's thoughts, words, or actions).
  - b: Apply *grade 4 Reading standards* to informational texts (e.g., Explain how an author uses reasons and evidence to support particular points in a text).

**Range of Writing**

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

**SPEAKING AND LISTENING STANDARDS****Comprehension and Collaboration**

- 1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4 topics and texts*, building on others' ideas and expressing their own clearly.
  - a: Come to discussions prepared, having read or studied required material, explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.
  - b: Follow agreed-upon rules for discussions and carry out assigned roles.
  - c: Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
  - d: Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
- 2: Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.
- 3: Identify the reasons and evidence a speaker provides to support particular points.

**Presentation of Knowledge and Ideas**

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

- 1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
  - a: Use relative pronouns (*who, whose, which, that*) and relative adverbs (*where, when, why*).
  - b: Form and use the progressive verb tenses (e.g., *I was walking; I am walking; I will be walking*).
  - c: Use modal auxiliaries (e.g., *can, may, must*) to convey various conditions.
  - d: Order adjectives within sentences according to conventional patterns (e.g., *a small red bag* rather than *a red small bag*).
  - e: Form and use prepositional phrases.
  - f: Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
  - g: Correctly use frequently confused words (e.g., *to, too, two; there, their*).
- 2: Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
  - a: Use correct capitalization.
  - b: Use commas and quotation marks to mark direct speech and quotations from a text.
  - c: Use a comma before a coordinating conjunction in a compound sentence.
  - d: Spell grade-appropriate words correctly, consulting references as needed.

**Knowledge of Language**

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

**Vocabulary Acquisition and Use**

- 4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grade 4 reading and content*, choosing flexibly from a range of strategies.
  - a: Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
  - b: Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *telegraph, photograph, autograph*).
  - c: Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.
- 5: Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
  - a: Explain the meaning of simple similes and metaphors (e.g., *as pretty as a picture*) in context.
  - b: Recognize and explain the meaning of common idioms, adages, and proverbs.
  - c: Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).
- 6: Acquire and use accurately grade-appropriate conversational, 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).

**MATHEMATICS****OPERATIONS AND ALGEBRAIC THINKING****Use the four operations with whole numbers to solve problems.**

- 1: Interpret a multiplication equation as a comparison (e.g., interpret  $35 = 5 \times 7$  as a statement that 35 is 5 times as many as 7 and 7 times as many as 5). Represent verbal statements of multiplicative comparisons as multiplication equations.
- 2: Multiply or divide to solve word problems involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison).
- 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. Solve a variety of problems based on the multiplication principle of counting.
  - a: Represent a variety of counting problems using arrays, charts, and systematic lists (e.g., tree diagram).
  - b: Analyze relationships among representations and make connections to the multiplication principle of counting.

**Gain familiarity with factors and multiples.**

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

**Generate and analyze patterns.**

- 5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *Ex. 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**

(Limit to whole numbers less than or equal to 1,000,000.)

**Generalize place value understanding for multi-digit whole numbers.**

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

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

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

(Limit to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)

**Extend understanding of fraction equivalence and ordering.**

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

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

- 3: Understand a fraction  $a/b$  with  $a > 1$  as a sum of fractions  $1/b$ .
  - a: Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
  - b: Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions (e.g., by using a visual fraction model).  
*Ex:  $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$ ;  $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$ ;  $1 \frac{1}{8} = 1 + \frac{1}{8}$ .*
  - c: Add and subtract mixed numbers with like denominators (e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction).
  - d: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators (e.g., by using visual fraction models and equations to represent the problem).
- 4: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
  - a: Understand a fraction  $a/b$  as a multiple of  $1/b$ . *Ex. Use a visual fraction model to represent  $\frac{5}{4}$  as the product  $5 \times (\frac{1}{4})$ , recording the conclusion by the equation  $\frac{5}{4} = 5 \times (\frac{1}{4})$ .*
  - 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. *Ex. Use a visual fraction model to express  $3 \times (\frac{2}{5})$  as  $6 \times (\frac{1}{5})$ , recognizing this product as  $\frac{6}{5}$ .*
  - 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). *Ex. If each person at a party will eat  $\frac{3}{8}$  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.**

- 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. *Ex. Express  $\frac{3}{10}$  as  $\frac{30}{100}$ , and add  $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ . (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.)*
- 6: Use decimal notation for fractions with denominators 10 or 100. *Ex. Rewrite 0.62 as  $\frac{62}{100}$ ; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
- 7: Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $+$ , or  $<$ , and justify the conclusions, e.g., by using a visual model.

**MEASUREMENT AND DATA****Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.**

- 1: Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *Ex. 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).....*

**MEASUREMENT AND DATA (cont.)**

- 2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
- 3: Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *Ex. Find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*

**Represent and interpret data.**

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

**Geometric measurement: understand concepts of angle and measure angles.**

- 5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.
  - a: An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through  $\frac{1}{360}$  of a circle is called a “one-degree angle”, and can be used to measure angles.
  - b: An angle that turns through  $n$  one-degree angles is said to have an angle measure of  $n$  degrees.
- 6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
- 7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems (e.g., by using an equation with a symbol for the unknown angle measure).

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

- 1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- 2: Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
- 3: Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

**Mathematical Practices**

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



**SCIENCE****INQUIRY PROCESS****Observations, Questions, and Hypotheses**

Differentiate inferences from observations.

Formulate a relevant question through observations that can be tested by an investigation.

Formulate predictions in the realm of science based on observed cause and effect relationships.

Locate information (e.g., book, article, website) related to an investigation.

**Scientific Testing**

Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, organisms) in all science inquiry.

Plan a simple investigation that identifies the variable to be controlled.

Conduct controlled investigations (e.g., related to erosion, plant life cycles, weather, magnetism) in life, physical, and earth and space sciences.

Measure using appropriate tools (e.g., ruler, scale, balance) and units of measure (i.e., metric, U.S. customary).

Record data in an organized and appropriate format (e.g., t-chart, table, list, written log).

**Analysis and Conclusions**

Analyze data obtained in a scientific investigation to identify trends.

Formulate conclusions based upon identified trends in data.

Determine that data collected is consistent with the formulated question.

Determine whether the data supports the prediction for an investigation.

Develop new questions and predictions based upon the data collected in the investigation.

**Communication**

Communicate verbally or in writing the results of an inquiry.

Choose an appropriate graphic representation for collected data: bar graph, line graph, Venn diagram, model.

Communicate with other groups or individuals to compare the results of a common investigation.

**HISTORY AND NATURE OF SCIENCE****History of Science as a Human Endeavor**

Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Margaret Mead [anthropologist], Nikola Tesla [engineer, inventor], Michael Faraday [scientist], Benjamin Franklin [scientist]).

Describe science-related career opportunities.

**Nature of Scientific Knowledge**

Explain the role of experimentation in scientific inquiry.

Describe the interaction of components in a system (e.g., flashlight, radio).

Explain various ways scientists generate ideas (e.g., observation, experiment, collaboration, theoretical and mathematical models).

**SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES****Changes in Environments**

Describe how natural events and human activities have positive and negative impacts on environments (e.g., fire floods, pollution, dams).

Evaluate the consequences of environmental occurrences that happen either rapidly (e.g., fire, flood, tornado) or over a long period of time (e.g., drought, melting ice caps, the greenhouse effect, erosion).

**SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES (cont.)****Science and Technology in Society**

Describe how science and technology (e.g., computers, air conditioning, medicine) have improved the lives of many people.

Describe benefits (e.g., easy communications, rapid transportation) and risks (e.g., pollution, destruction of natural resources) related to the use of technology.

Design and construct a technological solution to a common problem or need using common materials.

**LIFE SCIENCE****Characteristics of Organisms**

Compare structures in plants (e.g., roots, stems, leaves, flowers) and animals (e.g., muscles, bones, nerves) that serve different functions in growth and survival.

Classify animals by identifiable group characteristics:

Vertebrates – mammals, birds, fish, reptiles, amphibians

Invertebrates – insects, arachnids

**Organisms and Environments**

Describe ways various resources (e.g., air water, plants, animals, soil) are utilized to meet the needs of a population.

Differentiate renewable resources from nonrenewable resources.

Analyze the effect that limited resources (e.g., natural gas, minerals) may have on an environment.

Describe ways in which resources can be conserved (e.g., by reducing, reusing, recycling, finding substitutes).

**Diversity, Adaptation, and Behavior**

Recognize that successful characteristics of populations are inherited traits that are favorable in a particular environment.

Give examples of adaptations that allow plants and animals to survive:

Camouflage – horned lizards, coyotes

Mimicry – Monarch and Viceroy butterflies

Physical – cactus spines

Mutualism – species of acacia that harbor ants, which repel other harmful insects

**PHYSICAL SCIENCE****Energy and Magnetism**

Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects.

Construct series and parallel electric circuits.

Explain the purpose of conductors and insulators in various practical applications.

Investigate the characteristics of magnets (e.g., opposite poles attract, like poles repel, the force between two magnet poles depends on the distance between them).

State cause and effect relationships between magnets and circuitry.

**EARTH AND SPACE SCIENCE****Earth's Processes and Systems**

Identify the earth processes that cause erosion.

Describe how currents and wind cause erosion and land changes.

Describe the role that water plays in the following processes that alter the Earth's surface features: erosion, deposition, weathering.

Compare rapid and slow processes that change the Earth's surface, including:

Rapid – earthquakes, volcanoes, floods OR Slow – wind, weathering

Identify earth events causing changes in atmospheric conditions (e.g., volcanic eruptions, forest fires).

Analyze evidence that indicates life and environmental conditions have changed (e.g., tree rings, fish fossils in desert regions, ice cores).

**EARTH AND SPACE SCIENCE (cont.)****Concept 3: Changes in the Earth and Sky**

Identify the sources of water within an environment (e.g., ground water, surface water, atmospheric water, glaciers).

Describe the distribution of water on the Earth's surface.

Differentiate between weather and climate as they related to the southwestern United States.

Measure changes in weather (e.g., precipitation, wind speed, barometric pressure).

Interpret the symbols on a weather map or chart to identify the following: temperatures, fronts, precipitation.

Compare weather conditions in various locations (e.g., regions of Arizona, various U.S. cities, coastal vs. interior geographical regions).

**SOCIAL STUDIES****AMERICAN HISTORY****Research Skills for History**

Use the following to interpret historical data: timelines (B.C.E. and B.C.; C.E. and A.D.) and graphs, tables, charts, and maps.

Describe the difference between primary and secondary sources.

Locate information using both primary and secondary sources.

Describe how archaeological research adds to our understanding of the past.

**Early Civilizations**

Describe the legacy and cultures of prehistoric people in the Americas: characteristics of hunter-gatherer societies; development of agriculture.

Describe the cultures and contributions of the Mogollon, Ancestral Puebloans (Anasazi), and Hohokam (e.g., location, agriculture, housing, arts, trade networks; adaptation and alteration of the environment).

Identify other groups (e.g., Patayan, Sinagua, Salado) residing in the Southwest during this period.

Identify the early civilizations (e.g., Maya, Aztec, Inca/Inka) that developed into empires in Central and South America.

Recognize the achievements and features (e.g., mathematics, astronomy, architecture) of the Mayan, Aztec, and Incan/Inkan civilizations.

**Exploration and Colonization**

Describe the reasons for early Spanish exploration of Mexico and the Southwestern region of the United States by: Cabeza de Vaca, Estevan, Fray Marcos de Niza, Francisco Vasques de Coronado.

Describe the impact of Spanish colonization on the Southwest: establishment of missions and presidios, lifestyle changes of native people, contributions of Father Kino.

Describe the location and cultural characteristics of Native American tribes (e.g., O'odham, Apache, Hopi,) during the Spanish period.

**Westward Expansion**

Recognize the change of governance of the Southwest from Spain to Mexico as a result of the Mexican Revolution.

Describe the influence of American explorers and trappers (e.g., James O. Pattie, Kit Carson, Bill Williams) on the development of the Southwest.

Describe events that led to Arizona becoming a possession of the United States: Mexican-American War, Mexican Cession (Treaty of Guadalupe-Hidalgo), Gadsden Purchase.

Describe the impact of Native Americans, Hispanics, and newcomers from the United States and the world on the culture of Arizona (e.g., art, language, architecture, mining, ranching).

Describe the conflict of cultures that occurred between newcomers and Arizona Native Americans: Indian Wars, Navajo Long Walk, formation of reservations.

**AMERICAN HISTORY (cont.)****Civil War and Reconstruction**

Describe events in Arizona during the Civil War: Battle of Picacho Peak, Battle of Apache Pass, Arizona becomes a territory.

**Emergence of the Modern United States**

Describe the economic development of Arizona: mining, ranching, farming and dams.

Describe the advent of innovations in transportation (e.g., steamboats, freighting, stagecoaches, railroads) that helped Arizona's growth and economy.

Identify key individuals and groups (e.g., Charles Poston, Sharlot Hall, Buffalo Soldiers, Geronimo, George W.P. Hunt, Manuelito, Cochise) related to Arizona territorial days and early statehood.

Recognize that Arizona changed from a territory to a state on February 14, 1912.

Recognize the formation of Native American communities and reservations in Arizona (e.g., Gila River Reservation, Yaquis, Colorado River Indian Tribes).

**Great Depression and World War II**

Describe changes in the lives of U.S. and Arizona residents during the Great Depression: poverty, unemployment, loss of homes or businesses, migration.

Describe the reasons (e.g., German and Japanese aggression) for the U.S. becoming involved in World War II.

Describe the impact of World War II on Arizona (e.g., economic boost, military bases, Native American and Hispanic contributions, POW camps, relocation of Japanese Americans).

Describe how lives were affected during World War II (e.g., limited goods, women worked in factories, increased patriotism).

**Postwar United States**

Describe changes (e.g., population growth, economic growth, cultural diversity, civil rights) that took place in Arizona during the postwar era.

**Contemporary United States**

Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps).

Discuss the connections between current and historical events and issues from content studied in previous areas, using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps).

Describe the influence of key individuals (e.g., Sandra Day O'Connor, Carl Hayden, Ernest W. McFarland, Barry Goldwater, Cesar Chavez, John McCain) in Arizona.

Discuss the contributions of diverse populations to Arizona.

**WORLD HISTORY****Research Skills for History**

Use the following to interpret historical data: timelines (B.C.E. and B.C.; C.E. and A.D.), graphs/tables/charts/maps.

Describe the difference between primary and secondary sources.

Locate information using both primary and secondary sources.

Describe how archaeological research adds to our understanding of the past.

**World in Transition**

Discuss life in Europe as it existed at the time of the Aztec and Incan/Inka empires in the Americas: life in castles, knights traveling to new places during the Crusades, desire for new routes to the Indies.

**Encounters and Exchange**

Describe the reasons (e.g., trade routes, gold) for Spanish and Portuguese explorations of the Americas.

Describe the impact of European explorers' encounters with the Aztec and Inca/Inka.

**Contemporary World**

Describe current events using information from class discussions and various resources (e.g., newspapers, magazines, television, Internet, books, maps).

**CIVICS/GOVERNMENT****Foundations of Government**

Describe state and national symbols and monuments that represent American democracy and values:

Great Seal of the United States, Arizona symbols (e.g., seal, flag), war memorials (e.g., Pearl Harbor-Arizona Memorial, WWII, Korean, and Vietnam Memorials).

Identify the rights and freedoms supported by the following documents: Preamble of the U.S. Constitution, Bill of Rights, Statement of Natural Rights as found in the Declaration of Independence (We hold these truths to be self evident.....).

Describe Arizona's transition from territory to statehood: locations of capital, founding people, Arizona's constitution.

Describe the varied backgrounds of people living in Arizona: shared principles, goals, customs and traditions; diversity in one's school and community; benefits and challenges of a diverse population.

**Structure of Government**

Describe the three branches of state and national government: Executive, Legislative, Judicial.

Describe different levels of government (e.g., local, tribal, state, national).

**Functions of Government**

Describe the responsibilities of state government (e.g., making laws, enforcing laws, collecting taxes).

Describe the responsibilities (e.g., determining land use, enforcing laws, overlapping responsibilities with state government) of the local government.

Describe the possible consequences of violating laws.

**Rights, Responsibilities, and Roles of Citizenship**

Discuss ways an individual can contribute to a school or community.

Identify traits of character (e.g., responsibility, respect, perseverance, loyalty, integrity, involvement, justice and tolerance) that are important to the preservation and improvement of democracy.

Describe the importance of citizens being actively involved in the democratic process (e.g., voting, campaigning, civil and community service, volunteering, jury duty).

**GEOGRAPHY****The World in Spatial Terms**

Use different types of maps to solve problems (i.e., road maps – distance, resource maps – products, historical maps – boundaries, thematic map – climates).

Interpret political and physical maps using the following map elements: title, compass rose (cardinal and intermediate directions), symbols, legend, scale, road map index, grid (latitude and longitude).

Construct maps using symbols to represent human and physical features.

Construct charts and graphs to display geographic information.

Describe characteristics of human and physical features:

Physical – (i.e., river, lake, mountain, range, coast, sea, desert, gulf, bay, strait, plain, alley, volcanoes, isthmus, canyon, plateau, mesa, oasis, dunes).

Human – (i.e., equator, four hemispheres, city, state, country, harbor, dams, territory, county).

Locate physical and human features using maps, illustrations, images, or globes:

Physical (i.e., river, lake, mountain range, coast, sea, desert, gulf, bay, strait)

Human (i.e., equator, four hemispheres, city, state, country, roads, railroads).

Locate physical and human features in Arizona using maps, illustrations, or images:

Physical (e.g., Grand Canyon, Mogollon Rim, Colorado River, Gila River, Salt River)

Human (e.g., Phoenix, Yuma, Flagstaff, Tucson, Prescott, Hoover Dam, Roosevelt Dam).

**Places and Regions**

Describe how the Southwest has distinct physical and cultural characteristics.

Describe ways in which Arizona has changed over time from statehood to today.

Locate the landform regions of Arizona (plateau, mountain, desert) on a map.

Compare the landform regions of Arizona according to their physical features, plants, and animals.

Describe how regions and places (e.g., Grand Canyon, Colorado River, Casa Grande Ruin, Canyon de Chelly, Yucatan Peninsula) have distinct characteristics.

**GEOGRAPHY (cont.)****Human Systems**

Describe the factors (push and pull) that have contributed to the settlement, economic development (e.g., mining, ranching, agriculture, and tourism), and growth of major Arizona cities.

Describe how Mexico and Arizona are connected by the movement of people, goods, and ideas.

Describe how the building of transportation routes (e.g., trails, stage routes, railroad) resulted in human settlement and economic development in Arizona.

Describe the cultural characteristics (e.g., food, clothing, housing, sports, customs, beliefs) of Arizona's diverse population.

Describe the major economic activities and land use patterns (e.g., agricultural, industrial, residential, commercial, recreational, harvesting of natural resources) of regions studied.

Describe elements of culture in areas studied (e.g., Mexico, Central and South America).

**Environment and Society**

Describe human dependence on the physical environment and natural resources to satisfy basic needs.

Describe the impact of extreme natural events (e.g., fires, volcanoes, floods, droughts) on human and physical environments.

Describe the impact of human modifications (e.g., dams, mining, air conditioning, irrigation, agricultural) on the physical environment and ecosystems.

**Geographic Applications**

Describe the impact of geographic features (e.g., rivers, mountains, resources, deserts, climate) on migration and the location of human activities (e.g., exploration, mining, transportation routes, settlement patterns).

Discuss geographic knowledge and skills related to current events.

Use geography concepts and skills (e.g., recognizing patterns, mapping, graphing) to find solutions for local, state or national problems (e.g., shortage or abundance of natural resources).

**ECONOMICS****Foundations of Economics**

Explain the decision for a personal spending choice.

Identify that specialization improves standards of living (e.g., medical care, home building, agriculture).

Give examples of how voluntary exchanges of goods and services can be mutually beneficial (e.g., ice cream vendor receives money, child receives ice cream; doctor receives monetary benefit, patient receives care).

**Microeconomics**

Explain how price incentives affect peoples' behavior and choices, such as colonial decisions about what crops to grow and which products to produce.

Describe why (e.g., schools, fire, police, libraries) state and local governments collect taxes.

Describe how education, skills, and career choices affect income.

Discuss how profit is an incentive to entrepreneurs.

Describe risks that are taken by entrepreneurs.

Identify the role of financial institutions in providing services (e.g., savings accounts, loans).

**Personal Finance**

Describe how interest is an incentive to saving money.