

Texas Essential Knowledge and Skills for Grade 4

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§110.6. English Language Arts and Reading, Grade 4, Adopted 2017.

(a) Introduction.

- (1) The English language arts and reading Texas Essential Knowledge and Skills (TEKS) embody the interconnected nature of listening, speaking, reading, writing, and thinking through the seven integrated strands of developing and sustaining foundational language skills; comprehension; response; multiple genres; author's purpose and craft; composition; and inquiry and research. The strands focus on academic oracy (proficiency in oral expression and comprehension), authentic reading, and reflective writing to ensure a literate Texas. The strands are integrated and progressive with students continuing to develop knowledge and skills with increased complexity and nuance in order to think critically and adapt to the ever-evolving nature of language and literacy.
- (2) The seven strands of the essential knowledge and skills for English language arts and reading are intended to be integrated for instructional purposes and are recursive in nature. Strands include the four domains of language (listening, speaking, reading, writing) and their application in order to accelerate the acquisition of language skills so that students develop high levels of social and academic language proficiency. Although some strands may require more instructional time, each strand is of equal value, may be presented in any order, and should be integrated throughout the year. It is important to note that encoding (spelling) and decoding (reading) are reciprocal skills. Decoding is internalized when tactile and kinesthetic opportunities (encoding) are provided. Additionally, students should engage in academic conversations, write, read, and be read to on a daily basis with opportunities for cross-curricular content and student choice.
- (3) Text complexity increases with challenging vocabulary, sophisticated sentence structures, nuanced text features, cognitively demanding content, and subtle relationships among ideas (Texas Education Agency, *STAAR Performance Level Descriptors*, 2013). As skills and knowledge are obtained in each of the seven strands, students will continue to apply earlier standards with greater depth to increasingly complex texts in multiple genres as they become self-directed, critical learners who work collaboratively while continuously using metacognitive skills.
- (4) English language learners (ELLs) are expected to meet standards in a second language; however, their proficiency in English influences the ability to meet these standards. To demonstrate this knowledge throughout the stages of English language acquisition, comprehension of text requires additional scaffolds such as adapted text, translations, native language support, cognates, summaries, pictures, realia, glossaries, bilingual dictionaries, thesauri, and other modes of

comprehensible input. ELLs can and should be encouraged to use knowledge of their first language to enhance vocabulary development; vocabulary needs to be in the context of connected discourse so that it is meaningful. Strategic use of the student's first language is important to ensure linguistic, affective, cognitive, and academic development in English.

- (5) Current research stresses the importance of effectively integrating second language acquisition with quality content area education in order to ensure that ELLs acquire social and academic language proficiency in English, learn the knowledge and skills, and reach their full academic potential. Instruction must be linguistically accommodated in accordance with the English Language Proficiency Standards (ELPS) and the student's English language proficiency levels to ensure the mastery of knowledge and skills in the required curriculum is accessible. For a further understanding of second language acquisition needs, refer to the ELPS and proficiency-level descriptors adopted in Chapter 74, Subchapter A, of this title (relating to Required Curriculum).
 - (6) Oral language proficiency holds a pivotal role in school success; verbal engagement must be maximized across grade levels (Kinsella, 2010). In order for students to become thinkers and proficient speakers in science, social studies, mathematics, fine arts, language arts and reading, and career and technical education, they must have multiple opportunities to practice and apply the academic language of each discipline (Fisher, Frey, & Rothenberg, 2008).
 - (7) 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) Developing and sustaining foundational language skills: listening, speaking, discussion, and thinking--oral language. The student develops oral language through listening, speaking, and discussion. The student is expected to:
 - (A) listen actively, ask relevant questions to clarify information, and make pertinent comments;
 - (B) follow, restate, and give oral instructions that involve a series of related sequences of action;
 - (C) express an opinion supported by accurate information, employing eye contact, speaking rate, volume, enunciation, and the conventions of language to communicate ideas effectively; and
 - (D) work collaboratively with others to develop a plan of shared responsibilities.
 - (2) Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--beginning reading and writing. The student develops word structure knowledge through phonological awareness, print concepts, phonics, and morphology to communicate, decode, and spell. The student is expected to:
 - (A) demonstrate and apply phonetic knowledge by:
 - (i) decoding words with specific orthographic patterns and rules, including regular and irregular plurals;
 - (ii) decoding multisyllabic words with closed syllables; open syllables; VCe syllables; vowel teams, including digraphs and diphthongs; r-controlled syllables; and final stable syllables;
 - (iii) decoding words using advanced knowledge of syllable division patterns such as VV;
 - (iv) decoding words using knowledge of prefixes;

- (v) decoding words using knowledge of suffixes, including how they can change base words such as dropping e, changing y to i, and doubling final consonants; and
 - (vi) identifying and reading high-frequency words from a research-based list;
 - (B) demonstrate and apply spelling knowledge by:
 - (i) spelling multisyllabic words with closed syllables; open syllables; VCe syllables; vowel teams, including digraphs and diphthongs; r-controlled syllables; and final stable syllables;
 - (ii) spelling homophones;
 - (iii) spelling multisyllabic words with multiple sound-spelling patterns;
 - (iv) spelling words using advanced knowledge of syllable division patterns;
 - (v) spelling words using knowledge of prefixes; and
 - (vi) spelling words using knowledge of suffixes, including how they can change base words such as dropping e, changing y to i, and doubling final consonants; and
 - (C) write legibly in cursive to complete assignments.
- (3) Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--vocabulary. The student uses newly acquired vocabulary expressively. The student is expected to:
- (A) use print or digital resources to determine meaning, syllabication, and pronunciation;
 - (B) use context within and beyond a sentence to determine the relevant meaning of unfamiliar words or multiple-meaning words;
 - (C) determine the meaning of and use words with affixes such as mis-, sub-, -ment, and -ity/ty and roots such as auto, graph, and meter; and
 - (D) identify, use, and explain the meaning of homophones such as reign/rain.
- (4) Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--fluency. The student reads grade-level text with fluency and comprehension. The student is expected to use appropriate fluency (rate, accuracy, and prosody) when reading grade-level text.
- (5) Developing and sustaining foundational language skills: listening, speaking, reading, writing, and thinking--self-sustained reading. The student reads grade-appropriate texts independently. The student is expected to self-select text and read independently for a sustained period of time.
- (6) Comprehension skills: listening, speaking, reading, writing, and thinking using multiple texts. The student uses metacognitive skills to both develop and deepen comprehension of increasingly complex texts. The student is expected to:
- (A) establish purpose for reading assigned and self-selected texts;
 - (B) generate questions about text before, during, and after reading to deepen understanding and gain information;
 - (C) make and correct or confirm predictions using text features, characteristics of genre, and structures;
 - (D) create mental images to deepen understanding;

- (E) make connections to personal experiences, ideas in other texts, and society;
 - (F) make inferences and use evidence to support understanding;
 - (G) evaluate details read to determine key ideas;
 - (H) synthesize information to create new understanding; and
 - (I) monitor comprehension and make adjustments such as re-reading, using background knowledge, asking questions, and annotating when understanding breaks down.
- (7) Response skills: listening, speaking, reading, writing, and thinking using multiple texts. The student responds to an increasingly challenging variety of sources that are read, heard, or viewed. The student is expected to:
- (A) describe personal connections to a variety of sources, including self-selected texts;
 - (B) write responses that demonstrate understanding of texts, including comparing and contrasting ideas across a variety of sources;
 - (C) use text evidence to support an appropriate response;
 - (D) retell, paraphrase, or summarize texts in ways that maintain meaning and logical order;
 - (E) interact with sources in meaningful ways such as notetaking, annotating, freewriting, or illustrating;
 - (F) respond using newly acquired vocabulary as appropriate; and
 - (G) discuss specific ideas in the text that are important to the meaning.
- (8) Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--literary elements. The student recognizes and analyzes literary elements within and across increasingly complex traditional, contemporary, classical, and diverse literary texts. The student is expected to:
- (A) infer basic themes supported by text evidence;
 - (B) explain the interactions of the characters and the changes they undergo;
 - (C) analyze plot elements, including the rising action, climax, falling action, and resolution; and
 - (D) explain the influence of the setting, including historical and cultural settings, on the plot.
- (9) Multiple genres: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student recognizes and analyzes genre-specific characteristics, structures, and purposes within and across increasingly complex traditional, contemporary, classical, and diverse texts. The student is expected to:
- (A) demonstrate knowledge of distinguishing characteristics of well-known children's literature such as folktales, fables, legends, myths, and tall tales;
 - (B) explain figurative language such as simile, metaphor, and personification that the poet uses to create images;
 - (C) explain structure in drama such as character tags, acts, scenes, and stage directions;
 - (D) recognize characteristics and structures of informational text, including:
 - (i) the central idea with supporting evidence;

- (ii) features such as pronunciation guides and diagrams to support understanding; and
 - (iii) organizational patterns such as compare and contrast;
 - (E) recognize characteristics and structures of argumentative text by:
 - (i) identifying the claim;
 - (ii) explaining how the author has used facts for an argument; and
 - (iii) identifying the intended audience or reader; and
 - (F) recognize characteristics of multimodal and digital texts.
- (10) Author's purpose and craft: listening, speaking, reading, writing, and thinking using multiple texts. The student uses critical inquiry to analyze the authors' choices and how they influence and communicate meaning within a variety of texts. The student analyzes and applies author's craft purposefully in order to develop his or her own products and performances. The student is expected to:
- (A) explain the author's purpose and message within a text;
 - (B) explain how the use of text structure contributes to the author's purpose;
 - (C) analyze the author's use of print and graphic features to achieve specific purposes;
 - (D) describe how the author's use of imagery, literal and figurative language such as simile and metaphor, and sound devices such as alliteration and assonance achieves specific purposes;
 - (E) identify and understand the use of literary devices, including first- or third-person point of view;
 - (F) discuss how the author's use of language contributes to voice; and
 - (G) identify and explain the use of anecdote.
- (11) Composition: listening, speaking, reading, writing, and thinking using multiple texts--writing process. The student uses the writing process recursively to compose multiple texts that are legible and uses appropriate conventions. The student is expected to:
- (A) plan a first draft by selecting a genre for a particular topic, purpose, and audience using a range of strategies such as brainstorming, freewriting, and mapping;
 - (B) develop drafts into a focused, structured, and coherent piece of writing by:
 - (i) organizing with purposeful structure, including an introduction, transitions, and a conclusion; and
 - (ii) developing an engaging idea with relevant details;
 - (C) revise drafts to improve sentence structure and word choice by adding, deleting, combining, and rearranging ideas for coherence and clarity;
 - (D) edit drafts using standard English conventions, including:
 - (i) complete simple and compound sentences with subject-verb agreement and avoidance of splices, run-ons, and fragments;
 - (ii) past tense of irregular verbs;
 - (iii) singular, plural, common, and proper nouns;

- (iv) adjectives, including their comparative and superlative forms;
 - (v) adverbs that convey frequency and adverbs that convey degree;
 - (vi) prepositions and prepositional phrases;
 - (vii) pronouns, including reflexive;
 - (viii) coordinating conjunctions to form compound subjects, predicates, and sentences;
 - (ix) capitalization of historical periods, events, and documents; titles of books; stories and essays; and languages, races, and nationalities;
 - (x) punctuation marks, including apostrophes in possessives, commas in compound sentences, and quotation marks in dialogue; and
 - (xi) correct spelling of words with grade-appropriate orthographic patterns and rules and high-frequency words; and
- (E) publish written work for appropriate audiences.
- (12) Composition: listening, speaking, reading, writing, and thinking using multiple texts--genres. The student uses genre characteristics and craft to compose multiple texts that are meaningful. The student is expected to:
- (A) compose literary texts such as personal narratives and poetry using genre characteristics and craft;
 - (B) compose informational texts, including brief compositions that convey information about a topic, using a clear central idea and genre characteristics and craft;
 - (C) compose argumentative texts, including opinion essays, using genre characteristics and craft; and
 - (D) compose correspondence that requests information.
- (13) Inquiry and research: listening, speaking, reading, writing, and thinking using multiple texts. The student engages in both short-term and sustained recursive inquiry processes for a variety of purposes. The student is expected to:
- (A) generate and clarify questions on a topic for formal and informal inquiry;
 - (B) develop and follow a research plan with adult assistance;
 - (C) identify and gather relevant information from a variety of sources;
 - (D) identify primary and secondary sources;
 - (E) demonstrate understanding of information gathered;
 - (F) recognize the difference between paraphrasing and plagiarism when using source materials;
 - (G) develop a bibliography; and
 - (H) use an appropriate mode of delivery, whether written, oral, or multimodal, to present results.
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§111.6. Mathematics, Grade 4, Adopted 2012.

- (a) Introduction.
- (1) The desire to achieve educational excellence is the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on computational thinking, mathematical fluency, and solid understanding, Texas will lead the way in mathematics education and prepare all Texas students for the challenges they will face in the 21st century.
 - (2) The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, algorithms, paper and pencil, and technology and techniques such as mental math, estimation, number sense, and generalization and abstraction to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, computer programs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.
 - (3) For students to become fluent in mathematics, students must develop a robust sense of number. The National Research Council's report, "Adding It Up," defines procedural fluency as "skill in carrying out procedures flexibly, accurately, efficiently, and appropriately." As students develop procedural fluency, they must also realize that true problem solving may take time, effort, and perseverance. Students in Grade 4 are expected to perform their work without the use of calculators.
 - (4) The primary focal areas in Grade 4 are use of operations, fractions, and decimals and describing and analyzing geometry and measurement. These focal areas are supported throughout the mathematical strands of number and operations, algebraic reasoning, geometry and measurement, and data analysis. In Grades 3-5, the number set is limited to positive rational numbers. In number and operations, students will apply place value and represent points on a number line that correspond to a given fraction or terminating decimal. In algebraic reasoning, students will represent and solve multi-step problems involving the four operations with whole numbers with expressions and equations and generate and analyze patterns. In geometry and measurement, students will classify two-dimensional figures, measure angles, and convert units of measure. In data analysis, students will represent and interpret data.

- (5) 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) Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
- (A) apply mathematics to problems arising in everyday life, society, and the workplace;
 - (B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
 - (C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
 - (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
 - (E) create and use representations to organize, record, and communicate mathematical ideas;
 - (F) analyze mathematical relationships to connect and communicate mathematical ideas; and
 - (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.
- (2) Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:
- (A) interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;
 - (B) represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals;
 - (C) compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$, $<$, or $=$;
 - (D) round whole numbers to a given place value through the hundred thousands place;
 - (E) represent decimals, including tenths and hundredths, using concrete and visual models and money;
 - (F) compare and order decimals using concrete and visual models to the hundredths;

- (G) relate decimals to fractions that name tenths and hundredths; and
 - (H) determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.
- (3) Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:
- (A) represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when $a > b$;
 - (B) decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;
 - (C) determine if two given fractions are equivalent using a variety of methods;
 - (D) compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$, $=$, or $<$;
 - (E) represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;
 - (F) evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0 , $1/4$, $1/2$, $3/4$, and 1 , referring to the same whole; and
 - (G) represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.
- (4) Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:
- (A) add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;
 - (B) determine products of a number and 10 or 100 using properties of operations and place value understandings;
 - (C) represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15 ;
 - (D) use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;

- (E) represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;
 - (F) use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;
 - (G) round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and
 - (H) solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.
- (5) Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:
- (A) represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;
 - (B) represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence;
 - (C) use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$); and
 - (D) solve problems related to perimeter and area of rectangles where dimensions are whole numbers.
- (6) Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:
- (A) identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;
 - (B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;
 - (C) apply knowledge of right angles to identify acute, right, and obtuse triangles; and
 - (D) 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.

- (7) Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:
- (A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;
 - (B) illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers;
 - (C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor;
 - (D) draw an angle with a given measure; and
 - (E) determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.
- (8) Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:
- (A) identify relative sizes of measurement units within the customary and metric systems;
 - (B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and
 - (C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate..
- (9) Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:
- (A) represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and
 - (B) solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.
- (10) Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:
- (A) distinguish between fixed and variable expenses;
 - (B) calculate profit in a given situation;

- (C) compare the advantages and disadvantages of various savings options;
- (D) describe how to allocate a weekly allowance among spending; saving, including for college; and sharing; and
- (E) describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

§112.15. Science, Grade 4, Adopted 2017.

- (a) Introduction.
 - (1) 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 physical environment, students know about the physical properties of matter including mass, volume, states of matter, temperature, magnetism, and the ability to sink or float. Students will differentiate among forms of energy including mechanical, light, sound, and thermal energy. Students will explore electrical circuits and design descriptive investigations to explore the effect of force on objects.
 - (B) 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.
 - (C) 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 have structures that enable organisms to survive in their ecosystem.
 - (2) 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."
 - (3) Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, and change and constancy.
 - (4) 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.

- (5) Statements containing 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) 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 Texas Education Agency-approved safety standards during classroom and outdoor investigations using safety equipment, including safety goggles or chemical splash goggles, as appropriate, and gloves, as appropriate; 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 practices 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) analyze, evaluate, and critique scientific explanations by using evidence, logical reasoning, and experimental and observational testing;
 - (B) represent the natural world using models such as the water cycle and stream tables and identify their limitations, including accuracy and size; and
 - (C) 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
- collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, balances, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observation of habitats of organisms such as terrariums and aquariums.

- (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 mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float; and
 - (B) compare and contrast a variety of mixtures, including solutions.
- (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 thermal;
 - (B) differentiate between conductors and insulators of thermal and electrical energy;
 - (C) demonstrate that electricity travels in a closed path, creating an electrical circuit; and
 - (D) design a descriptive investigation to explore 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, record, and predict changes in weather;
 - (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, 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.
- (10) Organisms and environments. The student knows that organisms undergo similar life processes and have structures and behaviors that help them survive within their environment. The student is expected to:
- (A) explore how structures and functions enable organisms to survive in their environment;

- (B) explore and describe examples of traits that are inherited from parents to offspring such as eye color and shapes of leaves and behaviors that are learned such as reading a book and a wolf pack teaching their pups to hunt effectively; and
- (C) explore, illustrate, and compare life cycles in living organisms such as beetles, crickets, radishes, or lima beans.

§113.15. Social Studies, Grade 4, Adopted 2018.

- (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 from the Declaration of Independence: "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 discuss how and whether the actions of U.S. citizens and the local, state, and federal governments have achieved 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 before European exploration. The student is expected to:
 - (A) explain the possible origins of American Indian groups in Texas;
 - (B) identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano;
 - (C) describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern; and
 - (D) locate American Indian groups remaining in Texas such as the Ysleta Del Sur Pueblo, Alabama-Coushatta, and Kickapoo.
 - (2) History. The student understands the causes and effects of European exploration and colonization of Texas. 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;
 - (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 William B. Travis, James Bowie, David Crockett, Juan N. Seguín, Plácido Benavides, José Francisco Ruiz, Antonio López de Santa Anna, 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 and 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 such as contributions made by Charles Goodnight, Richard King, and Lizzie Johnson;
 - (C) explain the effects of the railroad industry on life in Texas, including changes to cities and major industries; and
 - (D) explain the effects on American Indian life brought about by 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) explain the impact of various events on life in Texas such as the Great Depression, the Dust Bowl, and World War II and notable individuals such as Audie Murphy, Cleto Rodríguez, and Bessie Coleman and other local individuals; and
 - (B) explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.
- (6) Geography. The student understands the concept of regions. The student is expected to:

- (A) identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities; and
 - (B) compare the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains).
- (7) 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) explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present; and
 - (B) identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.
- (8) 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) explain 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.
- (9) Economics. The student understands the basic economic activities of early societies in Texas. The student is expected to:
- (A) explain the economic activities various early American Indian groups in Texas used to meet their needs and wants such as farming, trading, and hunting; and
 - (B) explain the economic activities early settlers to Texas used to meet their needs and wants.
- (10) Economics. The student understands the characteristics and benefits of the free enterprise system in Texas. The student is expected to:
- (A) describe how the free enterprise system works, including supply and demand;
 - (B) identify examples of the benefits of the free enterprise system such as choice and opportunity; and
 - (C) describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.
- (11) Economics. The student understands patterns of work and economic activities in Texas. The student is expected to:
- (A) identify how people in different regions of Texas earn their living, past and present;
 - (B) explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas;
 - (C) identify the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas; and

- (D) explain how developments in transportation and communication have influenced economic activities in Texas.
- (12) 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) compare characteristics of the Spanish colonial government and the early Mexican governments in Texas.
- (13) 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 and the Texas Constitution;
 - (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).
- (14) 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 Alamo, and the San Jacinto Monument;
 - (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.
- (15) 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 respectfully 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, Henry B. González, Wallace Jefferson, and other local individuals; and
 - (E) explain how to contact elected and appointed leaders in state and local governments.
- (16) 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.
- (17) Culture. The student understands the contributions of people of various racial, ethnic, and religious groups to Texas culture. The student is expected to:
- (A) identify customs, celebrations, and traditions of various cultural, regional, and local groups in Texas such as Cinco de Mayo, Oktoberfest, and Fiesta San Antonio; and
 - (B) summarize the contributions of artists of various racial, ethnic, and religious groups in the development of Texas culture such as Lydia Mendoza, Chelo Silva, and Julius Lorenzo Cobb Bledsoe.
- (18) 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; and
 - (B) describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.
- (19) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including technology. The student is expected to:
- (A) differentiate between, locate, and use valid primary and secondary sources such as technology; interviews; biographies; oral, print, and visual material; documents; and artifacts to acquire information about Texas;
 - (B) analyze information by applying absolute and relative chronology through 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; and
 - (D) identify different points of view about an issue, topic, historical event, or current event.
- (20) Social studies skills. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to:
- (A) apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps; and
 - (B) interpret geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.
- (21) 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; and

- (D) create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies.
 - (22) Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to use problem-solving and decision-making processes 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.
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§114.4. Languages Other Than English, Elementary, Adopted 2014.

- (a) According to the National Standards for Foreign Language Learning, advanced level language proficiency is necessary for college and career readiness. To that end, students should have uninterrupted, consistent access to early standards-based learning experiences in languages other than English. School districts are strongly encouraged to offer languages other than English in the elementary grades in immersion or Foreign Language in Elementary Schools (FLES) settings with consistent and frequent exposure. For districts that offer languages in elementary school, the expected student outcomes are the same as those designated at levels I-IV in Subchapter C of this chapter (relating to Texas Essential Knowledge and Skills for Languages Other Than English).
 - (b) Districts may offer a level of a language in a variety of scheduling arrangements that may extend or reduce the traditional schedule when careful consideration is given to the instructional time available on a campus and the language ability, access to programs, and motivation of students.
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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.

- (12) Bullying prevention. The student uses social skills for building and maintaining respectful relationships throughout the life span. The student is expected to:
- (A) describe the characteristics of a bully;
 - (B) demonstrate appropriate ways to deal with disrespectful behavior;
 - (C) explain the difference between assertive behavior and aggressive behavior;
 - (D) describe the negative impact bullying has on both the victim and the bully; and
 - (E) demonstrate consideration when interacting with individuals who communicate in unique ways such as someone who has a speech impediment, someone who does not speak English, or someone who has an exceptionally high vocabulary.
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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.

§117.114. Art, Grade 4, Adopted 2013.

- (a) Introduction.
- (1) The fine arts incorporate the study of dance, music, theatre, and the visual arts to offer unique experiences and empower students to explore realities, relationships, and ideas. These disciplines engage and motivate all students through active learning, critical thinking, and innovative problem solving. The fine arts develop cognitive functioning and increase student academic achievement, higher-order thinking, communication, and collaboration skills, making the fine arts applicable to college readiness, career opportunities, workplace environments, social skills, and everyday life. Students develop aesthetic and cultural awareness through exploration, leading to creative expression. Creativity, encouraged through the study of the fine arts, is essential to nurture and develop the whole child.
 - (2) Four basic strands--foundations: observation and perception; creative expression; historical and cultural relevance; and critical evaluation and response--provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. Each strand is of equal value and may be presented in any order throughout the year. Students rely on personal observations and perceptions, which are developed through increasing visual literacy and sensitivity to surroundings, communities, memories, imaginings, and life experiences, as sources for thinking about, planning, and creating original artworks. Students communicate their thoughts and ideas with innovation and creativity. Through art, students challenge their imaginations, foster critical thinking, collaborate with others, and build reflective skills. While exercising meaningful problem-solving skills, students develop the lifelong ability to make informed judgments.
 - (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) Foundations: observation and perception. The student develops and expands visual literacy skills using critical thinking, imagination, and the senses to observe and explore the world by learning about, understanding, and applying the elements of art, principles of design, and expressive qualities. The student uses what the student sees, knows, and has experienced as sources for examining, understanding, and creating artworks. The student is expected to:
- (A) explore and communicate ideas drawn from life experiences about self, peers, family, school, or community and from the imagination as sources for original works of art;
 - (B) use appropriate vocabulary when discussing the elements of art, including line, shape, color, texture, form, space, and value, and the principles of design, including emphasis, repetition/pattern, movement/rhythm, contrast/variety, balance, proportion, and unity; and
 - (C) discuss the elements of art as building blocks and the principles of design as organizers of works of art.
- (2) Creative expression. The student communicates ideas through original artworks using a variety of media with appropriate skills. The student expresses thoughts and ideas creatively while challenging the imagination, fostering reflective thinking, and developing disciplined effort and progressive problem-solving skills. The student is expected to:
- (A) integrate ideas drawn from life experiences to create original works of art;
 - (B) create compositions using the elements of art and principles of design; and
 - (C) produce drawings; paintings; prints; sculpture, including modeled forms; and other art forms such as ceramics, fiber art, constructions, mixed media, installation art, digital art and media, and photographic imagery using a variety of art media and materials.
- (3) Historical and cultural relevance. The student demonstrates an understanding of art history and culture by analyzing artistic styles, historical periods, and a variety of cultures. The student develops global awareness and respect for the traditions and contributions of diverse cultures. The student is expected to:
- (A) compare content in artworks for various purposes such as the role art plays in reflecting life, expressing emotions, telling stories, or documenting history and traditions;
 - (B) compare purpose and content in artworks created by historical and contemporary men and women, making connections to various cultures;
 - (C) connect art to career opportunities for positions such as architects, animators, cartoonists, engineers, fashion designers, film makers, graphic artists, illustrators, interior designers, photographers, and web designers; and
 - (D) investigate connections of visual art concepts to other disciplines.

- (4) Critical evaluation and response. The student responds to and analyzes artworks of self and others, contributing to the development of lifelong skills of making informed judgments and reasoned evaluations. The student is expected to:
- (A) evaluate the elements of art, principles of design, intent, or expressive qualities in artworks of self, peers, and historical and contemporary artists;
 - (B) use methods such as written or oral response or artist statements to identify emotions found in collections of artworks created by self, peers, and major historical or contemporary artists in real or virtual portfolios, galleries, or art museums; and
 - (C) compile collections of personal artworks for purposes of self-assessment or exhibition such as physical artworks, electronic images, sketchbooks, or portfolios.

§117.115. Music, Grade 4, Adopted 2013.

- (a) Introduction.
- (1) The fine arts incorporate the study of dance, music, theatre, and the visual arts to offer unique experiences and empower students to explore realities, relationships, and ideas. These disciplines engage and motivate all students through active learning, critical thinking, and innovative problem solving. The fine arts develop cognitive functioning and increase student academic achievement, higher-order thinking, communication, and collaboration skills, making the fine arts applicable to college readiness, career opportunities, workplace environments, social skills, and everyday life. Students develop aesthetic and cultural awareness through exploration, leading to creative expression. Creativity, encouraged through the study of the fine arts, is essential to nurture and develop the whole child.
 - (2) Four basic strands--foundations: music literacy; creative expression; historical and cultural relevance; and critical evaluation and response--provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. The foundation of music literacy is fostered through reading, writing, reproducing, and creating music, thus developing a student's intellect. Through creative expression, students apply their music literacy and the critical-thinking skills of music to sing, play, read, write, and/or move. By experiencing musical periods and styles, students will understand the relevance of music to history, culture, and the world, including the relationship of music to other academic disciplines and the vocational possibilities offered. Through critical listening, students analyze, evaluate, and respond to music, developing criteria for making critical judgments and informed choices.
 - (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) Foundations: music literacy. The student describes and analyzes musical sound. The student is expected to:
- (A) categorize and explain a variety of musical sounds, including those of children's voices and soprano and alto adult voices;
 - (B) categorize and explain a variety of musical sounds, including those of woodwind, brass, string, percussion, keyboard, electronic instruments, and instruments of various cultures;
 - (C) use known music symbols and terminology referring to rhythm; melody; timbre; form; tempo; dynamics, including crescendo and decrescendo; and articulation, including staccato and legato, to explain musical sounds presented aurally; and
 - (D) identify and label small and large musical forms such as, abac, AB, ABA, and rondo presented aurally in simple songs and larger works.
- (2) Foundations: music literacy. The student reads, writes, and reproduces music notation using a system. Technology and other tools may be used to read, write, and reproduce musical examples. The student is expected to:
- (A) read, write, and reproduce rhythmic patterns using standard notation, including separated eighth notes, eighth- and sixteenth-note combinations, dotted half note, and previously learned note values in 2/4, 4/4, and 3/4 meters as appropriate;
 - (B) read, write, and reproduce extended pentatonic melodic patterns using standard staff notation; and
 - (C) identify new and previously learned music symbols and terms referring to tempo; dynamics, including crescendo and decrescendo; and articulation, including staccato and legato.
- (3) Creative expression. The student performs a varied repertoire of developmentally appropriate music in informal or formal settings. The student is expected to:
- (A) sing and play classroom instruments with accurate intonation and rhythm, independently or in groups;
 - (B) sing or play a varied repertoire of music such as American and Texan folk songs and folk songs representative of local cultures, independently or in groups;
 - (C) move alone and with others to a varied repertoire of music using gross motor, fine motor, locomotor, and non-locomotor skills and integrated movement such as hands and feet moving together;
 - (D) perform various folk dances and play parties;

- (E) perform simple part work, including rhythmic and melodic ostinati, derived from known repertoire; and
 - (F) interpret through performance new and previously learned music symbols and terms referring to tempo; dynamics, including crescendo and decrescendo; and articulation, including staccato and legato.
- (4) Creative expression. The student creates and explores new musical ideas within specified guidelines. The student is expected to:
- (A) create rhythmic phrases through improvisation or composition;
 - (B) create melodic phrases through improvisation or composition; and
 - (C) create simple accompaniments through improvisation or composition.
- (5) Historical and cultural relevance. The student examines music in relation to history and cultures. The student is expected to:
- (A) perform a varied repertoire of songs, movement, and musical games representative of diverse cultures such as historical folk songs of Texas and Hispanic and American Indian cultures in Texas;
 - (B) perform music representative of America and Texas, including "Texas, Our Texas";
 - (C) identify and describe music from diverse genres, styles, periods, and cultures; and
 - (D) examine the relationships between music and interdisciplinary concepts.
- (6) Critical evaluation and response. The student listens to, responds to, and evaluates music and musical performances. The student is expected to:
- (A) exhibit audience etiquette during live and recorded performances;
 - (B) recognize known rhythmic and melodic elements in aural examples using appropriate vocabulary;
 - (C) describe specific musical events in aural examples such as changes in timbre, form, tempo, dynamics, or articulation using appropriate vocabulary;
 - (D) respond verbally and through movement to short musical examples;
 - (E) describe a variety of compositions and formal or informal musical performances using specific music vocabulary; and
 - (F) justify personal preferences for specific music works and styles using music vocabulary.

§117.116. Theatre, Grade 4, Adopted 2013.

- (a) Introduction.
- (1) The fine arts incorporate the study of dance, music, theatre, and the visual arts to offer unique experiences and empower students to explore realities, relationships, and ideas. These disciplines engage and motivate all students through active learning, critical thinking, and innovative problem solving. The fine arts develop cognitive functioning and increase student academic achievement, higher-order thinking, communication, and collaboration skills, making the fine arts applicable to college readiness, career opportunities, workplace environments, social skills, and everyday life. Students develop aesthetic and cultural awareness through exploration, leading to creative expression. Creativity, encouraged through the study of the fine arts, is essential to nurture and develop the whole child.
 - (2) Four basic strands--foundations: inquiry and understanding; creative expression; historical and cultural relevance; and critical evaluation and response--provide broad, unifying structures for organizing knowledge and skills students are expected to acquire. Through the foundations: inquiry and understanding strand, students develop a perception of self, human relationships, and the world using elements of drama and conventions of theatre. Through the creative expression strand, students communicate in a dramatic form, engage in artistic thinking, build positive self-concepts, relate interpersonally, and integrate knowledge with other content areas in a relevant manner. Through the historical and cultural relevance strand, students increase their understanding of heritage and traditions in theatre and the diversity of world cultures as expressed in theatre. Through the critical evaluation and response strand, students engage in inquiry and dialogue, accept constructive criticism, revise personal views to promote creative and critical thinking, and develop the ability to appreciate and evaluate live theatre.
 - (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) Foundations: inquiry and understanding. 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) integrate sensory and emotional responses in dramatic play;
 - (B) develop body awareness and spatial perception using rhythmic and expressive movement;
 - (C) respond to sound, music, images, language, and literature with voice and movement and participate in dramatic play using actions, sounds, and dialogue;
 - (D) express emotions and ideas using interpretive movements, sounds, and dialogue;

- (E) imitate and synthesize life experiences in dramatic play;
 - (F) use common objects to represent the setting, enhance characterization, and clarify actions; and
 - (G) define and demonstrate correct use of basic theatrical terms such as dialogue, character, scene, prop, costumes, setting, and theme.
- (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 characters, their relationships, and their surroundings;
 - (C) develop characters and assume roles in short improvised scenes using imagination, personal experiences, heritage, literature, and history;
 - (D) dramatize literary selections in unison, pairs, or groups, demonstrating a logical connection of events and describing the characters, their relationships, and their surroundings; and
 - (E) create simple stories collaboratively through imaginative play, improvisations, and story dramatizations, demonstrating a logical connection of events and describing the characters, their relationships, and their surroundings.
- (3) Creative expression: production. The student applies design, directing, and theatre production concepts and skills. The student is expected to:
- (A) describe the appropriate use of props, costumes, sound, and visual elements that define character, environment, action, and theme;
 - (B) alter space to create suitable performance environments for playmaking;
 - (C) plan brief dramatizations collaboratively; and
 - (D) interact cooperatively with others in brief dramatizations.
- (4) Historical and cultural relevance. 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, cultures, and oral traditions specific to Texas;
 - (B) identify the role of live theatre, film, television, and electronic media in American society; and

- (C) compare theatre artists and their contributions to theatre and society.
- (5) Critical evaluation and response. The student responds to and evaluates theatre and theatrical performances. The student is expected to:
- (A) apply appropriate audience behavior at formal and informal performances;
 - (B) compare visual, aural, oral, and kinetic aspects of informal playmaking with formal theatre; and
 - (C) discuss how movement, music, or visual elements enhance ideas and emotions depicted in theatre.

§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.