Texas Essential Knowledge and Skills for Grade 4

§110.15. English Language Arts and Reading
§111.16. Mathematics
§112.15. Science
§113.15. Social Studies
§114.2. Languages Other Than English
§115.6. Health Education
§116.6. Physical Education
§117.14. Art
§117.15. Music
§117.16. Theatre
§126.7. Technology Applications

§110.15. English Language Arts and Reading, Grade 4, Beginning with School Year 2009-2010.

(a) Introduction.

(1) The English Language Arts and Reading Texas Essential Knowledge and Skills (TEKS) are organized into the following strands: Reading, where students read and understand a wide variety of literary and informational texts; Writing, where students compose a variety of written texts with a clear controlling idea, coherent organization, and sufficient detail; Research, where students are expected to know how to locate a range of relevant sources and evaluate, synthesize, and present ideas and information; Listening and Speaking, where students listen and respond to the ideas of others while contributing their own ideas in conversations and in groups; and Oral and Written Conventions, where students learn how to use the oral and written conventions of the English language in speaking and writing. The standards are cumulative--students will continue to address earlier standards as needed while they attend to standards for their grade. In fourth grade, students will engage in activities that build on their prior knowledge and skills in order to strengthen their reading, writing, and oral language skills. Students should read and write on a daily basis.

(2) For students whose first language is not English, the students' native language serves as a foundation for English language acquisition.

(A) English language learners (ELLs) are acquiring English, learning content in English, and learning to read simultaneously. For this reason, it is imperative that reading instruction should be comprehensive and that students receive instruction in phonemic awareness, phonics, decoding, and word attack skills while simultaneously being taught academic vocabulary and comprehension skills and strategies. Reading instruction that enhances ELL's ability to decode unfamiliar words and to make sense of those words in context will expedite their ability to make sense of what they read and learn from reading. Additionally, developing fluency, spelling, and grammatical conventions of academic language must be done in meaningful contexts and not in isolation.

(B) For ELLs, comprehension of texts requires additional scaffolds to support comprehensible input. ELL students should use the knowledge of their first language (e.g., cognates) to further vocabulary development. Vocabulary needs to be taught in the context of connected discourse so that language is meaningful. ELLs must learn how rhetorical devices in English differ from those

in their native language. At the same time English learners are learning in English, the focus is on academic English, concepts, and the language structures specific to the content.

(C) During initial stages of English development, ELLs are expected to meet standards in a second language that many monolingual English speakers find difficult to meet in their native language. However, English language learners' abilities to meet these standards will be influenced by their proficiency in English. While English language learners can analyze, synthesize, and evaluate, their level of English proficiency may impede their ability to demonstrate this knowledge during the initial stages of English language acquisition. It is also critical to understand that ELLs with no previous or with interrupted schooling will require explicit and strategic support as they acquire English and learn to learn in English simultaneously.

(3) To meet Public Education Goal 1 of the Texas Education Code, §4.002, which states, "The students in the public education system will demonstrate exemplary performance in the reading and writing of the English language," students will accomplish the essential knowledge, skills, and student expectations at Grade 4 as described in subsection (b) of this section.

(4) To meet Texas Education Code, §28.002(h), which states, "... each school district shall foster the continuation of the tradition of teaching United States and Texas history and the free enterprise system in regular subject matter and in reading courses and in the adoption of textbooks," students will be provided oral and written narratives as well as other informational texts that can help them to become thoughtful, active citizens who appreciate the basic democratic values of our state and nation.

(b) Knowledge and skills.

(1) Reading/Fluency. Students read grade-level text with fluency and comprehension. Students are expected to read aloud grade-level stories with fluency (rate, accuracy, expression, appropriate phrasing) and comprehension.

(2) Reading/Vocabulary Development. Students understand new vocabulary and use it when reading and writing. Students are expected to:

(A) determine the meaning of grade-level academic English words derived from Latin, Greek, or other linguistic roots and affixes;

(B) use the context of the sentence (e.g., in-sentence example or definition) to determine the meaning of unfamiliar words or multiple meaning words;

(C) complete analogies using knowledge of antonyms and synonyms (e.g., boy:girl as male:____ or girl:woman as boy:_____);

(D) identify the meaning of common idioms; and

(E) use a dictionary or glossary to determine the meanings, syllabication, and pronunciation of unknown words.

(3) Reading/Comprehension of Literary Text/Theme and Genre. Students analyze, make inferences and draw conclusions about theme and genre in different cultural, historical, and contemporary contexts and provide evidence from the text to support their understanding. Students are expected to:

(A) summarize and explain the lesson or message of a work of fiction as its theme; and

(B) compare and contrast the adventures or exploits of characters (e.g., the trickster) in traditional and classical literature.

(4) Reading/Comprehension of Literary Text/Poetry. Students understand, make inferences and draw conclusions about the structure and elements of poetry and provide evidence from text to support their understanding. Students are expected to explain how the structural elements of poetry (e.g., rhyme, meter, stanzas, line breaks) relate to form (e.g., lyrical poetry, free verse).

(5) Reading/Comprehension of Literary Text/Drama. Students understand, make inferences and draw conclusions about the structure and elements of drama and provide evidence from text to support their understanding. Students are expected to describe the structural elements particular to dramatic literature.

(6) Reading/Comprehension of Literary Text/Fiction. Students understand, make inferences and draw conclusions about the structure and elements of fiction and provide evidence from text to support their understanding. Students are expected to:

(A) sequence and summarize the plot's main events and explain their influence on future events;

(B) describe the interaction of characters including their relationships and the changes they undergo; and

(C) identify whether the narrator or speaker of a story is first or third person.

(7) Reading/Comprehension of Literary Text/Literary Nonfiction. Students understand, make inferences and draw conclusions about the varied structural patterns and features of literary nonfiction and provide evidence from text to support their understanding. Students are expected to identify similarities and differences between the events and characters' experiences in a fictional work and the actual events and experiences described in an author's biography or autobiography.

(8) Reading/Comprehension of Literary Text/Sensory Language. Students understand, make inferences and draw conclusions about how an author's sensory language creates imagery in literary text and provide evidence from text to support their understanding. Students are expected to identify the author's use of similes and metaphors to produce imagery.

(9) Reading/Comprehension of Text/Independent Reading. Students read independently for sustained periods of time and produce evidence of their reading. Students are expected to read independently for a sustained period of time and paraphrase what the reading was about, maintaining meaning and logical order (e.g., generate a reading log or journal; participate in book talks).

(10) Reading/Comprehension of Informational Text/Culture and History. Students analyze, make inferences and draw conclusions about the author's purpose in cultural, historical, and contemporary contexts and provide evidence from the text to support their understanding. Students are expected to explain the difference between a stated and an implied purpose for an expository text.

(11) Reading/Comprehension of Informational Text/Expository Text. Students analyze, make inferences and draw conclusions about expository text and provide evidence from text to support their understanding. Students are expected to:

(A) summarize the main idea and supporting details in text in ways that maintain meaning;

(B) distinguish fact from opinion in a text and explain how to verify what is a fact;

(C) describe explicit and implicit relationships among ideas in texts organized by cause-and-effect, sequence, or comparison; and

(D) use multiple text features (e.g., guide words, topic and concluding sentences) to gain an overview of the contents of text and to locate information.

(12) Reading/Comprehension of Informational Text/Persuasive Text. Students analyze, make inferences and draw conclusions about persuasive text and provide evidence from text to support their analysis. Students are expected to explain how an author uses language to present information to influence what the reader thinks or does.

(13) Reading/Comprehension of Informational Text/Procedural Texts. Students understand how to glean and use information in procedural texts and documents. Students are expected to:

(A) determine the sequence of activities needed to carry out a procedure (e.g., following a recipe); and

(B) explain factual information presented graphically (e.g., charts, diagrams, graphs, illustrations).

(14) Reading/Media Literacy. Students use comprehension skills to analyze how words, images, graphics, and sounds work together in various forms to impact meaning. Students continue to apply earlier standards with greater depth in increasingly more complex texts. Students are expected to:

(A) explain the positive and negative impacts of advertisement techniques used in various genres of media to impact consumer behavior;

(B) explain how various design techniques used in media influence the message (e.g., pacing, close-ups, sound effects); and

(C) compare various written conventions used for digital media (e.g. language in an informal e-mail vs. language in a web-based news article).

(15) Writing/Writing Process. Students use elements of the writing process (planning, drafting, revising, editing, and publishing) to compose text. Students are expected to:

(A) plan a first draft by selecting a genre appropriate for conveying the intended meaning to an audience and generating ideas through a range of strategies (e.g., brainstorming, graphic organizers, logs, journals);

(B) develop drafts by categorizing ideas and organizing them into paragraphs;

(C) revise drafts for coherence, organization, use of simple and compound sentences, and audience;

(D) edit drafts for grammar, mechanics, and spelling using a teacher-developed rubric; and

(E) revise final draft in response to feedback from peers and teacher and publish written work for a specific audience.

(16) Writing/Literary Texts. Students write literary texts to express their ideas and feelings about real or imagined people, events, and ideas. Students are expected to:

(A) write imaginative stories that build the plot to a climax and contain details about the characters and setting; and

(B) write poems that convey sensory details using the conventions of poetry (e.g., rhyme, meter, patterns of verse).

(17) Writing. Students write about their own experiences. Students are expected to write about important personal experiences.

(18) Writing/Expository and Procedural Texts. Students write expository and procedural or work-related texts to communicate ideas and information to specific audiences for specific purposes. Students are expected to:

(A) create brief compositions that:

(i) establish a central idea in a topic sentence;

(ii) include supporting sentences with simple facts, details, and explanations; and

(iii) contain a concluding statement;

(B) write letters whose language is tailored to the audience and purpose (e.g., a thank you note to a friend) and that use appropriate conventions (e.g., date, salutation, closing); and

(C) write responses to literary or expository texts and provide evidence from the text to demonstrate understanding.

(19) Writing/Persuasive Texts. Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write persuasive essays for appropriate audiences that establish a position and use supporting details.

(20) Oral and Written Conventions/Conventions. Students understand the function of and use the conventions of academic language when speaking and writing. Students continue to apply earlier standards with greater complexity. Students are expected to:

(A) use and understand the function of the following parts of speech in the context of reading, writing, and speaking:

(i) verbs (irregular verbs);

(ii) nouns (singular/plural, common/proper);

(iii) adjectives (e.g., descriptive, including purpose: sleeping bag, frying pan) and their comparative and superlative forms (e.g., fast, faster, fastest);

(iv) adverbs (e.g., frequency: usually, sometimes; intensity: almost, a lot);

(v) prepositions and prepositional phrases to convey location, time, direction, or to provide details;

(vi) reflexive pronouns (e.g., myself, ourselves);

(vii) correlative conjunctions (e.g., either/or, neither/nor); and

(viii) use time-order transition words and transitions that indicate a conclusion;

(B) use the complete subject and the complete predicate in a sentence; and

(C) use complete simple and compound sentences with correct subject-verb agreement.

(21) Oral and Written Conventions/Handwriting, Capitalization, and Punctuation. Students write legibly and use appropriate capitalization and punctuation conventions in their compositions. Students are expected to:

(A) write legibly by selecting cursive script or manuscript printing as appropriate;

(B) use capitalization for:

(i) historical events and documents;

(ii) titles of books, stories, and essays; and

(iii) languages, races, and nationalities; and

(C) recognize and use punctuation marks including:

(i) commas in compound sentences; and

(ii) quotation marks.

(22) Oral and Written Conventions/Spelling. Students spell correctly. Students are expected to:

(A) spell words with more advanced orthographic patterns and rules:

(i) plural rules (e.g., words ending in f as in leaf, leaves; adding -es);

(ii) irregular plurals (e.g., man/men, foot/feet, child/children);

(iii) double consonants in middle of words;

(iv) other ways to spell sh (e.g., -sion, -tion, -cian); and

(v) silent letters (e.g., knee, wring);

(B) spell base words and roots with affixes (e.g., -ion, -ment, -ly, dis-, pre-);

(C) spell commonly used homophones (e.g., there, they're, their; two, too, to); and

(D) use spelling patterns and rules and print and electronic resources to determine and check correct spellings.

(23) Research/Research Plan. Students ask open-ended research questions and develop a plan for answering them. Students are expected to:

(A) generate research topics from personal interests or by brainstorming with others, narrow to one topic, and formulate open-ended questions about the major research topic; and

(B) generate a research plan for gathering relevant information (e.g., surveys, interviews, encyclopedias) about the major research question.

(24) Research/Gathering Sources. Students determine, locate, and explore the full range of relevant sources addressing a research question and systematically record the information they gather. Students are expected to:

(A) follow the research plan to collect information from multiple sources of information both oral and written, including:

(i) student-initiated surveys, on-site inspections, and interviews;

(ii) data from experts, reference texts, and online searches; and

(iii) visual sources of information (e.g., maps, timelines, graphs) where appropriate;

(B) use skimming and scanning techniques to identify data by looking at text features (e.g., bold print, italics);

(C) take simple notes and sort evidence into provided categories or an organizer;

(D) identify the author, title, publisher, and publication year of sources; and

(E) differentiate between paraphrasing and plagiarism and identify the importance of citing valid and reliable sources.

(25) Research/Synthesizing Information. Students clarify research questions and evaluate and synthesize collected information. Students are expected to improve the focus of research as a result of consulting expert sources (e.g., reference librarians and local experts on the topic).

(26) Research/Organizing and Presenting Ideas. Students organize and present their ideas and information according to the purpose of the research and their audience. Students are expected to draw

conclusions through a brief written explanation and create a works-cited page from notes, including the author, title, publisher, and publication year for each source used.

(27) Listening and Speaking/Listening. Students use comprehension skills to listen attentively to others in formal and informal settings. Students continue to apply earlier standards with greater complexity. Students are expected to:

(A) listen attentively to speakers, ask relevant questions, and make pertinent comments; and

(B) follow, restate, and give oral instructions that involve a series of related sequences of action.

(28) Listening and Speaking/Speaking. Students speak clearly and to the point, using the conventions of language. Students continue to apply earlier standards with greater complexity. Students are expected to express an opinion supported by accurate information, employing eye contact, speaking rate, volume, and enunciation, and the conventions of language to communicate ideas effectively.

(29) Listening and Speaking/Teamwork. Students work productively with others in teams. Students continue to apply earlier standards with greater complexity. Students are expected to participate in teacher- and student-led discussions by posing and answering questions with appropriate detail and by providing suggestions that build upon the ideas of others.

Reading and Comprehension Skills—First Grade

Figure: 19 TAC §110.10(b)

Reading/Comprehension Skills. Students use a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message. Students will continue to apply earlier standards with greater depth in increasingly more complex texts as they become self-directed, critical readers. The student is expected to:

(A) establish purposes for reading selected texts based upon own or others' desired outcome to enhance comprehension;

(B) ask literal, interpretive, and evaluative questions of text;

(C) monitor and adjust comprehension (e.g., using background knowledge, creating sensory images, re-reading a portion aloud, generating questions);

(D) make inferences about text and use textual evidence to support understanding;

(E) summarize information in text, maintaining meaning and logical order; and

(F) make connections (e.g., thematic links, author analysis) between literary and informational texts with similar ideas and provide textual evidence.

§111.16. Mathematics, Grade 4.

(a) Introduction.

(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 4 are comparing and ordering fractions and decimals, applying multiplication and division, and developing ideas related to congruence and symmetry.

(2) Throughout mathematics in Grades 3-5, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use algorithms for addition, subtraction, multiplication, and division as generalizations connected to concrete experiences; and they concretely develop basic concepts of fractions and decimals. Students use appropriate language and organizational structures such as tables and charts to represent and communicate relationships, make predictions, and solve problems. Students select and use formal language to describe their reasoning as they identify, compare, and classify two- or three-dimensional geometric figures; and they use numbers, standard units, and measurement tools to describe and compare objects, make estimates, and solve application problems. Students organize data, choose an appropriate method to display the data, and interpret the data to make decisions and predictions and solve problems.

(3) Throughout mathematics in Grades 3-5, students develop numerical fluency with conceptual understanding and computational accuracy. Students in Grades 3-5 use knowledge of the base-ten place value system to compose and decompose numbers in order to solve problems requiring precision, estimation, and reasonableness. By the end of Grade 5, students know basic addition, subtraction, multiplication, and division facts and are using them to work flexibly, efficiently, and accurately with numbers during addition, subtraction, multiplication, and division computation.

(4) Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 3-5, students use these processes together with technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve meaningful problems as they do mathematics.

(b) Knowledge and skills.

(4.1) Number, operation, and quantitative reasoning. The student uses place value to represent whole numbers and decimals. The student is expected to:

(A) use place value to read, write, compare, and order whole numbers through 999,999,999; and

(B) use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete objects and pictorial models.

(4.2) Number, operation, and quantitative reasoning. The student describes and compares fractional parts of whole objects or sets of objects. The student is expected to:

(A) use concrete objects and pictorial models to generate equivalent fractions;

(B) model fraction quantities greater than one using concrete objects and pictorial models;

(C) compare and order fractions using concrete objects and pictorial models; and

(D) relate decimals to fractions that name tenths and hundredths using concrete objects and pictorial models.

(4.3) Number, operation, and quantitative reasoning. The student adds and subtracts to solve meaningful problems involving whole numbers and decimals. The student is expected to:

(A) use addition and subtraction to solve problems involving whole numbers; and

(B) add and subtract decimals to the hundredths place using concrete objects and pictorial models.

(4.4) Number, operation, and quantitative reasoning. The student multiplies and divides to solve meaningful problems involving whole numbers. The student is expected to:

(A) model factors and products using arrays and area models;

(B) represent multiplication and division situations in picture, word, and number form;

(C) recall and apply multiplication facts through 12 x 12;

(D) use multiplication to solve problems (no more than two digits times two digits without technology); and

(E) use division to solve problems (no more than one-digit divisors and three-digit dividends without technology).

(4.5) Number, operation, and quantitative reasoning. The student estimates to determine reasonable results. The student is expected to:

(A) round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations; and

(B) use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems.

(4.6) Patterns, relationships, and algebraic thinking. The student uses patterns in multiplication and division. The student is expected to:

(A) use patterns and relationships to develop strategies to remember basic multiplication and division facts (such as the patterns in related multiplication and division number sentences (fact families) such as 9 x 9 = 81 and 81 ÷ 9 = 9); and

(B) use patterns to multiply by 10 and 100.

(4.7) Patterns, relationships, and algebraic thinking. The student uses organizational structures to analyze and describe patterns and relationships. The student is expected to describe the relationship between two sets of related data such as ordered pairs in a table.

(4.8) Geometry and spatial reasoning. The student identifies and describes attributes of geometric figures using formal geometric language. The student is expected to:

(A) identify and describe right, acute, and obtuse angles;

(B) identify and describe parallel and intersecting (including perpendicular) lines using concrete objects and pictorial models; and

(C) use essential attributes to define two- and three-dimensional geometric figures.

(4.9) Geometry and spatial reasoning. The student connects transformations to congruence and symmetry. The student is expected to:

(A) demonstrate translations, reflections, and rotations using concrete models;

(B) use translations, reflections, and rotations to verify that two shapes are congruent; and

(C) use reflections to verify that a shape has symmetry.

(4.10) Geometry and spatial reasoning. The student recognizes the connection between numbers and their properties and points on a line. The student is expected to locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths.

(4.11) Measurement. The student applies measurement concepts. The student is expected to estimate and measure to solve problems involving length (including perimeter) and area. The student uses measurement tools to measure capacity/volume and weight/mass. The student is expected to:

(A) estimate and use measurement tools to determine length (including perimeter), area, capacity and weight/mass using standard units SI (metric) and customary;

(B) perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system;

(C) use concrete models of standard cubic units to measure volume;

(D) estimate volume in cubic units; and

(E) explain the difference between weight and mass.

(4.12) Measurement. The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius). The student is expected to:

(A) use a thermometer to measure temperature and changes in temperature; and

(B) use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time.

(4.13) Probability and statistics. The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is expected to:

(A) use concrete objects or pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation; and

(B) interpret bar graphs.

(4.14) Underlying processes and mathematical tools. The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:

(A) identify the mathematics in everyday situations;

(B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;

(C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and

(D) use tools such as real objects, manipulatives, and technology to solve problems.

(4.15) Underlying processes and mathematical tools. The student communicates about Grade 4 mathematics using informal language. The student is expected to:

(A) explain and record observations using objects, words, pictures, numbers, and technology; and

(B) relate informal language to mathematical language and symbols.

(4.16) Underlying processes and mathematical tools. The student uses logical reasoning. The student is expected to:

(A) make generalizations from patterns or sets of examples and nonexamples; and

(B) justify why an answer is reasonable and explain the solution process.

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§112.15. Science, Grade 4, Beginning with School Year 2010-2011.

(a) Introduction.

(1) Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process."

(2) Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, and change and constancy.

(3) The study of elementary science includes planning and safely implementing classroom and outdoor investigations using scientific processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and vocabulary, in the context of physical, earth, and life sciences. Districts are encouraged to facilitate classroom and outdoor investigations for at least 50% of instructional time.

(4) In Grade 4, investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations and that methods, models, and conclusions built from these investigations change as new observations are made. Models of objects and events are tools for understanding the natural world and can show how systems work. They have limitations and based on new discoveries are constantly being modified to more closely reflect the natural world.

(A) Within the natural environment, students know that earth materials have properties that are constantly changing due to Earth's forces. The students learn that the natural world consists of resources, including renewable and nonrenewable, and their responsibility to conserve our natural resources for future generations. They will also explore Sun, Earth, and Moon relationships. The students will recognize that our major source of energy is the Sun.

(B) Within the living environment, students know and understand that living organisms within an ecosystem interact with one another and with their environment. The students will recognize that plants and animals have basic needs, and they are met through a flow of energy known as food webs. Students will explore how all living organisms go through a life cycle and that adaptations enable organisms to survive in their ecosystem.

(b) Knowledge and skills.

(1) Scientific investigation and reasoning. The student conducts classroom and outdoor investigations, following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

(A) demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and

(B) make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic.

(2) Scientific investigation and reasoning. The student uses scientific inquiry methods during laboratory and outdoor investigations. The student is expected to:

(A) plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions;

(B) collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps;

(C) construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data;

(D) analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured;

(E) perform repeated investigations to increase the reliability of results; and

(F) communicate valid, oral, and written results supported by data.

(3) Scientific investigation and reasoning. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:

(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;

(B) draw inferences and evaluate accuracy of services and product claims found in advertisements and labels such as for toys, food, and sunscreen;

(C) represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size; and

(D) connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.

(4) Scientific investigation and reasoning. The student knows how to use a variety of tools, materials, equipment, and models to conduct science inquiry. The student is expected to:

(A) collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, pan balances, triple beam balances, graduated cylinders, beakers, hot plates, meter sticks, compasses, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and

(B) use safety equipment as appropriate, including safety goggles and gloves.

(5) Matter and energy. The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:

(A) measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float;

(B) predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water; and

(C) compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water.

(6) Force, motion, and energy. The student knows that energy exists in many forms and can be observed in cycles, patterns, and systems. The student is expected to:

(A) differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal;

(B) differentiate between conductors and insulators;

(C) demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field; and

(D) design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.

(7) Earth and space. The students know that Earth consists of useful resources and its surface is constantly changing. The student is expected to:

(A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants;

(B) observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice; and

(C) identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.

(8) Earth and space. The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:

(A) measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key;

(B) describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process; and

(C) collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.

(9) Organisms and environments. The student knows and understands that living organisms within an ecosystem interact with one another and with their environment. The student is expected to:

(A) investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food; and

(B) describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest.

(10) Organisms and environments. The student knows that organisms undergo similar life processes and have structures that help them survive within their environment. The student is expected to:

(A) explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants;

(B) demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses; and

(C) explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.

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§113.15. Social Studies, Grade 4, Beginning with School Year 2011-2012.

(a) Introduction.

(1) In Grade 4, students examine the history of Texas from the early beginnings to the present within the context of influences of North America. Historical content focuses on Texas history, including the Texas Revolution, establishment of the Republic of Texas, and subsequent annexation to the United States. Students discuss important issues, events, and individuals of the 19th, 20th, and 21st centuries. Students conduct a thorough study of regions in Texas and North America resulting from human activity and from physical features. The location, distribution, and patterns of economic activities and settlement in Texas further enhance the concept of regions. Students describe how early American Indians in Texas and North America met their basic economic needs. Students identify motivations for European exploration and colonization and reasons for the establishment of Spanish settlements and missions. Students explain how American Indians governed themselves and identify characteristics of Spanish colonial and Mexican governments in Texas. Students recite and explain the meaning of the Pledge to the Texas Flag. Students identify the contributions of people of various racial, ethnic, and religious groups to Texas and describe the impact of science and technology on life in the state. Students use critical-thinking skills to identify cause-and-effect relationships, compare and contrast, and make generalizations and predictions.

(2) To support the teaching of the essential knowledge and skills, the use of a variety of rich primary and secondary source material such as documents, biographies, novels, speeches, letters, poetry, songs, and artworks is encouraged. Where appropriate, local topics should be included. Motivating resources are available from museums, historical sites, presidential libraries, and local and state preservation societies.

(3) The eight strands of the essential knowledge and skills for social studies are intended to be integrated for instructional purposes. Skills listed in the social studies skills strand in subsection (b) of this section should be incorporated into the teaching of all essential knowledge and skills for social studies. A greater depth of understanding of complex content material can be attained when integrated social studies content from the various disciplines and critical-thinking skills are taught together. Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(4) Students identify the role of the U.S. free enterprise system within the parameters of this course and understand that this system may also be referenced as capitalism or the free market system.

(5) Throughout social studies in Kindergarten-Grade 12, students build a foundation in history; geography; economics; government; citizenship; culture; science, technology, and society; and social

studies skills. The content, as appropriate for the grade level or course, enables students to understand the importance of patriotism, function in a free enterprise society, and appreciate the basic democratic values of our state and nation as referenced in the Texas Education Code (TEC), §28.002(h).

(6) Students understand that a constitutional republic is a representative form of government whose representatives derive their authority from the consent of the governed, serve for an established tenure, and are sworn to uphold the constitution.

(7) State and federal laws mandate a variety of celebrations and observances, including Celebrate Freedom Week.

(A) Each social studies class shall include, during Celebrate Freedom Week as provided under the TEC, §29.907, or during another full school week as determined by the board of trustees of a school district, appropriate instruction concerning the intent, meaning, and importance of the Declaration of Independence and the U.S. Constitution, including the Bill of Rights, in their historical contexts. The study of the Declaration of Independence must include the study of the relationship of the ideas expressed in that document to subsequent American history, including the relationship of its ideas to the rich diversity of our people as a nation of immigrants, the American Revolution, the formulation of the U.S. Constitution, and the abolitionist movement, which led to the Emancipation Proclamation and the women's suffrage movement.

(B) Each school district shall require that, during Celebrate Freedom Week or other week of instruction prescribed under subparagraph (A) of this paragraph, students in Grades 3-12 study and recite the following text: "We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the Pursuit of Happiness--That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the Governed."

(8) Students identify and discuss how the actions of U.S. citizens and the local, state, and federal governments have either met or failed to meet the ideals espoused in the founding documents.

(b) Knowledge and skills.

(1) History. The student understands the origins, similarities, and differences of American Indian groups in Texas and North America before European exploration. The student is expected to:

(A) explain the possible origins of American Indian groups in Texas and North America;

(B) identify American Indian groups in Texas and North America before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano;

(C) describe the regions in which American Indians lived and identify American Indian groups remaining in Texas such as the Ysleta Del Sur Pueblo, Alabama-Coushatta, and Kickapoo; and

(D) compare the ways of life of American Indian groups in Texas and North America before European exploration.

(2) History. The student understands the causes and effects of European exploration and colonization of Texas and North America. The student is expected to:

(A) summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion;

(B) identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas;

(C) explain when, where, and why the Spanish established settlements and Catholic missions in Texas as well as important individuals such as José de Escandón;

(D) identify Texas' role in the Mexican War of Independence and the war's impact on the development of Texas; and

(E) identify the accomplishments and explain the economic motivations and impact of significant empresarios, including Stephen F. Austin and Martín de León, on the settlement of Texas.

(3) History. The student understands the importance of the Texas Revolution, the Republic of Texas, and the annexation of Texas to the United States. The student is expected to:

(A) analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto;

(B) summarize the significant contributions of individuals such as Texians William B. Travis, James Bowie, David Crockett, George Childress, and Sidney Sherman; Tejanos Juan Antonio Padilla, Carlos Espalier, Juan N. Seguín, Plácido Benavides, and José Francisco Ruiz; Mexicans Antonio López de Santa Anna and Vicente Filisola; and non-combatants Susanna Dickinson and Enrique Esparza;

(C) identify leaders important to the founding of Texas as a republic and state, including José Antonio Navarro, Sam Houston, Mirabeau Lamar, and Anson Jones;

(D) describe the successes, problems, and organizations of the Republic of Texas such as the establishment of a constitution, economic struggles, relations with American Indians, and the Texas Rangers; and

(E) explain the events that led to the annexation of Texas to the United States, including the impact of the U.S.-Mexican War.

(4) History. The student understands the political, economic, and social changes in Texas during the last half of the 19th century. The student is expected to:

(A) describe the impact of the Civil War and Reconstruction on Texas;

(B) explain the growth, development, and impact of the cattle industry, including contributions made by Charles Goodnight, Richard King, and Lizzie Johnson;

(C) identify the impact of railroads on life in Texas, including changes to cities and major industries; and

(D) examine the effects upon American Indian life resulting from changes in Texas, including the Red River War, building of U.S. forts and railroads, and loss of buffalo.

(5) History. The student understands important issues, events, and individuals of the 20th century in Texas. The student is expected to:

(A) identify the impact of various issues and events on life in Texas such as urbanization, increased use of oil and gas, the Great Depression, the Dust Bowl, and World War II;

(B) explain the development and impact of the oil and gas industry upon industrialization and urbanization in Texas, including important places and people such as Spindletop and Pattillo Higgins; and

(C) identify the accomplishments of notable individuals such as John Tower, Scott Joplin, Audie Murphy, Cleto Rodríguez, Stanley Marcus, Bessie Coleman, Raul A. Gonzalez Jr., and other local notable individuals.

(6) Geography. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:

(A) apply geographic tools, including grid systems, legends, symbols, scales, and compass roses, to construct and interpret maps; and

(B) translate geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

(7) Geography. The student understands the concept of regions. The student is expected to:

(A) describe a variety of regions in Texas and the United States such as political, population, and economic regions that result from patterns of human activity;

(B) identify, locate, and compare the geographic regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their landforms, climate, and vegetation; and

(C) compare the geographic regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains) with regions of the United States and other parts of the world.

(8) Geography. The student understands the location and patterns of settlement and the geographic factors that influence where people live. The student is expected to:

(A) identify and explain clusters and patterns of settlement in Texas at different time periods such as prior to the Texas Revolution, after the building of the railroads, and following World War II;

(B) describe and explain the location and distribution of various towns and cities in Texas, past and present; and

(C) explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

(9) Geography. The student understands how people adapt to and modify their environment. The student is expected to:

(A) describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams;

(B) identify reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities; and

(C) compare the positive and negative consequences of human modification of the environment in Texas, past and present, both governmental and private, such as economic development and the impact on habitats and wildlife as well as air and water quality.

(10) Economics. The student understands the basic economic activities of early societies in Texas and North America. The student is expected to:

(A) explain the economic activities various early American Indian groups in Texas and North America used to meet their needs and wants such as farming, trading, and hunting; and

(B) explain the economic activities early immigrants to Texas used to meet their needs and wants.

(11) Economics. The student understands the characteristics and benefits of the free enterprise system in Texas. The student is expected to:

(A) describe the development of the free enterprise system in Texas;

(B) describe how the free enterprise system works, including supply and demand; and

(C) give examples of the benefits of the free enterprise system such as choice and opportunity.

(12) Economics. The student understands patterns of work and economic activities in Texas. The student is expected to:

(A) explain how people in different regions of Texas earn their living, past and present, through a subsistence economy and providing goods and services;

(B) explain how geographic factors such as climate, transportation, and natural resources have influenced the location of economic activities in Texas;

(C) analyze the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas;

(D) describe the impact of mass production, specialization, and division of labor on the economic growth of Texas;

(E) explain how developments in transportation and communication have influenced economic activities in Texas; and

(F) explain the impact of American ideas about progress and equality of opportunity on the economic development and growth of Texas.

(13) Economics. The student understands how Texas, the United States, and other parts of the world are economically interdependent. The student is expected to:

(A) identify ways in which technological changes in areas such as transportation and communication have resulted in increased interdependence among Texas, the United States, and the world;

(B) identify oil and gas, agricultural, and technological products of Texas that are purchased to meet needs in the United States and around the world; and

(C) explain how Texans meet some of their needs through the purchase of products from the United States and the rest of the world.

(14) Government. The student understands how people organized governments in different ways during the early development of Texas. The student is expected to:

(A) compare how various American Indian groups such as the Caddo and the Comanche governed themselves; and

(B) identify and compare characteristics of the Spanish colonial government and the early Mexican governments and their influence on inhabitants of Texas.

(15) Government. The student understands important ideas in historical documents of Texas and the United States. The student is expected to:

(A) identify the purposes and explain the importance of the Texas Declaration of Independence, the Texas Constitution, and other documents such as the Meusebach-Comanche Treaty;

(B) identify and explain the basic functions of the three branches of government according to the Texas Constitution; and

(C) identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

(16) Citizenship. The student understands important customs, symbols, and celebrations of Texas. The student is expected to:

(A) explain the meaning of various patriotic symbols and landmarks of Texas, including the six flags that flew over Texas, the San Jacinto Monument, the Alamo, and various missions;

(B) sing or recite "Texas, Our Texas";

(C) recite and explain the meaning of the Pledge to the Texas Flag; and

(D) describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

(17) Citizenship. The student understands the importance of active individual participation in the democratic process. The student is expected to:

(A) identify important individuals who have participated voluntarily in civic affairs at state and local levels such as Adina de Zavala and Clara Driscoll;

(B) explain how individuals can participate voluntarily in civic affairs at state and local levels through activities such as holding public officials to their word, writing letters, and participating in historic preservation and service projects;

(C) explain the duty of the individual in state and local elections such as being informed and voting;

(D) identify the importance of historical figures and important individuals who modeled active participation in the democratic process such as Sam Houston, Barbara Jordan, Lorenzo de Zavala, Ann Richards, Sam Rayburn, Henry B. González, James A. Baker III, Wallace Jefferson, and other local individuals; and

(E) explain how to contact elected and appointed leaders in state and local governments.

(18) Citizenship. The student understands the importance of effective leadership in a constitutional republic. The student is expected to:

(A) identify leaders in state, local, and national governments, including the governor, local members of the Texas Legislature, the local mayor, U.S. senators, local U.S. representatives, and Texans who have been president of the United States; and

(B) identify leadership qualities of state and local leaders, past and present.

(19) Culture. The student understands the contributions of people of various racial, ethnic, and religious groups to Texas. The student is expected to:

(A) identify the similarities and differences among various racial, ethnic, and religious groups in Texas;

(B) identify customs, celebrations, and traditions of various cultural, regional, and local groups in Texas such as Cinco de Mayo, Oktoberfest, the Strawberry Festival, and Fiesta San Antonio; and

(C) summarize the contributions of people of various racial, ethnic, and religious groups in the development of Texas such as Lydia Mendoza, Chelo Silva, and Julius Lorenzo Cobb Bledsoe.

(20) Science, technology, and society. The student understands the impact of science and technology on life in Texas. The student is expected to:

(A) identify famous inventors and scientists such as Gail Borden, Joseph Glidden, Michael DeBakey, and Millie Hughes-Fulford and their contributions;

(B) describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas; and

(C) predict how future scientific discoveries and technological innovations might affect life in Texas.

(21) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including electronic technology. The student is expected to:

(A) differentiate between, locate, and use valid primary and secondary sources such as computer software; interviews; biographies; oral, print, and visual material; documents; and artifacts to acquire information about the United States and Texas;

(B) analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions;

(C) organize and interpret information in outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps;

(D) identify different points of view about an issue, topic, historical event, or current event; and

(E) use appropriate mathematical skills to interpret social studies information such as maps and graphs.

(22) Social studies skills. The student communicates in written, oral, and visual forms. The student is expected to:

(A) use social studies terminology correctly;

(B) incorporate main and supporting ideas in verbal and written communication;

(C) express ideas orally based on research and experiences;

(D) create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies; and

(E) use standard grammar, spelling, sentence structure, and punctuation.

(23) Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others, in a variety of settings. The student is expected to:

(A) use a problem-solving process to identify a problem, gather information, list and consider options, consider advantages and disadvantages, choose and implement a solution, and evaluate the effectiveness of the solution; and

(B) use a decision-making process to identify a situation that requires a decision, gather information, identify options, predict consequences, and take action to implement a decision.

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§114.2. Languages Other Than English, Elementary.

School districts are strongly encouraged to offer languages other than English in the elementary grades. For districts that offer languages in elementary, the essential knowledge and skills are those designated as Levels I and II - novice progress checkpoint, exploratory languages, and cultural and linguistic topics in Subchapter C of this chapter (relating to Texas Essential Knowledge and Skills for Languages Other Than English).

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§115.6. Health Education, Grade 4.

(a) Introduction.

(1) In health education, students acquire the health information and skills necessary to become healthy adults and learn about behaviors in which they should and should not participate. To achieve that goal, students will understand the following: students should first seek guidance in the area of health from their parents; personal behaviors can increase or reduce health risks throughout the lifespan; health is influenced by a variety of factors; students can recognize and utilize health information and products; and personal/interpersonal skills are needed to promote individual, family, and community health.

(2) In addition to learning age-specific health information on a variety of health topics, students in Grade 4 learn how their behaviors affect their body systems. Students are taught the consequences of unsafe behaviors, and how to protect themselves from harm. Students also learn the value and use of social skills in dealing with peer pressure, communicating effectively, and assisting in forming healthy social relationships.

(b) Knowledge and skills.

(1) Health information. The student recognizes ways to enhance and maintain health throughout the life span. The student is expected to:

(A) identify the benefits of six major nutrients contained in foods;

(B) identify information on menus and food labels;

(C) differentiate between aerobic and anaerobic exercise;

(D) explain the physical, mental, and social benefits of fitness;

(E) explain how sleep affects academic performance; and

(F) identify the importance of taking personal responsibility for developing and maintaining a personal health plan such as fitness, nutrition, stress management, and personal safety.

(2) Health information. The student recognizes the basic structures and functions of the human body and how they relate to personal health throughout the life span. The student is expected to:

(A) describe how health behaviors affect body systems; and

(B) describe the basic function of major body systems such as the circulatory and digestive systems.

(3) Health information. The student knows how to access health information. The student is expected to:

(A) identify characteristics of health information; and

(B) describe the importance of accessing health information through a variety of health resources.

(4) Health behaviors. The student understands and engages in behaviors that reduce health risks throughout the life span. The student is expected to:

(A) identify the use and abuse of prescription and non-prescription medication such as over-the-counter;

(B) explain the similarities of and the differences between medications and street drugs/substances;

(C) describe the short-term and long-term harmful effects of tobacco, alcohol, and other substances such as physical, mental, social, and legal consequences;

(D) identify ways to avoid drugs and list alternatives for the use of drugs and other substances;

(E) explain how to develop a home-safety and emergency response plan such as fire safety;

(F) identify strategies for avoiding deliberate and accidental injuries such as gang violence and accidents at school and home; and

(G) identify types of abuse such as physical, emotional, and sexual and know ways to seek help from a parent and/or trusted adult.

(5) Health behavior. The student comprehends and practices behaviors that prevent disease and speed recovery from illness. The student is expected to:

(A) set personal-health goals for preventing illness;

(B) identify different pathogens and explain how the body protects itself from pathogens such as viruses, bacteria, and fungi;

(C) discuss ways in which prevention and transmission of disease are affected by individual behaviors; and

(D) distinguish between communicable and noncommunicable diseases.

(6) Influencing factors. The student comprehends factors that influence individual, family, and community health. The student is expected to:

(A) identify similarities in which healthy environments can be promoted in homes, schools, and communities; and

(B) explain the importance of a community environmental health plan.

(7) Influencing factors. The student comprehends ways in which the media and technology can influence individual and community health. The student is expected to:

(A) explain how the media can influence health behaviors; and

(B) describe ways technology can influence health.

(8) Personal/interpersonal skills. The student understands how relationships can positively and negatively influence individual and community health. The student is expected to:

(A) explain the influence of peer pressure on an individual's social and emotional health; and

(B) describe the importance of being a positive role model for health.

(9) Personal/interpersonal skills. The student uses social skills for building and maintaining healthy relationships throughout the life span. The student is expected to:

(A) describe the qualities of a good friend;

(B) explain steps in conflict resolution;

(C) explain the importance of refusal skills and why the influence of negative peer pressure and the media should be resisted;

(D) demonstrate healthy ways of gaining attention;

(E) identify critical issues that should be discussed with parents/trusted adults such as puberty, harassment, and emotions;

(F) analyze strengths and weaknesses in personal communication skills;

(G) identify positive and negative characteristics of social groups such as gangs, clubs, and cliques; and

(H) demonstrate refusal skills.

(10) Personal/interpersonal skills. The student explains healthy ways to communicate consideration and respect for self, family, friends, and others. The student is expected to:

(A) demonstrate consideration when communicating with individuals who communicate in unique ways such as someone having a speech defect, someone not speaking English, or someone being deaf;

(B) describe healthy ways of responding to disrespectful behavior; and

(C) describe strategies for self-control and the importance of dealing with emotions appropriately and how they affect thoughts and behaviors.

(11) Personal/interpersonal skills. The student demonstrates critical-thinking, decision-making, goal-setting, and problem-solving skills for making health-promoting decisions. The student is expected to:

(A) explain the importance of seeking guidance from parents and other trusted adults in making healthy decisions and solving problems;

(B) explain the advantages of setting short and long-term goals;

(C) describe the importance of parental guidance and other trusted adults in goal setting;

(D) explain the dangers of yielding to peer pressures by assessing risks/consequences; and

(E) describe steps in decision making and problem solving.

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§116.6. Physical Education, Grade 4.

(a) Introduction.

(1) In Physical Education, students acquire the knowledge and skills for movement that provide the foundation for enjoyment, continued social development through physical activity, and access to a physically-active lifestyle. The student exhibits a physically-active lifestyle and understands the relationship between physical activity and health throughout the lifespan.

(2) Fourth grade students learn to identify the components of health-related fitness. Students combine locomotor and manipulative skills in dynamic situations with body control. Students begin to identify sources of health fitness information and continue to learn about appropriate clothing and safety precautions in exercise settings.

(b) Knowledge and skills.

(1) Movement. The student demonstrates competency in fundamental movement patterns and proficiency in a few specialized movement forms. The student is expected to:

(A) demonstrate changes in speed during straight, curved, and zig zag pathways in dynamic situations;

(B) catch an object while traveling such as catch a football pass on the run;

(C) combine shapes, levels, pathways, and locomotor patterns smoothly into repeatable sequences;

(D) jump and land for height and distance using key elements for creating and absorbing force such as bending knees, swinging arms, and extending;

(E) perform sequences that include traveling, showing good body control combined with stationary balances on various body parts;

(F) demonstrate body control in jumping and landing such as land on feet, bend knees, and absorb force;

(G) transfer weight along and over equipment with good body control;

(H) create a movement sequence with a beginning, middle, and end;

(I) perform basic folk dance steps such as grapevine, schottische, and step-together-step;

(J) travel into and out of a rope turned by others without hesitating; and

(K) demonstrate key elements in manipulative skills such as volleying, hand dribble, foot dribble, punt, striking with body part, racquet, or bat.

(2) Movement. The student applies movement concepts and principles to the learning and development of motor skills. The student is expected to:

(A) identify similar movement elements in sports skills such as underhand throwing and underhand volleyball serving;

(B) identify ways movement concepts such as time, space, effort, and relationships can be used to refine movement skills;

(C) make appropriate changes in performance based on feedback; and

(D) describe key elements of mature movement patterns of throw for distance or speed such as catch, kick, strike, and jump.

(3) Physical activity and health. The student exhibits a health enhancing, physically-active lifestyle that provides opportunities for enjoyment and challenge. The student is expected to:

(A) describe and select physical activities that provide for enjoyment and challenge;

(B) name the components of health-related fitness such as strength, endurance, and flexibility;

(C) identify and demonstrate a variety of exercises that promote flexibility;

(D) improve flexibility in shoulders, trunk, and legs;

(E) participate in activities that develop and maintain muscular strength and endurance; and

(F) identify opportunities for participation in physical activity in the community such as little league and parks and recreation.

(4) Physical activity and health. The student knows the benefits from being involved in daily physical activity and factors that affect physical performance. The student is expected to:

(A) describe the effects of exercise on heart rate through the use of manual pulse checking or heart rate monitors;

(B) participate in moderate to vigorous physical activities on a daily basis;

(C) identify methods for measuring cardiovascular endurance, muscular strength and endurance, and flexibility;

(D) identify major muscle groups and the movements they cause;

(E) describe the relationship between food intake and physical activity such as calories consumed and calories expended;

(F) explain the link between physical activity/inactivity and health such as reduce stress and burn calories;

(G) explain the relationship between physical activity and stress relief and demonstrate stress relief activities such as brisk walking, gentle stretching, and muscle tension and release;

(H) describe the need for rest and sleep in recovering from exercise; and

(I) identify sources of information on skill improvement, fitness, and health such as books and technology.

(5) Physical activity and health. The student understands and applies safety practices associated with physical activities. The student is expected to:

(A) use equipment safely and properly;

(B) select and use proper attire that promotes participation and prevents injury;

(C) describe and apply safety precautions when cycling and skating; and

(D) identify potential risks associated with physical activities.

(6) Social development. The student understands basic components such as strategies and rules of structured physical activities including, but not limited to, games, sports, dance, and gymnastics. The student is expected to:

(A) distinguish between compliance and noncompliance with rules and regulations; and

(B) analyze potential risks associated with unsafe movement and improper use of equipment.

(7) Social development. The student develops positive self-management and social skills needed to work independently and with others in physical activity settings. The student is expected to:

(A) follow rules, procedures, and etiquette;

(B) respond to winning and losing with dignity and understanding;

(C) work independently and stay on task; and

(D) demonstrate effective communication, consideration and respect for the feelings of others during physical activities such as encourage others, allow others equal turns, and invite others to participate.

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§117.14. Art, Grade 4.

(a) Introduction.

(1) Four basic strands--perception, creative expression/performance, historical and cultural heritage, and critical evaluation--provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. Students rely on their perceptions of the environment, developed through increasing visual awareness and sensitivity to surroundings, memory, imagination, and life experiences, as a source for creating artworks. They express their thoughts and ideas creatively, while challenging their imagination, fostering reflective thinking, and developing disciplined effort and problem-solving skills.

(2) By analyzing artistic styles and historical periods students develop respect for the traditions and contributions of diverse cultures. Students respond to and analyze artworks, thus contributing to the development of lifelong skills of making informed judgments and evaluations.

(b) Knowledge and skills.

(1) Perception. The student develops and organizes ideas from the environment. The student is expected to:

(A) communicate ideas about self, family, school, and community, using sensory knowledge and life experiences; and

(B) choose appropriate vocabulary to discuss the use of art elements such as color, texture, form, line, space, and value and art principles such as emphasis, pattern, rhythm, balance, proportion, and unity.

(2) Creative expression/performance. The student expresses ideas through original artworks, using a variety of media with appropriate skill. The student is expected to:

(A) integrate a variety of ideas about self, life events, family, and community in original artworks;

(B) design original artworks; and

(C) invent ways to produce artworks and to explore photographic imagery, using a variety of art media and materials.

(3) Historical/cultural heritage. The student demonstrates an understanding of art history and culture as records of human achievement. The student is expected to:

(A) identify simple main ideas expressed in art;

(B) compare and contrast selected artworks from a variety of cultural settings; and

(C) identify the roles of art in American society.

(4) Response/evaluation. The student makes informed judgments about personal artworks and the artworks of others. The student is expected to:

(A) describe intent and form conclusions about personal artworks; and

(B) interpret ideas and moods in original artworks, portfolios, and exhibitions by peers and others.

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§117.15. Music, Grade 4.

(a) Introduction.

(1) Four basic strands--perception, creative expression/performance, historical and cultural heritage, and critical evaluation--provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. In music, students develop their intellect and refine their emotions, understanding the cultural and creative nature of musical artistry and making connections among music, the other arts, technology, and other aspects of social life. Through creative performance, students apply the expressive technical skills of music and critical-thinking skills to evaluate multiple forms of problem solving.

(2) By reflecting on musical periods and styles, students understand music's role in history and are able to participate successfully in a diverse society. Students analyze and evaluate music, developing criteria for making critical judgments and informed choices.

(b) Knowledge and skills.

(1) Perception. The student describes and analyzes musical sound and demonstrates musical artistry. The student is expected to:

(A) categorize a variety of musical sounds, including children's and adults' voices; woodwind, brass, string, percussion, keyboard, and electronic instruments; and instruments of various cultures;

(B) use standard terminology in explaining music, music notation, musical instruments and voices, and musical performances; and

(C) identify music forms presented aurally such as AB, ABA, and rondo.

(2) Creative expression/performance. The student performs a varied repertoire of music. The student is expected to:

(A) sing or play a classroom instrument independently or in groups; and

(B) sing songs from diverse cultures and styles or play such songs on a musical instrument.

(3) Creative expression/performance. The student reads and writes music notation. The student is expected to:

(A) read and write music notation, using a system (letters, numbers, syllables);

(B) incorporate basic rhythmic patterns in simple meters in musical compositions; and

(C) identify music symbols and terms referring to dynamics and tempo, interpreting them appropriately when performing.

(4) Creative expression/performance. The student creates and arranges music within specified guidelines. The student is expected to:

(A) create rhythmic and melodic phrases; and

(B) create simple accompaniments.

(5) Historical/cultural heritage. The student relates music to history, to society, and to culture. The student is expected to:

(A) identify aurally-presented excerpts of music representing diverse genres, styles, periods, and cultures;

(B) perform music and movement from diverse cultures;

(C) perform music representative of American and Texas heritage; and

(D) identify connections between music and the other fine arts.

(6) Response/evaluation. The student responds to and evaluates music and musical performance. The student is expected to:

(A) apply basic criteria in evaluating musical performances and compositions;

(B) justify, using music terminology, personal preferences for specific music works and styles; and

(C) practice concert etiquette as an actively involved listener during live performances.

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§117.16. Theatre, Grade 4.

(a) Introduction.

(1) Four basic strands--perception, creative expression/performance, historical and cultural heritage, and critical evaluation--provide broad, unifying structures for organizing knowledge and skills students are expected to acquire. Through perceptual studies, students increase their understanding of self and others and develop clear ideas about the world. Through a variety of theatrical experiences, students communicate in a dramatic form, make artistic choices, solve problems, build positive self-concepts, and relate interpersonally.

(2) Students increase their understanding of heritage and traditions through historical and cultural studies in theatre. Student response and evaluation promote thinking and further discriminating judgment, developing students that are appreciative and evaluative consumers of live theatre, film, television, and other technologies.

(b) Knowledge and skills.

(1) Perception. The student develops concepts about self, human relationships, and the environment, using elements of drama and conventions of theatre. The student is expected to:

(A) relate sensory and emotional responses to theatre;

(B) develop body awareness and spatial perceptions, using rhythmic and expressive movement;

(C) respond to sounds, music, images, and the written word, using movement;

(D) express emotions and ideas, using interpretive movements, sounds, and dialogue;

(E) imitate and synthesize life experiences in dramatic play; and

(F) represent environment, characterization, and actions.

(2) Creative expression/performance. The student interprets characters, using the voice and body expressively, and creates dramatizations. The student is expected to:

(A) demonstrate safe use of the voice and body;

(B) describe clearly characters, their relationships, and their surroundings;

(C) develop characters and assume roles in short improvised scenes, using imagination, personal experiences, heritage, literature, and history; and

(D) dramatize literary selections in unison, pairs, and groups and create simple stories collaboratively through imaginative play in improvisations and story dramatizations, describing

the characters, their relationships, and their environments and demonstrating a logical connection of events.

(3) Creative expression/performance. The student applies design, directing, and theatre production concepts and skills. The student is expected to:

(A) demonstrate the safe use of props, costumes, and visual elements, defining character, environment, action, and theme;

(B) alter space to create suitable environments for play-making;

(C) plan brief dramatizations collaboratively; and

(D) interact cooperatively with others in brief dramatizations.

(4) Historical/cultural heritage. The student relates theatre to history, society, and culture. The student is expected to:

(A) explain theatre as a reflection of life in particular times, places, and cultures; and

(B) identify the role of live theatre, film, television, and electronic media in American society.

(5) Response/evaluation. The student responds to and evaluates theatre and theatrical performances. The student is expected to:

(A) identify and apply appropriate audience behavior at performances;

(B) define visual, aural, oral, and kinetic aspects of informal play-making and formal theatre and discuss these aspects as found in art, dance, and music;

(C) compare and contrast the ways ideas and emotions are depicted in art, dance, music, and theatre and select movement, music, or visual elements to enhance classroom dramatizations; and

(D) compare theatre artists and their contributions

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§126.7. Technology Applications, Grades 3-5, Beginning with School Year 2012-2013.

(a) Introduction.

(1) The technology applications curriculum has six strands based on the National Educational Technology Standards for Students (NETS•S) and performance indicators developed by the International Society for Technology in Education (ISTE): creativity and innovation; communication and collaboration; research and information fluency; critical thinking, problem solving, and decision making; digital citizenship; and technology operations and concepts.

(2) Through the study of the six strands in technology applications, students use creative thinking and innovative processes to construct knowledge and develop products. Students communicate and

collaborate both locally and globally to reinforce and promote learning. Research and information fluency includes the acquisition and evaluation of digital content. Students develop critical-thinking, problem-solving, and decision-making skills by collecting, analyzing, and reporting digital information. Students practice digital citizenship by behaving responsibly while using technology tools and resources. Through the study of technology operations and concepts, students learn technology related terms, concepts, and data input strategies.

(3) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(b) Knowledge and skills.

(1) Creativity and innovation. The student uses creative thinking and innovative processes to construct knowledge and develop digital products. The student is expected to:

(A) create original products using a variety of resources;

(B) analyze trends and forecast possibilities, developing steps for the creation of an innovative process or product; and

(C) use virtual environments to explore systems and issues.

(2) Communication and collaboration. The student collaborates and communicates both locally and globally using digital tools and resources to reinforce and promote learning. The student is expected to:

(A) draft, edit, and publish products in different media individually and collaboratively;

(B) use font attributes, color, white space, and graphics to ensure that products are appropriate for multiple communication media, including monitor display, web, and print;

(C) collaborate effectively through personal learning communities and social environments;

(D) select and use appropriate collaboration tools;

(E) evaluate the product for relevance to the assignment or task; and

(F) perform basic software application functions, including opening applications and creating, modifying, printing, and saving files.

(3) Research and information fluency. The student acquires and evaluates digital content. The student is expected to:

(A) use various search strategies such as keyword(s); the Boolean identifiers *and*, *or*, and *not*; and other strategies appropriate to specific search engines;

(B) collect and organize information from a variety of formats, including text, audio, video, and graphics;

(C) validate and evaluate the relevance and appropriateness of information; and

(D) acquire information appropriate to specific tasks.

(4) Critical thinking, problem solving, and decision making. The student researches and evaluates projects using digital tools and resources. The student is expected to:

(A) identify information regarding a problem and explain the steps toward the solution;

(B) collect, analyze, and represent data to solve problems using tools such as word processing, databases, spreadsheets, graphic organizers, charts, multimedia, simulations, models, and programming languages;

(C) evaluate student-created products through self and peer review for relevance to the assignment or task; and

(D) evaluate technology tools applicable for solving problems.

(5) Digital citizenship. The student practices safe, responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:

(A) adhere to acceptable use policies reflecting positive social behavior in the digital environment;

(B) respect the intellectual property of others;

(C) abide by copyright law and the Fair Use Guidelines for Educational Multimedia;

(D) protect and honor the individual privacy of oneself and others;

(E) follow the rules of digital etiquette;

(F) practice safe, legal, and responsible use of information and technology; and

(G) comply with fair use guidelines and digital safety rules.

(6) Technology operations and concepts. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations. The student is expected to:

(A) demonstrate an understanding of technology concepts, including terminology for the use of operating systems, network systems, virtual systems, and learning systems appropriate for Grades 3-5 learning;

(B) manipulate files using appropriate naming conventions; file management, including folder structures and tagging; and file conversions;

(C) navigate systems and applications accessing peripherals both locally and remotely;

(D) troubleshoot minor technical problems with hardware and software using available resources such as online help and knowledge bases; and

(E) use proper touch keyboarding techniques and ergonomic strategies such as correct hand and body positions and smooth and rhythmic keystrokes.