Texas Essential Knowledge and Skills for Grade 4

§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.

§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.

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§112.6. Science, Grade 4, Adopted 2021.

(a) Introduction.

(1) In Kindergarten through Grade 5 Science, content is organized into recurring strands. The concepts within each grade level build on prior knowledge, prepare students for the next grade level, and establish a foundation for high school courses. In Grade 4, the following concepts will be addressed in each strand.

(A) Scientific and engineering practices. Scientific inquiry is the planned and deliberate investigation of the natural world using scientific and engineering practices. Scientific methods of investigation are descriptive, correlative, comparative, or experimental. The method chosen should be appropriate to the grade level and question being asked. Student learning for different types of investigations includes descriptive investigations, which have no hypothesis that tentatively answers the research question and involve collecting data and recording observations without making comparisons; correlative and comparative investigations, which have a hypothesis that predicts a relationship and involve collecting data, measuring variables relevant to the hypothesis that are manipulated, and comparing results; and experimental investigations, which involve processes similar to comparative investigations but in which a hypothesis can be tested by comparing a treatment with a control.

(i) Scientific practices. Students ask questions, plan and conduct investigations to answer questions, and explain phenomena using appropriate tools and models.

(ii) Engineering practices. Students identify problems and design solutions using appropriate tools and models.

(iii) To support instruction in the science content standards, it is recommended that districts integrate scientific and engineering practices through classroom and outdoor investigations for at least 50% of instructional time.

(B) Matter and energy. Students investigate matter's measurable properties, including mass, volume, states, temperature, magnetism, and relative density, to determine how it is classified, changed, and used. Students compare and contrast a variety of mixtures, including solutions, and demonstrate that matter is conserved.

(C) Force, motion, and energy. Students investigate forces, including friction, gravity, and magnetism, to observe their effects on objects. They differentiate between mechanical, sound, light, thermal, and electrical energy. Students observe the cycle of energy and the parts of a system while exploring circuits that produce light and thermal energy. They will build on their understanding of circuits in Grade 5. As students explore thermal and electrical energy, they observe the behavior of different materials to identify patterns and label the materials as conductors or insulators.

(D) Earth and space. Students learn about processes on Earth that create patterns of change. These processes include the water cycle, weathering, erosion, deposition, the appearance of the Moon, and seasons. Students will build on this understanding in Grade 5 when they learn about day and night, shadows, and the rotation of Earth on its axis. Finally, students identify Earth's resources and classify them as renewable or nonrenewable.

(E) Organisms and environments. In this strand, students begin to understand how organisms within an ecosystem interact. Students investigate producers to learn how they make food. Students build on their understanding of food chains, from Grade 3, as they explore food webs where they describe the flow of energy and the role of producers, consumers, and decomposers. They also use fossil evidence to describe environments of the past. Additionally, students explore plant structures and their functions. Students also differentiate between inherited and acquired traits of organisms.

(2) Nature of science. 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." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not currently scientifically testable.

(3) Scientific observations, inferences, hypotheses, and theories. Students are expected to know that:

(A) observations are active acquisition of either qualitative or quantitative information from a primary source through the senses;

(B) inferences are conclusions reached on the basis of observations or reasoning supported by relevant evidence;

(C) hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories; and

(D) scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.

(4) Science and social ethics. Scientific decision making is a way of answering questions about the natural world involving its own set of ethical standards about how the process of science should be carried out. Students distinguish between scientific decision-making practices and ethical and social decisions that involve science.

(5) Recurring themes and concepts. Science consists of recurring themes and making connections between overarching concepts. Recurring themes include structure and function, systems, models, and patterns. All systems have basic properties that can be described in space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. Models have limitations but provide a tool for understanding the ideas presented. Students analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.

(6) 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 and engineering practices. The student asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;

(B) use scientific practices to plan and conduct descriptive investigations and use engineering practices to design solutions to problems;

(C) demonstrate safe practices and the use of safety equipment during classroom and field investigations as outlined in Texas Education Agency-approved safety standards;

(D) use tools, including hand lenses; metric rulers; Celsius thermometers; calculators; laser pointers; mirrors; digital scales; balances; graduated cylinders; beakers; hot plates; meter sticks; magnets; notebooks; timing devices; sieves; materials for building circuits; materials to support observation of habitats of organisms such as terrariums, aquariums, and collecting nets; and materials to support digital data collection such as computers, tablets, and cameras, to observe, measure, test, and analyze information;

(E) collect observations and measurements as evidence;

(F) construct appropriate graphic organizers used to collect data, including tables, bar graphs, line graphs, tree maps, concept maps, Venn diagrams, flow charts or sequence maps, and input-output tables that show cause and effect; and

(G) develop and use models to represent phenomena, objects, and processes or design a prototype for a solution to a problem.

(2) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying any significant features, patterns, or sources of error;

(C) use mathematical calculations to compare patterns and relationships; and

(D) evaluate a design or object using criteria.

(3) Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:

(A) develop explanations and propose solutions supported by data and models;

(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and

(C) listen actively to others' explanations to identify relevant evidence and engage respectfully in scientific discussion.

(4) Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation for society. The student is expected to:

(A) explain how scientific discoveries and innovative solutions to problems impact science and society; and

(B) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.

(5) Recurring themes and concepts. The student understands that recurring themes and concepts provide a framework for making connections across disciplines. The student is expected to:

(A) identify and use patterns to explain scientific phenomena or to design solutions;

(B) identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems;

(C) use scale, proportion, and quantity to describe, compare, or model different systems;

(D) examine and model the parts of a system and their interdependence in the function of the system;

(E) investigate how energy flows and matter cycles through systems and how matter is conserved;

(F) explain the relationship between the structure and function of objects, organisms, and systems; and

(G) explain how factors or conditions impact stability and change in objects, organisms, and systems.

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

(A) classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas);

(B) investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids; and

(C) demonstrate that matter is conserved when mixtures such as soil and water or oil and water are formed.

(7) Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

(8) Force, motion, and energy. The student knows that energy is everywhere and can be observed in cycles, patterns, and systems. The student is expected to:

(A) investigate and identify the transfer of energy by objects in motion, waves in water, and sound;

(B) identify conductors and insulators of thermal and electrical energy; and

(C) demonstrate and describe how electrical energy travels in a closed path that can produce light and thermal energy.

(9) Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to:

(A) collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight; and

(B) collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

(10) Earth and space. The student knows that there are processes on Earth that create patterns of change. The student is expected to:

(A) 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;

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

(C) differentiate between weather and climate.

(11) Earth and space. The student understands how natural resources are important and can be managed. The student is expected to:

(A) identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas;

(B) explain the critical role of energy resources to modern life and how conservation, disposal, and recycling of natural resources impact the environment; and

(C) determine the physical properties of rocks that allow Earth's natural resources to be stored there.

(12) Organisms and environments. The student describes patterns, cycles, systems, and relationships within environments. The student is expected to:

(A) investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter;

(B) describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers; and

(C) identify and describe past environments based on fossil evidence, including common Texas fossils.

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

(A) explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment; and

(B) differentiate between inherited and acquired physical traits of organisms.

Source: The provisions of this §112.6 adopted to be effective April 26, 2022, 47 TexReg 2136.

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§113.15. Social Studies, Grade 4, Adopted 2022.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2024-2025 school year.

(b) 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 (c) 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.

(c) 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;

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

(F) use voting as a method for group decision making.

(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) differentiate and compare the information about a specific issue or event provided in primary and secondary sources;

(C) 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;

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

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

(F) identify the central claim in a primary or secondary source; and

(G) develop and communicate a claim and supporting evidence visually, orally, or in writing related to a social studies topic.

(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;

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

(E) apply foundational language skills to engage in civil discourse about social studies topics, including those with multiple perspectives.

(22) Social studies skills. The student uses problem-solving and decision-making skills, working independently and with others. The student is expected to:

(A) use democratic procedures to simulate making decisions on school, local, or state issues; and

(B) 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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§115.16. Health Education, Grade 4, Adopted 2020.

(a) Introduction.

(1) The goal of health education is to provide instruction that allows youth to develop and sustain health-promoting behaviors throughout their lives. The understanding and application of these standards will allow students the ability to gather, interpret, and understand health information; achieve health literacy; and adapt to the ever-evolving science of health. The health education knowledge and skills should be presented to students in a positive manner to support the development of a healthy self-concept and responsible decision making. The standards will help students reinforce, foster, and apply positive character traits.

(2) There are essential skills that repeat throughout the six strands and embody the interconnection of health literacy. These skills include decision making, problem solving, goal setting, maintaining healthy relationships with self and others, seeking help and support, and recognizing various influences on health such as social, environmental, media, and genetic. These skills, developed early on and reinforced throughout a student's education, will foster mastery of health concepts. Health class educators are encouraged to partner with school counselors where available to schedule time for them to deliver classroom guidance lessons to help teach these essential competencies.

(3) In Grade 4 and higher, students gain an understanding of health information and skills through six strands: physical health and hygiene; mental health and wellness; healthy eating and physical activity; injury and violence prevention and safety; alcohol, tobacco, and other drugs; and reproductive and sexual health.

(A) Physical health and hygiene education helps to prepare students for improved lifelong health outcomes. Learning about body systems will lay the foundation for personal health and hygiene. Health literacy and preventative behaviors empower students to make informed choices to support self, family, and community.

(B) The mental health and wellness strand recognizes that the knowledge and skills necessary to manage emotions, reactions, and relationships are essential to reaching one's full potential. Students gain knowledge about social and emotional health, developing a healthy self-concept, understanding risk and protective factors, and identifying and managing mental health and wellness concerns. In the early grades, students develop fluency around emotions and self-regulation and understand the relationship between feelings, thoughts, and behavior. In subsequent grades, students learn and practice appropriate ways to solve interpersonal conflicts, work to develop a positive self-image, and develop healthy self-management skills.

(C) The healthy eating and physical activity strand addresses the importance of nutrition and physical activity to support a healthy lifestyle. Students apply critical-thinking and decision-making skills to make positive health choices. Students learn about essential nutrients, food groups, portion control, government nutritional recommendations, and the

health benefits of being physically active. Students evaluate the connection between physical activity and nutrition and the prevention of chronic diseases.

(D) By focusing on injury and violence prevention and safety, the standards promote student well-being and awareness of dangerous situations. Supporting student well-being and providing instruction in digital citizenship, bullying prevention, first aid, and the identification of safe and unsafe situations creates empowered and educated students able to make decisions that keep themselves and others safe. Beginning in Kindergarten and continuing through high school, students gain knowledge and skills to support safety and wellness at school, at home, online, and in the community.

(E) The standards under the alcohol, tobacco, and other drugs strand focus on a number of protective factors that develop empowered students who are able to make better-informed decisions, including understanding the impact of substance use on physical, mental, and social health. Through this strand, students learn key concepts about alcohol, tobacco, and other drugs, including the use, misuse, and physiological effects; short- and long-term impacts on health; treatment; risk and protective factors; and prevention. These concepts introduce healthy alternatives and ways for students to ask for and seek out help from parents and other trusted adults.

(F) Beginning in Grade 4, students learn about changes associated with adolescent development in the reproductive and sexual health strand. In subsequent grade levels, students identify the purpose of these changes and their role in fertilization and reproduction. Students learn the characteristics of healthy and unhealthy relationships and how to use communication and refusal skills to set personal boundaries in dating/romantic relationships. Students also identify how to respond to sexual harassment and abuse.

(4) An integral part of health education involves educators being aware of state laws relevant to human sexuality instruction. These laws include affirming:

(A) a local school district's control over the provision of human sexuality instruction to ensure that local community values are reflected in that instruction (Texas Education Code (TEC), §28.004(e)-(h));

(B) the right of a parent or legal guardian to be informed of the provision of human sexuality instruction to their child and review the content of that instruction (TEC, §28.004(i)-(j));

(C) the right of a parent or legal guardian to remove their child from any portion of human sexuality instruction without penalty to the child (TEC, §28.004(i));

(D) the centrality of abstinence education in any human sexuality curriculum (TEC, §28.004(e)); and

(E) the right of a parent or legal guardian to be informed of and consent to an abortion performed on their pregnant child (with judicially authorized or medical emergency exceptions) (Texas Family Code, Chapter 33).

(5) Educators also should be aware of and abide by the statutory prohibition on taxpayer resource transactions between state governmental entities, including public schools, and abortion providers or an affiliate of an abortion provider (Texas Government Code, Chapter 2272).

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

(7) Students should first seek guidance in the area of health from a parent or legal guardian.

(b) Knowledge and skills.

(1) Physical health and hygiene--body systems. The student examines the structure, function, and relationships of body systems and their relevance to personal health. The student is expected to name, locate, and describe the primary function and major components of the body systems, including the nervous, immune, digestive, and integumentary systems.

(2) Physical health and hygiene--personal health and hygiene. The student understands health literacy, preventative health behaviors, and how to access and evaluate health care information to make informed decisions. The student is expected to:

(A) explain the importance of health information and how it can be used;

(B) describe how health care decision making is influenced by external factors such as cost and access;

(C) explain strategies for maintaining personal hygiene and health habits;

(D) distinguish between communicable and noncommunicable illnesses;

(E) explain actions to take when illness occurs, including asthma, diabetes, and epilepsy; and

(F) define vector-borne illnesses and describe how to reduce their risk.

(3) Mental health and wellness--social and emotional health. The student identifies and applies strategies to develop socio-emotional health, self-regulation, and healthy relationships. The student is expected to:

(A) analyze how thoughts and emotions influence behaviors;

(B) describe the importance of identifying and reframing thoughts and applying calming and self-management strategies when dealing with strong emotions, including anger;

(C) discuss and explain how the brain develops during childhood and the role the brain plays in behavior;

(D) identify positive and negative characteristics of social groups;

(E) explain the importance of being a positive role model;

(F) explain the importance of demonstrating consideration when communicating with individuals who use diverse methods to communicate such as different languages or adaptive methods;

(G) identify verbal, physical, and situational cues that indicate how others may feel; and

(H) explain the difference between assertive behavior and aggressive behavior.

(4) Mental health and wellness--developing a healthy self-concept. The student develops the capacity for self-assessment and evaluation, goal setting, and decision making in order to develop a healthy self-concept. The student is expected to:

(A) discuss ways to help build self-esteem of self, friends, and others, including areas for one's personal growth and ways to gather constructive feedback;

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

(C) explain the importance of time management with respect to a goal.

(5) Mental health and wellness--identifying and managing mental health and wellness concerns. The student develops and uses appropriate skills to identify and manage conditions related to mental health and wellness. The student is expected to:

(A) describe methods for managing concerns related to long-term health conditions for self and others;

(B) differentiate between positive and negative stress;

(C) define sources of stress, including trauma, loss, and grief;

(D) discuss ways to promote a healthy body image; and

(E) identify ways to express and manage overwhelming emotions without harming oneself, others, or property such as calming strategies or talking to a parent or another trusted adult.

(6) Healthy eating and physical activity--food and beverage daily recommendations. The student identifies and explains healthy eating strategies for enhancing and maintaining personal health throughout the lifespan. The student is expected to:

(A) explain why the body needs each of the six major nutrients contained in foods;

(B) identify nutritional information on menus and food labels;

(C) determine appropriate portion sizes when eating out, including at fast food restaurants;

(D) identify the recommended guidelines for added sugar consumption and explain how excess sugar consumption can impact health, including causing dental cavities and obesity; and

(E) identify healthy fast food choices such as ordering smaller serving sizes and substituting salads for fries and grilled foods for fried foods and their associated impacts on health.

(7) Healthy eating and physical activity--physical activity. The student identifies, analyzes, and applies strategies for enhancing and maintaining optimal personal physical fitness throughout the lifespan. The student is expected to identify the physical, mental, and social benefits of physical fitness.

(8) Healthy eating and physical activity--nutrition and physical activity literacy. The student obtains, processes, and understands basic physical activity and nutrition information needed to make health-promoting decisions. The student is expected to:

(A) describe the importance of goal setting and set a goal for making healthy food choices; and

(B) gather data from a variety of credible sources to help make informed nutritional and physical activity choices.

(9) Healthy eating and physical activity--risk and protective factors. The student identifies and explains risk and protective factors related to healthy eating and physical activity. The student is expected to:

(A) describe the connection between physical activity and the prevention of obesity, heart disease, and diabetes; and

(B) differentiate between healthy and unhealthy eating habits and demonstrate refusal skills in dealing with unhealthy eating situations.

(10) Injury and violence prevention and safety--safety skills and unintentional injury. The student identifies and demonstrates safety and first aid knowledge to prevent and treat injuries. The student is expected to identify and demonstrate strategies for preventing and responding to injuries.

(11) Injury and violence prevention and safety--healthy relationships and conflict-resolution skills. The student differentiates between healthy and unhealthy relationships and demonstrates effective strategies to address conflict. The student is expected to explain the importance of using refusal skills such as saying "no" when privacy, personal boundaries, or personal space are not respected.

(12) Injury and violence prevention and safety--healthy home, school, and community climate. The student understands that individual actions and awareness can impact safety, community, and environment. The student is expected to:

(A) identify strategies for avoiding violence, gangs, and weapons;

(B) identify characteristics of gang behavior;

(C) identify strategies that can be used to promote safety in homes, schools, and communities; and

(D) create a personal safety plan.

(13) Injury and violence prevention and safety--digital citizenship and media. The student understands how to be a safe and responsible citizen in digital and online environments. The student is expected to:

(A) differentiate between appropriate and inappropriate ways to communicate in digital and online environments;

(B) explain what information is appropriate to share and who it is appropriate to share information with in digital and online environments; and

(C) discuss the consequences of cyberbullying and inappropriate digital and online communication in relation to home and school environments.

(14) Injury and violence prevention and safety--interpersonal violence. The student understands the impact of interpersonal violence and the importance of seeking guidance and help to maintain personal safety. The student is expected to:

(A) analyze distinguishing characteristics of cyberbullying;

(B) describe the negative impact bullying, including cyberbullying, has on both the victim and the bully;

(C) explain the importance of seeking guidance from parents and other trusted adults on critical personal safety issues; and

(D) identify types of abuse and neglect and ways to seek help from a parent or another trusted adult.

(15) Alcohol, tobacco, and other drugs--use, misuse, and physiological effects. The student understands the difference between the use and misuse of different substances and how the use and misuse of substances impacts health. The student is expected to:

(A) explain why some drugs require a prescription; and

(B) identify the differences between prescription drugs, over-the-counter drugs, other drugs, and dangerous substances, including inhalants, vaping products, and household products.

(16) Alcohol, tobacco, and other drugs--short- and long-term impacts. The student identifies and analyzes the short- and long-term impacts of use and misuse of alcohol; tobacco; drugs, including prescription drugs; and other substances. The student is expected to:

(A) describe the short- and long-term harmful effects of alcohol, tobacco, other drugs, and dangerous substances such as inhalants and household products on mental and social health; and

(B) describe the legal consequences of the misuse of alcohol, tobacco, other drugs, and dangerous substances.

(17) Alcohol, tobacco, and other drugs--treatment. The student understands how to seek emergency help for self and others in poisoning and overdose situations. The student is expected to describe the signs of poisoning or overdose and identify how to respond, including who to contact for help.

(18) Alcohol, tobacco, and other drugs--risk and protective factors. The student understands how various factors can influence decisions regarding substance use and the resources available for help. The student is expected to:

(A) distinguish between positive and negative peer influences and their effects on a person's decision to use or not use alcohol or drugs; and

(B) identify methods available to report unsafe situations related to alcohol, tobacco, and other drugs.

(19) Alcohol, tobacco, and other drugs--prevention. The student demonstrates refusal skills to avoid substance use and misuse. The student is expected to:

(A) demonstrate refusal skills using assertive communication related to alcohol, tobacco, and other drugs; and

(B) identify ways to avoid drugs and discuss healthy alternative activities to the use of drugs and other substances.

(20) Reproductive and sexual health--anatomy, puberty, and reproduction. The student identifies adolescent development. The student is expected to:

(A) explain changes that occur in males and females during puberty and adolescent development; and

(B) define the menstrual cycle.

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§116.16. Physical Education, Grade 4, Adopted 2020.

(a) Introduction.

(1) Physical education is the foundation of a well-balanced curriculum. "It is an academic subject with a planned and sequential K-12 curriculum based on the national standards for physical education. Physical education provides cognitive content and instruction designed to develop motor skills, knowledge, and behaviors for physical activity and physical fitness. Supporting schools to establish daily physical education can provide students with the ability and confidence to be physically active for a lifetime" (Centers for Disease Control and Prevention (CDC), CDC Healthy Schools, May 2019).

(A) Physical education is designed to develop motor skills, knowledge, and behaviors for active living, physical fitness, sportsmanship, self-efficacy, and emotional intelligence. Physical education addresses the three domains of learning: cognitive skills related to the knowledge of movement, affective skills related to feelings and attitudes about movement, and psychomotor skills related to the manual or physical skills in movement literacy (SHAPE America, 2014, p. 4).

(B) Physically literate students have the ability to develop a lifetime of wellness. Physical literacy can be described as the ability to move with competence and confidence, to acquire knowledge and understanding, and to value and take responsibility for engagement in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person (Mandigo, Francis, Lodewyk & Lopez, 2012, and Whitehead, 2016).

(C) Research shows physical education is important to the development of the whole child and increases a lifetime of wellness. The Association for Supervision and Curriculum Development and the National Academy of Medicine support the belief that physical education, taught at a developmentally appropriate level, improves physical fitness and skill development, supports and improves academic achievement, reinforces self-discipline and teacher goal setting, reduces stress and increases blood flow to the brain, strengthens peer relationships, and improves self-confidence and self-esteem.

(2) The physical education standards are categorized into five strands that are of equal importance and value. The movement patterns and movement skills strand guides the physically literate student in the development of fundamental movement patterns, spatial and body awareness, and rhythmic activities. The performance strategies strand guides the physically literate student in utilizing strategies in fundamental components of games, activities, and outdoor and recreational pursuits. The health, physical activity, and fitness strand encompasses health-related fitness, environmental awareness, and safety practices that guide students to a health-enhancing, physically active lifestyle. The physically literate student demonstrates skills and mechanics used during physical activity and analyzes data used during fitness performance. The physically literate student recognizes the correlation between nutrition, hydration, and physical activity. The social and emotional health strand incorporates working with others, responding to class expectations, and applying self-management skills. The lifetime wellness strand engages students in physical activity for the purposes of self-expression, enjoyment, and challenge.

(3) Quality physical education programs include a comprehensive curriculum, physical activity, safety policies, safe environments, qualified physical education specialists instructing the class, and student assessment and do not use physical activity as a form of punishment. Texas state law outlines state requirements that support these essential components. In accordance with state law, physical education curriculum and instruction must be sequential, developmentally appropriate, and designed to meet the needs of all students, including students with disabilities and of all physical ability levels. At least 50% of the physical education class must be used for actual student physical activity at a moderate or vigorous intensity level, which aligns with additional state requirements for a minimum number of minutes for moderate or vigorous physical activity in Kindergarten-Grade 8. Required student-to-teacher ratios of 45-to-1 ensure the proper supervision and safety of students in physical education classes, and school districts must identify how student safety will be maintained if that ratio is exceeded. State law also requires that school districts and charter schools annually assess the physical fitness of students in Grade 3 or higher who are enrolled in a physical education course.

(4) Access to age-appropriate physical education equipment is essential to quality instruction. Basic, age-appropriate equipment for all students is imperative for the development of motor skills, manipulative skills, and eventually becoming a physically literate lifelong learner. Without basic, age-appropriate equipment, students will not have the necessary experiences to become physically literate, lifelong learners. All equipment should be age appropriate for the grade levels to be taught. The term "age appropriate" means that the equipment must include a variety of sizes, weights, and textures to provide differentiated experiences for various ages and ability levels of students. Basic equipment for quality instruction includes, but is not limited to, the following list: sports balls, including fleece balls, foam balls, tennis balls, beach balls, volleyballs, basketballs,

soccer balls, footballs, baseballs, softballs, and unity balls; striking implements, including golf clubs, hockey sticks, baseball bats, pool noodles, tennis rackets, racquetball rackets, pickleball paddles, lollipop paddles, and ping pong paddles; goals for various sports, including soccer goals and basketball goals; nets and standards for a variety of sports, including volleyball, pickleball, badminton, and tennis; fitness-related equipment; other basic equipment, including scarves, bean bags, hula hoops, jump ropes, and scooters; classroom management equipment, including cones, mats, pinnies, poly spots, and ball inflators; and technology, including microphones, projectors, speakers, heart rate monitors, timers, and other technology appropriate for instruction.

(5) In Kindergarten-Grade 5, students learn fundamental movement skills and cues; begin to understand that the body functions in relation to physical activity; develop body control; become aware of the health-related fitness components; begin applying strategies, rules, etiquette, and conflict resolution techniques in dynamic situations; and identify safety practices and protocols while being physically active. Students engage in activities that develop basic levels of strength, endurance, and flexibility. Activities are presented to complement a student's natural inclination to view physical activity as challenging and enjoyable.

(6) 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) Movement patterns and movement skills--locomotor skills. The physically literate student demonstrates competency in fundamental movement patterns and developmentally appropriate locomotor skills. The student is expected to:

(A) demonstrate and apply correct technique in a variety of locomotor skills during dynamic activities;

(B) demonstrate correct jumping and landing technique while performing a long jump and a full turn jump;

(C) demonstrate intermediate balancing to include equipment, cross lateralization using a variety of coordination skills, and sequencing of four skills with repetition; and

(D) spin and roll with control at different levels, speeds, and positions with manipulatives.

(2) Movement patterns and movement skills--non-locomotor skills. The physically literate student demonstrates competency in fundamental movement patterns and developmentally appropriate non-locomotor skills. The student is expected to:

(A) transfer body weight over, under, and on equipment with good control; and

(B) move into and out of various combinations of bending, stretching, twisting, curling, pushing, pulling, and swaying in a variety of activities.

(3) Movement patterns and movement skills--manipulative skills. The physically literate student demonstrates competency in developmentally appropriate manipulative skills. The student is expected to:

(A) practice the key elements of manipulative skills, including eye on target, follow-through, body weight transfer, and body position, during dynamic activities;

(B) practice the key elements of catching a ball at a variety of levels above and below the waist;

(C) demonstrate key elements of hand dribbling with dominant and non-dominant hand while changing both speed and direction;

(D) dribble a ball with control alternating feet while changing both speed and direction with a partner;

(E) identify and demonstrate the key elements in kicking patterns, including body position, weight transfer, and follow-through;

(F) demonstrate correct technique in underhand and overhead volleying to a wall, net, or partner;

(G) demonstrate correct technique when striking an object with a hand or short- or long-handled implement with a partner;

(H) jump a self-turned rope using a variety of intermediate skills; and

(I) demonstrate entering and exiting a turned long rope using intermediate jumping skills.

(4) Movement patterns and movement skills--spatial and body awareness. The physically literate student demonstrates competency in spatial and body awareness, including pathways, shapes, levels, speed, direction, and force. The student is expected to:

(A) demonstrate the appropriate use of open space and closing space during dynamic activities;

(B) demonstrate appropriate use of pathways and levels during dynamic activities and lead-up games; and

(C) apply speed, direction, and force during dynamic activities and lead-up games.

(5) Movement patterns and movement skills--rhythmic activities. The physically literate student demonstrates competency in rhythmic activities and rhythmic combinations. The student is expected to demonstrate a rhythmic routine with appropriate steps and movement patterns individually or in a group.

(6) Performance strategies--games and activities. The physically literate student demonstrates competency in performance strategies in invasion, target, net or wall, fielding, striking, and cooperative games. The student is expected to:

(A) explain fundamental components and strategies of dynamic activities and lead-up games;

(B) practice and demonstrate specific movement skills in designated dynamic activities and lead-up games with a partner or a small group; and

(C) exhibit appropriate sporting behavior during independent games and activities.

(7) Performance strategies--outdoor and recreational pursuits. The physically literate student demonstrates competency in outdoor and recreational pursuits. The student is expected to participate in a variety of outdoor recreational skills and activities such as camping, backpacking, fishing, rock climbing, hiking, paddle sports, disc golf, cornhole, bocce ball, or croquet.

(8) Health, physical activity, and fitness--fitness principles. The physically literate student demonstrates and recognizes a health-enhancing, physically active lifestyle. The student is expected to:

(A) describe the benefits of regular physical activity on overall health and wellness;

(B) demonstrate frequency and intensity during endurance activities; and

(C) identify and demonstrate the components of health- and skill-related fitness.

(9) Health, physical activity, and fitness--analyze data. The physically literate student demonstrates competency in the ability to analyze data used during fitness performance. The student is expected to:

(A) develop personal fitness goals for health-related fitness; and

(B) track progress and analyze data for health-related fitness activities.

(10) Health, physical activity, and fitness--nutrition and hydration. The physically literate student recognizes the correlation between nutrition, hydration, and physical activity. The student is expected to:

(A) examine the relationship between nutrition and optimal physical performance; and

(B) explain the importance of proper hydration before, during, and after physical activity.

(11) Health, physical activity, and fitness--environmental awareness and safety practices. The physically literate student demonstrates competency in environmental awareness and understands safety practices. The student is expected to:

(A) work independently to select proper attire and safety equipment that promote safe participation and prevent injury in dynamic activities and lead-up games; and

(B) apply correct safety precautions, including pedestrian, water, sun, cycling, skating, and scooter safety.

(12) Social and emotional health--personal responsibility and self-management. The physically literate student demonstrates competency in personal responsibility. The student is expected to:

(A) accept and take responsibility for personal actions that affect self and others;

(B) demonstrate respect for differences and similarities in abilities of self and others; and

(C) demonstrate self-management skills to control personal impulses and emotions during dynamic activities and lead-up games.

(13) Social and emotional health--resolving conflict and social interaction. The physically literate student demonstrates competency in resolving conflict and social interaction. The student is expected to:

(A) discuss ways to resolve conflict in socially acceptable ways and respond to winning and losing with dignity and understanding;

(B) identify effective communication to enhance healthy interactions while settling disagreements; and

(C) demonstrate respect for the feelings of others.

(14) Social and emotional health--perseverance. The physically literate student perseveres while addressing challenges. The student is expected to identify ways to accept individual challenges and use self-management skills to persevere in a positive manner when learning a variety of new skills.

(15) Social and emotional health--accepting and providing constructive feedback. The physically literate student accepts and provides constructive feedback. The student is expected to listen respectfully to make appropriate changes in performance based on feedback from teacher and peers.

(16) Lifetime wellness--application of lifetime wellness. The physically literate student identifies the value of lifetime wellness. The student is expected to:

(A) differentiate among types of and participate in moderate to vigorous physical activities for a sustained period of time on a regular basis using technology when available; and

(B) participate in a variety of physical activities in the school and community for personal enjoyment.

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§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.

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§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.

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§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.

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§126.9. Technology Applications, Grade 4, Adopted 2022.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2024-2025 school year.

(1) No later than August 1, 2024, the commissioner of education shall determine whether instructional materials funding has been made available to Texas public schools for materials that cover the essential knowledge and skills identified in this section.

(2) If the commissioner makes the determination that instructional materials funding has been made available this section shall be implemented beginning with the 2024-2025 school year and apply to the 2024-2025 and subsequent school years.

(3) If the commissioner does not make the determination that instructional materials funding has been made available under this subsection, the commissioner shall determine no later than August 1 of each subsequent school year whether instructional materials funding has been made available. If the commissioner determines that instructional materials funding has been made available, the commissioner shall notify the State Board of Education and school districts that this section shall be implemented for the following school year.

(b) Introduction.

(1) Technology includes data communication, data processing, and the devices used for these tasks locally and across networks. Learning to apply these technologies motivates students to develop critical-thinking skills, higher-order thinking, and innovative problem solving. Technology applications incorporates the study of digital tools, devices, communication, and programming to

empower students to apply current and emerging technologies in their careers, their education, and beyond.

(2) The technology applications Texas Essential Knowledge and Skills (TEKS) consist of five strands that prepare students to be literate in technology applications by Grade 8: computational thinking; creativity and innovation; data literacy, management, and representation; digital citizenship; and practical technology concepts. Communication and collaboration skills are embedded across the strands.

(A) Computational thinking. Students break down the problem-solving process into four steps: decomposition, pattern recognition, abstraction, and algorithms.

(B) Creativity and innovation. Students use innovative design processes to develop solutions to problems. Students plan a solution, create the solution, test the solution, iterate, and debug the solution as needed, and implement a completely new and innovative product.

(C) Data literacy, management, and representation. Students collect, organize, manage, analyze, and publish various types of data for an audience.

(D) Digital citizenship. Students practice the ethical and effective application of technology and develop an understanding of cybersecurity and the impact of a digital footprint to become safe, productive, and respectful digital citizens.

(E) Practical technology concepts. Students build their knowledge of software applications and hardware focusing on keyboarding and use of applications and tools. Students also build their knowledge and use of technology systems, including integrating the use of multiple applications.

(3) The technology applications TEKS can be integrated into all content areas and can support stand-alone courses. Districts have the flexibility of offering technology applications in a variety of settings, including through a stand-alone course or by integrating the technology applications standards in the essential knowledge and skills for one or more courses or subject areas.

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

(c) Knowledge and skills.

(1) Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. The student is expected to:

(A) decompose story problems into smaller, manageable subproblems and discuss and document various solutions to the problems;

(B) identify patterns in story problems and make predictions based on the pattern;

(C) communicate design plans and solutions using a variety of options; and

(D) debug algorithms (set of procedures) by identifying and removing errors.

(2) Computational thinking--applications. The student applies the fundamentals of computer science. The student is expected to:

(A) use variables within a program to modify data; and

(B) use a design process to create programs that include sequences, loops, and conditionals to express ideas or address a problem.

(3) Creativity and innovation--innovative design process. The student takes an active role in learning by using a design process to solve authentic problems for a local or global audience, using a variety of technologies. The student is expected to:

(A) explain the importance of and demonstrate personal skills and behaviors, including problem solving and questioning, effective communication, following directions, mental agility, and metacognition, that are needed to implement a design process successfully; and

(B) apply an appropriate design process that includes components to improve processes and refine original products for authentic problems.

(4) Creativity and innovation--emerging technologies. The student demonstrates an understanding that technology is dynamic and impacts different communities. The student is expected to identify examples of emerging technologies.

(5) Data literacy, management, and representation--collect data. The student uses digital strategies to collect and identify data. The student is expected to:

(A) classify numerical and non-numerical data; and

(B) identify and collect data by using various search strategies, including two or more keywords within specific parameters.

(6) Data literacy, management, and representation--organize, manage, and analyze data. The student uses data to answer questions. The student is expected to use digital tools to transform and make inferences about data to answer a question.

(7) Data literacy, management, and representation--communicate and publish results. The student communicates data through the use of digital tools to inform an audience. The student is expected to use digital tools to communicate results of an inquiry to inform an intended audience.

(8) Digital citizenship--social interactions. The student understands different styles of digital communication and that a student's actions online can have a long-term impact. The student is expected to:

(A) describe how information retained online creates a permanent digital footprint;

(B) describe appropriate digital etiquette for various forms of digital communication such as text, email, and online chat; and

(C) demonstrate appropriate digital etiquette for various forms of digital collaboration such as shared documents, video conferencing, and other platforms.

(9) Digital citizenship--ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:

(A) demonstrate adherence to local acceptable use policy (AUP) and explain the importance of responsible and ethical technology use;

(B) describe the rights and responsibilities of a creator, define copyright law, and explain how copyright law applies to creative work; and

(C) create citations for digital forms of media with assistance.

(10) Digital citizenship--privacy, safety, and security. The student practices safe, legal, and ethical digital behaviors to become a socially responsible digital citizen. The student is expected to:

(A) demonstrate account safety, including creating a strong password and logging off devices, and explain the importance of these practices;

(B) identify and discuss types of data collection tools such as cookies, pop-ups, smart devices, and unsecured networks and explain why it is important to maintain digital privacy; and

(C) discuss and explain how to respond to cyberbullying, including advocating for self and others.

(11) Practical technology concepts--processes. The student engages with technology systems, concepts, and operations. The student is expected to:

(A) evaluate and choose applications for relevance to an assigned task; and

(B) perform software application functions such as outline options, bulleting, and numbering lists, and perform editing functions such as finding and replacing.

(12) Practical technology concepts--skills and tools. The student selects appropriate methods or techniques for an assigned task and identifies and solves simple hardware and software problems using common troubleshooting strategies. The student is expected to:

(A) communicate an understanding of terminology related to virtual systems such as video conferencing, augmented reality, and virtual reality environments;

(B) evaluate where and how to save, including the use of appropriate naming conventions and effective file management strategies and folder structures;

(C) demonstrate proper touch keyboarding techniques with speed and accuracy and ergonomic strategies such as correct hand and body positions;

(D) identify and practice using cross-curricular symbols or other input device shortcuts on a keyboard; and

(E) use troubleshooting strategies to solve minor technical problems with hardware and software such as restarting software or rebooting hardware.

Source: The provisions of this §126.9 adopted to be effective August 7, 2022, 47 TexReg 4518.