

Texas Essential Knowledge and Skills – Fourth Grade

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

(a) Introduction.

(1) In Grade 4, students spend significant blocks of time engaged in reading and writing independently. Fourth grade students are critical listeners and analyze a speaker's intent such as to entertain or to persuade. When speaking, they adapt their language to the audience, purpose, and occasion. Students continue to read classic and contemporary selections. Fourth grade students read with a growing interest in a wide variety of topics and adjust their reading approach to various forms of texts. Students expand their vocabulary systematically across the curriculum. Students read for meaning and can paraphrase texts. Students are able to connect, compare, and contrast ideas. Fourth grade students can identify and follow varied text structures such as chronologies and cause and effect. Students produce summaries of texts and engage in more sophisticated analysis of characters, plots, and settings. Fourth grade students are able to select and use different forms of writing for specific purposes such as to inform, persuade, or entertain. Their writing takes on style and voice. Fourth grade students write in complete sentences. Students vary sentence structure and use adjectives, adverbs, prepositional phrases, and conjunctions. Fourth grade students are proficient spellers. Students edit their writing based on their knowledge of grammar and usage, spelling, punctuation, and other conventions of written language. Students can produce a final, polished copy of a written composition. Fourth grade students understand and use visual media and can compare and contrast visual media to print.

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

(3) The essential knowledge and skills as well as the student expectations for Grade 4 are described in subsection (b) of this section. Following each statement of a student expectation is a parenthetical notation that indicates the additional grades at which these expectations are demonstrated at increasingly sophisticated levels.

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

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

(b) Knowledge and skills.

(1) Listening/speaking/purposes. The student listens actively and purposefully in a variety of settings. The student is expected to:

- (A) determine the purposes for listening such as to gain information, to solve problems, or to enjoy and appreciate (4-8);
- (B) eliminate barriers to effective listening (4-8); and
- (C) understand the major ideas and supporting evidence in spoken messages (4-8).

(2) Listening/speaking/critical listening. The student listens critically to analyze and evaluate a speaker's message(s). The student is expected to:

- (A) interpret speakers' messages (both verbal and nonverbal), purposes, and perspectives (4-8);
- (B) identify and analyze a speaker's persuasive techniques such as promises, dares, and flattery (4-5);
- (C) distinguish between the speaker's opinion and verifiable fact (4-8); and
- (D) monitor his/her own understanding of the spoken message and seek clarification as needed (4-8).

(3) Listening/speaking/appreciation. The student listens, enjoys, and appreciates spoken language. The student is expected to:

- (A) listen to proficient, fluent models of oral reading, including selections from classic and contemporary works (4-8);
- (B) describe how the language of literature affects the listener (4-5); and
- (C) assess how language choice and delivery affect the tone of the message (4-5).

(4) Listening/speaking/culture. The student listens and speaks both to gain and share knowledge of his/her own culture, the culture of others, and the common elements of cultures. The student is expected to:

- (A) connect his/her own experiences, information, insights, and ideas with those of others through speaking and listening (4-8);
- (B) compare oral traditions across regions and cultures (4-8); and
- (C) identify how language use such as labels and sayings reflects regions and cultures (4-8).

(5) Listening/speaking/audiences. The student speaks clearly and appropriately to different audiences for different purposes and occasions. The student is expected to:

(A) adapt spoken language such as word choice, diction, and usage to the audience, purpose, and occasion (4-8);

(B) demonstrate effective communications skills that reflect such demands as interviewing, reporting, requesting, and providing information (4-8);

(C) present dramatic interpretations of experiences, stories, poems, or plays to communicate (4-8);

(D) use effective rate, volume, pitch, and tone for the audience and setting (4-8);

(E) give precise directions and instructions such as in games and tasks (4-5); and

(F) clarify and support spoken ideas with evidence, elaborations, and examples (4-8).

(6) Reading/word identification. The student uses a variety of word recognition strategies. The student is expected to:

(A) apply knowledge of letter-sound correspondences, language structure, and context to recognize words (4-8);

(B) use structural analysis to identify root words with prefixes such as dis-, non-, in-; and suffixes such as -ness, -tion, -able (4-6); and

(C) locate the meanings, pronunciations, and derivations of unfamiliar words using dictionaries, glossaries, and other sources (4-8).

(7) Reading/fluency. The student reads with fluency and understanding in texts at appropriate difficulty levels. The student is expected to:

(A) read regularly in independent-level materials (texts in which no more than approximately 1 in 20 words is difficult for the reader) (4);

(B) read regularly in instructional-level materials that are challenging but manageable (texts in which no more than approximately 1 in 10 words is difficult for the reader; a "typical" fourth grader reads approximately 90 wpm) (4);

(C) demonstrate characteristics of fluent and effective reading (4-6);

(D) adjust reading rate based on purposes for reading (4-8);

(E) read aloud in selected texts in ways that both reflect understanding of the text and engage the listeners (4-8); and

(F) read silently with increasing ease for longer periods (4-8).

(8) Reading/variety of texts. The student reads widely for different purposes in varied sources. The student is expected to:

- (A) read classic and contemporary works (2-8);
- (B) select varied sources such as nonfiction, novels, textbooks, newspapers, and magazines when reading for information or pleasure (4-5); and
- (C) read for varied purposes such as to be informed, to be entertained, to appreciate the writer's craft, and to discover models for his/her own writing (4-8).

(9) Reading/vocabulary development. The student acquires an extensive vocabulary through reading and systematic word study. The student is expected to:

- (A) develop vocabulary by listening to selections read aloud (4-8);
- (B) draw on experiences to bring meanings to words in context such as interpreting figurative language and multiple-meaning words (4-5);
- (C) use multiple reference aids, including a thesaurus, a synonym finder, a dictionary, and software, to clarify meanings and usage (4-8);
- (D) determine meanings of derivatives by applying knowledge of the meanings of root words such as like, pay, or happy and affixes such as dis-, pre-, un- (4-8); and
- (E) study word meanings systematically such as across curricular content areas and through current events (4-8).

(10) Reading/comprehension. The student comprehends selections using a variety of strategies. The student is expected to:

- (A) use his/her own knowledge and experience to comprehend (4-8);
- (B) establish and adjust purposes for reading such as reading to find out, to understand, to interpret, to enjoy, and to solve problems (4-8);
- (C) monitor his/her own comprehension and make modifications when understanding breaks down such as by rereading a portion aloud, using reference aids, searching for clues, and asking questions (4-8);
- (D) describe mental images that text descriptions evoke (4-8);
- (E) use the text's structure or progression of ideas such as cause and effect or chronology to locate and recall information (4-8);
- (F) determine a text's main (or major) ideas and how those ideas are supported with details (4-8);

(G) paraphrase and summarize text to recall, inform, and organize ideas (4-8);

(H) draw inferences such as conclusions or generalizations and support them with text evidence and experience (4-8);

(I) find similarities and differences across texts such as in treatment, scope, or organization (4-8);

(J) distinguish fact and opinion in various texts (4-8);

(K) answer different types and levels of questions such as open-ended, literal, and interpretative as well as test-like questions such as multiple choice, true-false, and short answer (4-8); and

(L) represent text information in different ways such as in outline, timeline, or graphic organizer (4-8).

(11) Reading/literary response. The student expresses and supports responses to various types of texts. The student is expected to:

(A) offer observations, make connections, react, speculate, interpret, and raise questions in response to texts (4-8);

(B) interpret text ideas through such varied means as journal writing, discussion, enactment, media (4-8);

(C) support responses by referring to relevant aspects of text and his/her own experiences (4-8); and

(D) connect, compare, and contrast ideas, themes, and issues across text (4-8).

(12) Reading/text structures/literary concepts. The student analyzes the characteristics of various types of texts (genres). The student is expected to:

(A) judge the internal consistency or logic of stories and texts such as "Would this character do this?"; "Does this make sense here?" (4-5);

(B) recognize that authors organize information in specific ways (4-5);

(C) identify the purposes of different types of texts such as to inform, influence, express, or entertain (4-8);

(D) recognize the distinguishing features of genres, including biography, historical fiction, informational texts, and poetry (4-8);

(E) compare communication in different forms such as contrasting a dramatic performance with a print version of the same story or comparing story variants (2-8);

(F) understand and identify literary terms such as title, author, illustrator, playwright, theater, stage, act, dialogue, and scene across a variety of literary forms (texts) (3-5);

(G) understand literary forms by recognizing and distinguishing among such types of text as stories, poems, myths, fables, tall tales, limericks, plays, biographies, and autobiographies (3-7);

(H) analyze characters, including their traits, motivations, conflicts, points of view, relationships, and changes they undergo (4-8);

(I) recognize and analyze story plot, setting, and problem resolution (4-8); and

(J) describe how the author's perspective or point of view affects the text (4-8).

(13) Reading/inquiry/research. The student inquires and conducts research using a variety of sources. The student is expected to:

(A) form and revise questions for investigations, including questions arising from interests and units of study (4-5);

(B) use text organizers, including headings, graphic features, and tables of contents, to locate and organize information (4-8);

(C) use multiple sources, including electronic texts, experts, and print resources, to locate information relevant to research questions (4-8);

(D) interpret and use graphic sources of information such as maps, graphs, timelines, tables, and diagrams to address research questions (4-5);

(E) summarize and organize information from multiple sources by taking notes, outlining ideas, or making charts (4-8);

(F) produce research projects and reports in effective formats using visuals to support meaning, as appropriate (4-5);

(G) draw conclusions from information gathered from multiple sources (4-8); and

(H) use compiled information and knowledge to raise additional, unanswered questions (3-8).

(14) Reading/culture. The student reads to increase knowledge of his/her own culture, the culture of others, and the common elements of cultures. The student is expected to:

(A) compare text events with his/her own and other readers' experiences (4-8);

(B) determine distinctive and common characteristics of cultures through wide reading (4-8); and

(C) articulate and discuss themes and connections that cross cultures (4-8).

(15) Writing/purposes. The student writes for a variety of audiences and purposes, and in a variety of forms. The student is expected to:

(A) write to express, discover, record, develop, reflect on ideas, and to problem solve (4-8);

(B) write to influence such as to persuade, argue, and request (4-8);

(C) write to inform such as to explain, describe, report, and narrate (4-8);

(D) write to entertain such as to compose humorous poems or short stories (4-8);

(E) exhibit an identifiable voice in personal narratives and in stories (4-5); and

(F) choose the appropriate form for his/her own purpose for writing, including journals, letters, reviews, poems, narratives, and instructions (4-5).

(16) Writing/penmanship/capitalization/punctuation. The student composes original texts, applying the conventions of written language such as capitalization, punctuation, and penmanship to communicate clearly. The student is expected to:

(A) write legibly by selecting cursive or manuscript as appropriate (4-8); and

(B) capitalize and punctuate correctly to clarify and enhance meaning such as capitalizing titles, using possessives, commas in a series, commas in direct address, and sentence punctuation (4-5).

(17) Writing/spelling. The student spells proficiently. The student is expected to:

(A) write with accurate spelling of syllable constructions, including closed, open, consonant before -le, and syllable boundary patterns (3-6);

(B) write with accurate spelling of roots such as drink, speak, read, or happy, inflections such as those that change tense or number, suffixes such as -able or -less, and prefixes such as re- or un- (4-6);

(C) use resources to find correct spellings (4-8); and

(D) spell accurately in final drafts (4-8).

(18) Writing/grammar/usage. The student applies standard grammar and usage to communicate clearly and effectively in writing. The student is expected to:

(A) use regular and irregular plurals correctly (4-6);

(B) write in complete sentences, varying the types such as compound and complex to match meanings and purposes (4-5);

(C) employ standard English usage in writing for audiences, including subject-verb agreement, pronoun referents, and parts of speech (4-8);

(D) use adjectives (comparative and superlative forms) and adverbs appropriately to make writing vivid or precise (4-8);

(E) use prepositional phrases to elaborate written ideas (4-8);

(F) use conjunctions to connect ideas meaningfully (4-5);

(G) write with increasing accuracy when using apostrophes in contractions such as it's and possessives such as Jan's (4-8); and

(H) write with increasing accuracy when using objective case pronouns such as "Dan cooked for you and me." (4-5).

(19) Writing/writing processes. The student selects and uses writing processes for self-initiated and assigned writing. The student is expected to:

(A) generate ideas and plans for writing by using such prewriting strategies as brainstorming, graphic organizers, notes, and logs (4-8);

(B) develop drafts by categorizing ideas, organizing them into paragraphs, and blending paragraphs within larger units of text (4-8);

(C) revise selected drafts by adding, elaborating, deleting, combining, and rearranging text (4-8);

(D) revise drafts for coherence, progression, and logical support of ideas (4-8);

(E) edit drafts for specific purposes such as to ensure standard usage, varied sentence structure, and appropriate word choice (4-8);

(F) use available technology to support aspects of creating, revising, editing, and publishing texts (4-8);

(G) refine selected pieces frequently to "publish" for general and specific audiences (4-8);

(H) proofread his/her own writing and that of others (4-8); and

(I) select and use reference materials and resources as needed for writing, revising, and editing final drafts (4-8).

(20) Writing/evaluation. The student evaluates his/her own writing and the writings of others. The student is expected to:

- (A) apply criteria to evaluate writing (4-8);
- (B) respond in constructive ways to others' writings (4-8);
- (C) evaluate how well his/her own writing achieves its purposes (4-8);
- (D) analyze published examples as models for writing (4-8); and
- (E) review a collection of written works to determine its strengths and weaknesses and to set goals as a writer (4-8).

(21) Writing/inquiry/research. The student uses writing as a tool for learning and research. The student is expected to:

- (A) frame questions to direct research (4-8);
- (B) organize prior knowledge about a topic in a variety of ways such as by producing a graphic organizer (4-8);
- (C) take notes from relevant and authoritative sources such as guest speakers, periodicals, and on-line searches (4-8);
- (D) summarize and organize ideas gained from multiple sources in useful ways such as outlines, conceptual maps, learning logs, and timelines (4-8);
- (E) present information in various forms using available technology (4-8); and
- (F) evaluate his/her own research and raise new questions for further investigation (4-8).

(22) Writing/connections. The student interacts with writers inside and outside the classroom in ways that reflect the practical uses of writing. The student is expected to:

- (A) collaborate with other writers to compose, organize, and revise various types of texts, including letters, news, records, and forms (4-8); and
- (B) correspond with peers or others via e-mail or conventional mail (4-8).

(23) Viewing/representing/interpretation. The student understands and interprets visual images, messages, and meanings. The student is expected to:

- (A) describe how illustrators' choice of style, elements, and media help to represent or extend the text's meanings (4-8);

(B) interpret important events and ideas gathered from maps, charts, graphics, video segments, or technology presentations (4-8); and

(C) use media to compare ideas and points of view (4-8).

(24) Viewing/representing/analysis. The student analyzes and critiques the significance of visual images, messages, and meanings. The student is expected to:

(A) interpret and evaluate the various ways visual image makers such as graphic artists, illustrators, and news photographers represent meanings (4-5); and

(B) compare and contrast print, visual, and electronic media such as film with written story (4-8).

(25) Viewing/representing/production. The student produces visual images, messages, and meanings that communicate with others. The student is expected to:

(A) select, organize, or produce visuals to complement and extend meanings (4-8); and

(B) produce communications using technology or appropriate media such as developing a class newspaper, multimedia reports, or video reports (4-8).

§111.16. Mathematics, Grade 4.

(a) Introduction.

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

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

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

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

(b) Knowledge and skills.

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

The student is expected to:

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

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

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

The student is expected to:

- (A) use concrete objects and pictorial models to generate equivalent fractions;
- (B) model fraction quantities greater than one using concrete objects and pictorial models;
- (C) compare and order fractions using concrete objects and pictorial models; and
- (D) relate decimals to fractions that name tenths and hundredths using concrete objects and pictorial models.

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

The student is expected to:

- (A) use addition and subtraction to solve problems involving whole numbers; and
- (B) add and subtract decimals to the hundredths place using concrete objects and pictorial models.

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

The student is expected to:

- (A) model factors and products using arrays and area models;
- (B) represent multiplication and division situations in picture, word, and number form;
- (C) recall and apply multiplication facts through 12×12 ;
- (D) use multiplication to solve problems (no more than two digits times two digits without technology); and
- (E) use division to solve problems (no more than one-digit divisors and three-digit dividends without technology).

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

The student is expected to:

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

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

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

The student is expected to:

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

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

(4.7) Patterns, relationships, and algebraic thinking. The student uses organizational structures to analyze and describe patterns and relationships.

The student is expected to describe the relationship between two sets of related data such as ordered pairs in a table.

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

The student is expected to:

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

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

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

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

The student is expected to:

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

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

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

(4.10) **Geometry and spatial reasoning.** The student recognizes the connection between numbers and their properties and points on a line.

The student is expected to locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths.

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

The student is expected to:

- (A) estimate and use measurement tools to determine length (including perimeter), area, capacity and weight/mass using standard units SI (metric) and customary;
- (B) perform simple conversions between different units of length, between different units of capacity, and between different units of weight within the customary measurement system;
- (C) use concrete models of standard cubic units to measure volume;
- (D) estimate volume in cubic units; and
- (E) explain the difference between weight and mass.

(4.12) **Measurement.** The student applies measurement concepts. The student measures time and temperature (in degrees Fahrenheit and Celsius).

The student is expected to:

- (A) use a thermometer to measure temperature and changes in temperature; and
- (B) use tools such as a clock with gears or a stopwatch to solve problems involving elapsed time.

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

The student is expected to:

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

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

The student is expected to:

- (A) identify the mathematics in everyday situations;
- (B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;
- (C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem; and
- (D) use tools such as real objects, manipulatives, and technology to solve problems.

(4.15) **Underlying processes and mathematical tools.** The student communicates about Grade 4 mathematics using informal language.

The student is expected to:

- (A) explain and record observations using objects, words, pictures, numbers, and technology; and
- (B) relate informal language to mathematical language and symbols.

(4.16) **Underlying processes and mathematical tools.** The student uses logical reasoning.

The student is expected to:

- (A) make generalizations from patterns or sets of examples and nonexamples; and
- (B) justify why an answer is reasonable and explain the solution process.

§112.6. Science, Grade 4.

(a) Introduction.

(1) In Grade 4, the study of science includes planning and implementing field and laboratory investigations using scientific methods, analyzing information, making informed decisions, and using tools such as compasses to collect information. Students also use computers and information technology tools to support scientific investigations.

(2) As students learn science skills, they identify components and processes of the natural world including properties of soil, effects of the oceans on land, and the role of the Sun as our major source of energy. In addition, students identify the physical properties of matter and observe the addition or reduction of heat as an example of what can cause changes in states of matter.

(3) Students learn the roles of living and nonliving components of simple systems and investigate differences between learned characteristics and inherited traits. They learn that adaptations of organisms that lived in the past may have increased some species' ability to survive.

(4) Science is a way of learning about the natural world. Students should know how science has built a vast body of changing and increasing knowledge described by physical, mathematical, and conceptual models, and also should know that science may not answer all questions.

(5) A system is a collection of cycles, structures, and processes that interact. Students should understand a whole in terms of its components and how these components relate to each other and to the whole. All systems have basic properties that can be described in terms of space, time, energy, and matter. Change and constancy occur in systems and can be observed and measured as patterns. These patterns help to predict what will happen next and can change over time.

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

(b) Knowledge and skills.

(1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to:

(A) demonstrate safe practices during field and laboratory investigations; and

(B) make wise choices in the use and conservation of resources and the disposal or recycling of materials.

(2) Scientific processes. The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:

(A) plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;

(B) collect information by observing and measuring;

(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;

(D) communicate valid conclusions; and

(E) construct simple graphs, tables, maps, and charts to organize, examine, and evaluate information.

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

(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information;

(B) draw inferences based on information related to promotional materials for products and services;

(C) represent the natural world using models and identify their limitations;

(D) evaluate the impact of research on scientific thought, society, and the environment; and

(E) connect Grade 4 science concepts with the history of science and contributions of scientists.

(4) Scientific processes. The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:

(A) collect and analyze information using tools including calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices, balances, and compasses; and

(B) demonstrate that repeated investigations may increase the reliability of results.

(5) Science concepts. The student knows that complex systems may not work if some parts are removed. The student is expected to:

(A) identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a light bulb in a circuit; and

(B) predict and draw conclusions about what happens when part of a system is removed.

(6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:

(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky;

(B) illustrate that certain characteristics of an object can remain constant even when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface; and

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

(7) Science concepts. The student knows that matter has physical properties. The student is expected to:

(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and

(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.

(8) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:

(A) identify characteristics that allow members within a species to survive and reproduce;

(B) compare adaptive characteristics of various species; and

(C) identify the kinds of species that lived in the past and compare them to existing species.

(9) Science concepts. The student knows that many likenesses between offspring and parents are inherited or learned. The student is expected to:

(A) distinguish between inherited traits and learned characteristics; and

(B) identify and provide examples of inherited traits and learned characteristics.

(10) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:

(A) identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow; and

(B) draw conclusions about "what happened before" using fossils or charts and tables.

(11) Science concepts. The student knows that the natural world includes earth materials and objects in the sky. The student is expected to:

(A) test properties of soils including texture, capacity to retain water, and ability to support life;

(B) summarize the effects of the oceans on land; and

(C) identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.

§113.6. Social Studies, Grade 4.

(a) Introduction.

(1) In Grade 4, students examine the history of Texas from the early beginnings to the present within the context of influences of the Western Hemisphere. 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 and 20th centuries. Students conduct a thorough study of regions in Texas and the Western Hemisphere that result from human activity and from physical features. A focus on the location, distribution, and patterns of economic activities and of settlement in Texas further enhances the concept of regions. Students describe how early Native Americans in Texas and the Western Hemisphere met their basic economic needs and identify economic motivations for European exploration and colonization and reasons for the establishment of Spanish missions. Students explain how Native Americans governed themselves and identify characteristics of Spanish and Mexican colonial 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 biographies; novels; speeches and letters; and poetry, songs, and artworks is encouraged. Selections may include a children's biography of Stephen F. Austin. Motivating resources are also 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 with the history and geography strands establishing a sense of time and a sense of place. Skills listed in the geography and social studies skills strands in subsection (b) of this section should be incorporated into the teaching of all essential knowledge and skills for social studies. A greater depth of understanding of complex content material can be attained when integrated social studies content from the various disciplines and critical-thinking skills are taught together.

(4) 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, §28.002(h).

(b) Knowledge and skills.

(1) History. The student understands the similarities and differences of Native-American groups in Texas and the Western Hemisphere before European exploration. The student is expected to:

(A) identify Native-American groups in Texas and the Western Hemisphere before European exploration and describe the regions in which they lived; and

(B) compare the ways of life of Native-American groups in Texas and the Western Hemisphere before European exploration.

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

(A) summarize reasons for European exploration and settlement of Texas and the Western Hemisphere;

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

(C) explain when, where, and why the Spanish established Catholic missions in Texas;

(D) identify the accomplishments of significant empresarios including Moses Austin, Stephen F. Austin, and Martín de León and explain their impact on the settlement of Texas; and

(E) identify the impact of Mexico's independence from Spain on the events in Texas.

(3) History. The student understands the causes and effects 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 battles of the Alamo and San Jacinto;

(B) describe the successes and problems of the Republic of Texas;

(C) explain the events that led to the annexation of Texas to the United States;

(D) explain the impact of the Mexican War on Texas; and

(E) identify leaders important to the founding of Texas as a republic and state, including Sam Houston, Mirabeau Lamar, and Anson Jones.

(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 and development of the cattle and oil industries;

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

(D) describe the effects of political, economic, and social changes on Native Americans in Texas.

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

(A) identify the impact of various issues and events on life in Texas such as urbanization, increased use of oil and gas, and the growth of aerospace and other technology industries; and

(B) identify the accomplishments of notable individuals such as Henry Cisneros, Miriam A. Ferguson, Audie Murphy, Cleto Rodríguez, and John Tower.

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

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

(B) translate geographic data into a variety of formats such as raw data to graphs and maps.

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

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

(B) describe a variety of regions in Texas and the Western Hemisphere such as landform, climate, and vegetation regions that result from physical characteristics; and

(C) compare the regions of Texas with regions of the United States and other parts of the world.

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

(A) identify clusters of settlement in Texas and explain their distribution;

(B) explain patterns of settlement at different time periods in Texas;

(C) describe the location of cities in Texas and explain their distribution, past and present; and

(D) explain the geographic factors that influence patterns of settlement and the distribution of population in Texas, past and present.

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

- (A) describe ways people have adapted to and modified their environment in Texas, past and present;
- (B) identify reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs; and
- (C) analyze the consequences of human modification of the environment in Texas, past and present.

(10) Economics. The student understands the basic economic patterns of early societies in Texas and the Western Hemisphere. The student is expected to:

- (A) explain the economic patterns of various early Native-American groups in Texas and the Western Hemisphere; and
- (B) explain the economic patterns of early European immigrants to Texas and the Western Hemisphere.

(11) Economics. The student understands the reasons for exploration and colonization. The student is expected to:

- (A) identify the economic motivations for European exploration and settlement in Texas and the Western Hemisphere; and
- (B) identify the economic motivations for Anglo-American colonization in Texas.

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

- (A) describe the development of the free enterprise system in Texas;
- (B) describe how the free enterprise system works in Texas; and
- (C) give examples of the benefits of the free enterprise system in Texas.

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

- (A) explain how people in different regions of Texas earn their living, past and present;
- (B) explain how geographic factors have influenced the location of economic activities in Texas;
- (C) analyze the effects of immigration, migration, and limited resources on the economic development and growth of Texas;

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

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

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

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

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

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

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

(15) 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 selected Native-American groups governed themselves; and

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

(16) Government. The student understands important ideas in historic documents of Texas. The student is expected to:

(A) identify the purposes and explain the importance of the Texas Declaration of Independence, the Texas Constitution, and the Treaty of Velasco; and

(B) identify and explain the basic functions of the three branches of state government.

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

(A) explain the meaning of selected patriotic symbols and landmarks of Texas, including the six flags over Texas, San José Mission, 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.

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

(A) explain how individuals can participate voluntarily in civic affairs at state and local levels;

(B) explain the role of the individual in state and local elections;

(C) identify the importance of historical figures such as Sam Houston, Barbara Jordan, and Lorenzo de Zavala who modeled active participation in the democratic process; and

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

(19) Citizenship. The student understands the importance of effective leadership in a democratic society. The student is expected to:

(A) identify leaders in state and local governments, including the governor, selected members of the Texas Legislature, and Texans who have been President of the United States, and their political parties; and

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

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

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

(B) identify customs, celebrations, and traditions of various culture groups in Texas; and

(C) summarize the contributions of people of various racial, ethnic, and religious groups in the development of Texas.

(21) 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, and Patillo Higgins and their contributions;

(B) describe how scientific discoveries and technological innovations have benefited individuals, businesses, and society in Texas; and

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

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

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

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

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

(D) identify different points of view about an issue or topic;

(E) identify the elements of frame of reference that influenced the participants in an event; and

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

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

(A) use social studies terminology correctly;

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

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

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

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

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

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

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

§114.2. Languages Other Than English, Elementary.

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

§115.6. Health Education, Grade 4.

(a) Introduction.

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

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

(b) Knowledge and skills.

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

- (A) identify the benefits of six major nutrients contained in foods;
- (B) identify information on menus and food labels;
- (C) differentiate between aerobic and anaerobic exercise;
- (D) explain the physical, mental, and social benefits of fitness;
- (E) explain how sleep affects academic performance; and
- (F) identify the importance of taking personal responsibility for developing and maintaining a personal health plan such as fitness, nutrition, stress management, and personal safety.

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

- (A) describe how health behaviors affect body systems; and
- (B) describe the basic function of major body systems such as the circulatory and digestive systems.

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

(A) identify characteristics of health information; and

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

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

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

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

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

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

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

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

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

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

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

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

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

(D) distinguish between communicable and noncommunicable diseases.

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

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

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

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

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

(B) describe ways technology can influence health.

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

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

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

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

(A) describe the qualities of a good friend;

(B) explain steps in conflict resolution;

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

(D) demonstrate healthy ways of gaining attention;

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

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

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

(H) demonstrate refusal skills.

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

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

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

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

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

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

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

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

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

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

§116.6. Physical Education, Grade 4.

(a) Introduction.

- (1) In Physical Education, students acquire the knowledge and skills for movement that provide the foundation for enjoyment, continued social development through physical activity, and access to a physically-active lifestyle. The student exhibits a physically-active lifestyle and understands the relationship between physical activity and health throughout the lifespan.
- (2) Fourth grade students learn to identify the components of health-related fitness. Students combine locomotor and manipulative skills in dynamic situations with body control. Students begin to identify sources of health fitness information and continue to learn about appropriate clothing and safety precautions in exercise settings.

(b) Knowledge and skills.

- (1) Movement. The student demonstrates competency in fundamental movement patterns and proficiency in a few specialized movement forms. The student is expected to:
 - (A) demonstrate changes in speed during straight, curved, and zig zag pathways in dynamic situations;
 - (B) catch an object while traveling such as catch a football pass on the run;
 - (C) combine shapes, levels, pathways, and locomotor patterns smoothly into repeatable sequences;
 - (D) jump and land for height and distance using key elements for creating and absorbing force such as bending knees, swinging arms, and extending;
 - (E) perform sequences that include traveling, showing good body control combined with stationary balances on various body parts;
 - (F) demonstrate body control in jumping and landing such as land on feet, bend knees, and absorb force;
 - (G) transfer weight along and over equipment with good body control;
 - (H) create a movement sequence with a beginning, middle, and end;
 - (I) perform basic folk dance steps such as grapevine, schottische, and step-together-step;
 - (J) travel into and out of a rope turned by others without hesitating; and
 - (K) demonstrate key elements in manipulative skills such as volleying, hand dribble, foot dribble, punt, striking with body part, racquet, or bat.

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

- (A) identify similar movement elements in sports skills such as underhand throwing and underhand volleyball serving;
- (B) identify ways movement concepts such as time, space, effort, and relationships can be used to refine movement skills;
- (C) make appropriate changes in performance based on feedback; and
- (D) describe key elements of mature movement patterns of throw for distance or speed such as catch, kick, strike, and jump.

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

- (A) describe and select physical activities that provide for enjoyment and challenge;
- (B) name the components of health-related fitness such as strength, endurance, and flexibility;
- (C) identify and demonstrate a variety of exercises that promote flexibility;
- (D) improve flexibility in shoulders, trunk, and legs;
- (E) participate in activities that develop and maintain muscular strength and endurance; and
- (F) identify opportunities for participation in physical activity in the community such as little league and parks and recreation.

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

- (A) describe the effects of exercise on heart rate through the use of manual pulse checking or heart rate monitors;
- (B) participate in moderate to vigorous physical activities on a daily basis;
- (C) identify methods for measuring cardiovascular endurance, muscular strength and endurance, and flexibility;
- (D) identify major muscle groups and the movements they cause;
- (E) describe the relationship between food intake and physical activity such as calories consumed and calories expended;

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

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

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

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

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

(A) use equipment safely and properly;

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

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

(D) identify potential risks associated with physical activities.

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

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

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

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

(A) follow rules, procedures, and etiquette;

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

(C) work independently and stay on task; and

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

§117.14. Art, Grade 4.

(a) Introduction.

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

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

(b) Knowledge and skills.

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

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

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

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

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

(B) design original artworks; and

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

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

(A) identify simple main ideas expressed in art;

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

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

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

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

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

§117.15. Music, Grade 4.

(a) Introduction.

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

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

(b) Knowledge and skills.

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

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

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

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

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

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

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

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

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

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

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

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

(A) create rhythmic and melodic phrases; and

(B) create simple accompaniments.

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

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

(B) perform music and movement from diverse cultures;

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

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

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

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

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

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

§117.16. Theatre, Grade 4.

(a) Introduction.

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

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

(b) Knowledge and skills.

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

- (A) relate sensory and emotional responses to theatre;
- (B) develop body awareness and spatial perceptions, using rhythmic and expressive movement;
- (C) respond to sounds, music, images, and the written word, using movement;
- (D) express emotions and ideas, using interpretive movements, sounds, and dialogue;
- (E) imitate and synthesize life experiences in dramatic play; and
- (F) represent environment, characterization, and actions.

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

- (A) demonstrate safe use of the voice and body;
- (B) describe clearly characters, their relationships, and their surroundings;
- (C) develop characters and assume roles in short improvised scenes, using imagination, personal experiences, heritage, literature, and history; and
- (D) dramatize literary selections in unison, pairs, and groups and create simple stories collaboratively through imaginative play in improvisations and story dramatizations, describing the characters, their relationships, and their environments and demonstrating a logical connection of events.

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

- (A) demonstrate the safe use of props, costumes, and visual elements, defining character, environment, action, and theme;
- (B) alter space to create suitable environments for play-making;
- (C) plan brief dramatizations collaboratively; and
- (D) interact cooperatively with others in brief dramatizations.

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

- (A) explain theatre as a reflection of life in particular times, places, and cultures; and
- (B) identify the role of live theatre, film, television, and electronic media in American society.

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

- (A) identify and apply appropriate audience behavior at performances;
- (B) define visual, aural, oral, and kinetic aspects of informal play-making and formal theatre and discuss these aspects as found in art, dance, and music;
- (C) compare and contrast the ways ideas and emotions are depicted in art, dance, music, and theatre and select movement, music, or visual elements to enhance classroom dramatizations; and
- (D) compare theatre artists and their contributions.

§126.3. Technology Applications, Grades 3-5.

(a) Introduction.

(1) The technology applications curriculum has four strands: foundations, information acquisition, work in solving problems, and communication.

(2) Through the study of technology applications foundations, including technology-related terms, concepts, and data input strategies, students learn to make informed decisions about technologies and their applications. The efficient acquisition of information includes the identification of task requirements; the plan for using search strategies; and the use of technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students communicate information in different formats and to diverse audiences. A variety of technologies will be used. Students will analyze and evaluate the results.

(b) Knowledge and skills.

(1) Foundations. The student demonstrates knowledge and appropriate use of hardware components, software programs, and their connections. The student is expected to:

(A) use technology terminology appropriate to the task;

(B) save and delete files, uses menu options and commands, and work with more than one software application;

(C) identify and describe the characteristics of digital input, processing, and output;

(D) delineate and make necessary adjustments regarding compatibility issues including, but not limited to, digital file formats and cross platform connectivity; and

(E) access remote equipment on a network such as a printer or other peripherals.

(2) Foundations. The student uses data input skills appropriate to the task. The student is expected to:

(A) use a variety of input devices such as mouse, keyboard, disk drive, modem, voice/sound recorder, scanner, digital video, CD-ROM, or touch screen;

(B) use proper keyboarding techniques such as correct hand and body positions and smooth and rhythmic keystroke patterns;

(C) demonstrate touch keyboarding techniques for operating the alphabetic, numeric, punctuation, and symbol keys as grade-level appropriate;

(D) produce documents at the keyboard, proofread, and correct errors;

(E) use language skills including capitalization, punctuation, spelling, word division, and use of numbers and symbols as grade-level appropriate; and

(F) demonstrate an appropriate speed on short timed exercises depending upon the grade level and hours of instruction.

(3) Foundations. The student complies with the laws and examines the issues regarding the use of technology in society. The student is expected to:

(A) follow acceptable use policies when using computers; and

(B) model respect of intellectual property by not illegally copying software or another individual's electronic work.

(4) Information acquisition. The student uses a variety of strategies to acquire information from electronic resources, with appropriate supervision. The student is expected to:

(A) apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies; and

(B) select appropriate strategies to navigate and access information on local area networks (LANs) and wide area networks (WANs), including the Internet and intranet, for research and resource sharing.

(5) Information acquisition. The student acquires electronic information in a variety of formats, with appropriate supervision. The student is expected to:

(A) acquire information including text, audio, video, and graphics; and

(B) use on-line help and documentation.

(6) Information acquisition. The student evaluates the acquired electronic information. The student is expected to:

(A) apply critical analysis to resolve information conflicts and validate information;

(B) determine the success of strategies used to acquire electronic information; and

(C) determine the usefulness and appropriateness of digital information.

(7) Solving problems. The student uses appropriate computer-based productivity tools to create and modify solutions to problems. The student is expected to:

(A) use software programs with audio, video, and graphics to enhance learning experiences;

(B) use appropriate software to express ideas and solve problems including the use of word processing, graphics, databases, spreadsheets, simulations, and multimedia; and

(C) use a variety of data types including text, graphics, digital audio, and video.

(8) Solving problems. The student uses research skills and electronic communication, with appropriate supervision, to create new knowledge. The student is expected to:

(A) use communication tools to participate in group projects;

(B) use interactive technology environments, such as simulations, electronic science or mathematics laboratories, virtual museum field trips, or on-line interactive lessons, to manipulate information; and

(C) participate with electronic communities as a learner, initiator, contributor, or mentor.

(9) Solving problems. The student uses technology applications to facilitate evaluation of work, both process and product. The student is expected to:

(A) use software features, such as on-line help, to evaluate work progress; and

(B) use software features, such as slide show previews, to evaluate final product.

(10) Communication. The student formats digital information for appropriate and effective communication. The student is expected to:

(A) use font attributes, color, white space, and graphics to ensure that products are appropriate for the defined audience;

(B) use font attributes, color, white space, and graphics to ensure that products are appropriate for the communication media including multimedia screen displays, Internet documents, and printed materials; and

(C) use appropriate applications including, but not limited to, spreadsheets and databases to develop charts and graphs by using data from various sources.

(11) Communication. The student delivers the product electronically in a variety of media, with appropriate supervision. The student is expected to:

(A) publish information in a variety of media including, but not limited to, printed copy, monitor display, Internet documents, and video; and

(B) use presentation software to communicate with specific audiences.

(12) Communication. The student uses technology applications to facilitate evaluation of communication, both process and product. The student is expected to:

(A) select representative products to be collected and stored in an electronic evaluation tool;

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

(C) create technology assessment tools to monitor progress of project such as checklists, timelines, or rubrics.