

TEXAS ESSENTIAL KNOWLEDGE AND SKILLS*

GRADE 5

§110.7. ENGLISH LANGUAGE ARTS AND READING, GRADE 5

(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 to interpret verbal and non-verbal messages, ask relevant questions, and make pertinent comments;
 - (B) follow, restate, and give oral instructions that include multiple action steps;
 - (C) give an organized presentation employing eye contact, speaking rate, volume, enunciation, natural gestures, and 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 consonant changes, including/t/ to/sh/ such as in select and selection and/k/ to/sh/ such as music and musician;
 - (ii) decoding multisyllabic words with closed syllables; open syllables; VCe syllable; vowel teams, including digraphs and diphthongs; r-controlled syllables; and final stable syllables;
 - (iii) decoding words using advanced knowledge of syllable division patterns;
 - (iv) decoding words using advanced knowledge of the influence of prefixes and suffixes on base words; and
 - (v) identifying and reading high-frequency words from a research-based list.
- (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, pronunciation, and word origin;
 - (B) use context within and beyond a sentence to determine the relevant meaning of unfamiliar words or multiple-meaning words; and
 - (C) identify the meaning of and use words with affixes such as trans-, super-, -ive, and -logy and roots such as geo and photo.
- (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.

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- (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, 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.
- (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; and
 - (C) analyze the author's use of print and graphic features to achieve specific purposes.

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- (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; 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, fiction, 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; and
 - (C) compose argumentative texts, including opinion essays, using genre characteristics and craft.
- (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;
 - (C) identify and gather relevant information from a variety of sources; and
 - (E) demonstrate understanding of information gathered.

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§111.7. MATHEMATICS, GRADE 5

(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, 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 positive rational numbers and understand relationships as related to place value. The student is expected to:
- (A) represent the value of the digit in decimals through the thousandths using expanded notation and numerals;
 - (B) compare and order two decimals to thousandths and represent comparisons using the symbols $>$, $<$, or $=$; and
 - (C) round decimals to tenths or hundredths.
- (3) Number and operations.** The student applies mathematical process standards to develop and use strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy. The student is expected to:
- (A) estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division;
 - (B) multiply with fluency a three-digit number by a two-digit number using the standard algorithm;
 - (C) solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm.
- (4) Algebraic reasoning.** The student applies mathematical process standards to develop concepts of expressions and equations.
- (G) use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$).

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(b) KNOWLEDGE AND SKILLS

(6) Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

(B) determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base.

(7) Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

(8) Geometry and measurement. The student applies mathematical process standards to identify locations on a coordinate plane. The student is expected to:

(A) describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point $(0, 0)$; the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin;

(B) describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane; and

(C) graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

(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 categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots.

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§112.16. SCIENCE, GRADE 5

(b) KNOWLEDGE AND SKILLS

- (2) Scientific investigation and reasoning.** The student uses scientific practices during laboratory and outdoor investigations.
- (3) Scientific investigation and reasoning.** The student uses critical thinking and scientific problem solving to make informed decisions.
- (4) Scientific investigation and reasoning.** The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices; and materials to support observations of habitats or organisms such as terrariums and aquariums.
- (5) Matter and energy.** The student knows that matter has measurable physical properties and those properties determine how matter is classified, changed, and used. The student is expected to:
- (A) classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy.
- (7) Earth and space.** The student knows Earth's surface is constantly changing and consists of useful resources. The student is expected to:
- (B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, or ice.
- (8) Earth and space.** The student knows that there are recognizable patterns in the natural world and among the Sun, Earth, and Moon system. The student is expected to:
- (B) explain how the Sun and the ocean interact in the water cycle.
- (9) Organisms and environments.** The student knows that there are relationships, systems, and cycles within environments. The student is expected to:
- (A) observe the way organisms live and survive in their ecosystem by interacting with the living and nonliving components.

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