# Grade 3 Reading

Refer to the *TAKS Information Booklet* Reading Grades 3-6 for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate a basic understanding of culturally diverse written texts.

(3.5) **Reading/word identification.** The student uses a variety of word identification strategies. The student is expected to

(D) use root words and other structural cues such as prefixes, suffixes, and derivational endings to recognize words (3); and

(E) use knowledge of word order (syntax) and context to support word identification and confirm word meaning (1-3).

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

(B) read from a variety of genres [for pleasure and] to acquire information [from both print and electronic sources] (2-3).

(3.8) **Reading/vocabulary development.** The student develops an extensive vocabulary. The student is expected to

(C) use [resources and references such as beginners' dictionaries, glossaries, available technology, and] context to build word meanings and to confirm pronunciations of words (2-3); and

(D) demonstrate knowledge of synonyms, antonyms, and multi-meaning words [for example, by sorting, classifying, and identifying related words] (3).

(3.9) **Reading/comprehension.** The student uses a variety of strategies to comprehend selections read aloud and selections read independently. The student is expected to

(C) retell [or act out the order of] important events in stories (K-3); and

(H) produce summaries of text selections (2-3).

## Objective 2: The student will apply knowledge of literary elements to understand culturally diverse written texts.

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

(H) analyze characters, including their traits, feelings, relationships, and changes (1-3);

(I) identify the importance of the setting to a story's meaning (1-3); and

(J) recognize the story problem(s) or plot (1-3).

## Grade 3 Reading (continued)

**Objective 3: The student will use a variety of strategies to analyze culturally diverse written texts.**

(3.9) **Reading/comprehension.** The student uses a variety of strategies to comprehend selections read aloud and selections read independently. The student is expected to

(C) retell [or act out] the order of important events in stories (K-3); and

(I) represent text information in different ways, including story maps, graphs, and charts (2-3).

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

(A) distinguish different forms of texts, including lists, newsletters, and signs and the functions they serve (K-3); and

(C) recognize the distinguishing features of familiar genres, including stories, [poems], and informational texts (1-3).

**Objective 4: The student will apply critical-thinking skills to analyze culturally diverse written texts.**

(3.9) **Reading/comprehension.** The student uses a variety of strategies to comprehend selections read aloud and selections read independently. The student is expected to

(F) make and explain inferences from texts such as determining important ideas, causes and effects, making predictions, and drawing conclusions (1-3); and

(J) distinguish fact from opinion in various texts, including news stories and advertisements (3).

(3.10) **Reading/literary response.** The student responds to various texts. The student is expected to

(C) support interpretations or conclusions with examples drawn from text (2-3).

# Grade 3 Mathematics

Refer to the *TAKS Information Booklet* Mathematics Grades 3-6 for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.

(3.1) **Number, operation, and quantitative reasoning.** The student uses place value to communicate about increasingly large whole numbers in verbal and written form, including money. The student is expected to

(A) use place value to read, write (in symbols and words), and describe the value of whole numbers through 999,999;

(B) use place value to compare and order whole numbers through 9,999; and

(C) determine the value of a collection of coins and bills.

(3.2) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols to describe fractional parts of whole objects or sets of objects. The student is expected to

(B) compare fractional parts of whole objects or sets of objects in a problem situation using [concrete] models; and

(C) use fractions names and symbols to describe fractional parts of whole objects or sets of objects with denominators of 12 or less.

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

(A) model addition and subtraction using pictures, words, and numbers; and

(B) select addition or subtraction and use the operation to solve problems involving whole numbers through 999.

(3.4) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. The student is expected to

(B) solve and record multiplication problems (one-digit multiplier); and

(C) use models to solve division problems and use number sentences to record the solutions.

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

(A) round two-digit numbers to the nearest ten and three-digit numbers to the nearest hundred; and

(B) estimate sums and differences beyond basic facts.

## Grade 3 Mathematics (continued)

**Objective 2: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.**

(3.6) **Patterns, relationships, and algebraic thinking.** The student uses patterns to solve problems. The student is expected to

(A) identify and extend whole-number and geometric patterns to make predictions and solve problems;

(B) identify patterns in multiplication facts using [concrete objects,] pictorial models, [or technology]; and

(C) identify patterns in related multiplication and division sentences (fact families) such as $2 \times 3 = 6$, $3 \times 2 = 6$, $6 \div 2 = 3$, $6 \div 3 = 2$.

(3.7) **Patterns, relationships, and algebraic thinking.** The student uses lists, tables, and charts to express patterns and relationships. The student is expected to

(A) generate a table of paired numbers based on a real-life situation such as insects and legs; and

(B) identify patterns in a table of related number pairs based on a real-life situation and extend the table.

**Objective 3: The student will demonstrate an understanding of geometry and spatial reasoning.**

(3.8) **Geometry and spatial reasoning.** The student uses formal geometric vocabulary. The student is expected to

(A) name, describe, and compare shapes and solids using formal geometric vocabulary.

(3.9) **Geometry and spatial reasoning.** The student recognizes congruence and symmetry. The student is expected to

(A) identify congruent shapes; and

(C) identify lines of symmetry in shapes.

(3.10) **Geometry and spatial reasoning.** The student recognizes that numbers can be represented by points on a line. The student is expected to

(A) locate and name points on a line using whole numbers [and fractions such as halves].

**Objective 4: The student will demonstrate an understanding of the concepts and uses of measurement.**

(3.11) **Measurement.** The student selects and uses appropriate units and procedures to measure length and area. The student is expected to

(A) estimate and measure lengths using standard units such as inch, foot, yard, centimeter, [decimeter,] and meter;

(B) use linear measure to find the perimeter of a shape; and

(C) use [concrete] models of square units to determine the area of shapes.

(3.12) **Measurement.** The student measures time and temperature. The student is expected to

(A) tell and write time shown on traditional and digital clocks; and

(B) use a thermometer to measure temperature.

(3.13) **Measurement.** The student applies measurement concepts. The student is expected to

(A) measure to solve problems involving length, [area,] temperature, and time.

## Objective 5: The student will demonstrate an understanding of probability and statistics.

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

(A) [collect,] organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data;

(B) interpret information from pictographs and bar graphs; and

(C) use data to describe events as more likely, less likely, or equally likely.

## Objective 6: The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.

(3.15) **Underlying processes and mathematical tools.** The student applies Grade 3 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) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; and

(C) select or develop an appropriate problem-solving 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.

(3.16) **Underlying processes and mathematical tools.** The student communicates about Grade 3 mathematics using informal language. The student is expected to

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

(3.17) **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world. The student is expected to

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

# Grade 4 Writing

Refer to the *TAKS Information Booklet* Writing Grades 4 and 7 for a more complete description of the objectives measured.

## Objective 1: The student will, within a given context, produce an effective composition for a specific purpose.

(4.15) **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);

(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); and

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

(4.16) **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).

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

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

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

## Objective 2: The student will produce a piece of writing that demonstrates a command of the conventions of spelling, capitalization, punctuation, grammar, usage, and sentence structure.

(4.16) **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

(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).

(4.17) **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); and

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

(4.18) **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).

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

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

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

## Objective 3: The student will recognize appropriate organization of ideas in written text.

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

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

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

## Objective 4: The student will recognize correct and effective sentence construction in written text.

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

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

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

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

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

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

## Objective 5: The student will recognize standard usage and appropriate word choice in written text.

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

(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); and

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

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

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

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

## Objective 6: The student will proofread for correct punctuation, capitalization, and spelling in written text.

(4.16) **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

(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).

(4.17) **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);

## Grade 4 Writing (continued)

(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); and

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

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

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

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

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

# Grade 4 Mathematics

Refer to the *TAKS Information Booklet* Mathematics Grades 3-6 for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.

(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 the millions place.

(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) generate equivalent fractions using [concrete and] pictorial models;

(B) model fraction quantities greater than one using [concrete materials and] pictures;

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

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

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

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

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

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

(D) use multiplication to solve problems involving two-digit numbers; and

(E) use division to solve problems involving one-digit divisors.

(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) estimate a product or quotient beyond basic facts.

**Objective 2: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.**

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

(B) solve division problems related to multiplication facts (fact families) such as 9 x 9 = 81 and 81 ÷ 9 = 9; and

(C) 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

(A) describe the relationship between two sets of related data such as ordered pairs in a table.

**Objective 3: The student will demonstrate an understanding of geometry and spatial reasoning.**

(4.8) **Geometry and spatial reasoning.** The student identifies and describes lines, shapes, and solids using formal geometric language. The student is expected to

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

(B) identify models of parallel and perpendicular lines; and

(C) describe shapes and solids in terms of vertices, edges, and faces.

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

(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 points on a number line. The student is expected to

(A) locate and name points on a number line using whole numbers, fractions such as halves and fourths, and decimals such as tenths.

**Objective 4: The student will demonstrate an understanding of the concepts and uses of measurement.**

(4.11) **Measurement.** The student selects and uses appropriate units and procedures to measure weight and capacity. The student is expected to

(A) estimate [and measure] weight using standard units including ounces, pounds, grams, and kilograms; and

(B) estimate [and measure] capacity using standard units including milliliters, liters, cups, pints, quarts, and gallons.

(4.12) **Measurement.** The student applies measurement concepts. The student is expected to

(A) measure to solve problems involving length, including perimeter, time, temperature, and area.

## Objective 5: The student will demonstrate an understanding of probability and statistics.

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

(A) list all possible outcomes of a probability experiment such as tossing a coin;

(B) use a pair of numbers to compare favorable outcomes to all possible outcomes such as four heads out of six tosses of a coin; and

(C) interpret bar graphs.

## Objective 6: The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.

(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) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; and

(C) select or develop an appropriate problem-solving 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.

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

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

(4.16) **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world. The student is expected to

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

# Grade 4 Reading

Refer to the *TAKS Information Booklet* Reading Grades 3-6 for a more complete description of the objectives measured.

**Objective 1: The student will demonstrate a basic understanding of culturally diverse written texts.**

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

(B) draw on experiences to bring meanings to words in context such as interpreting figurative language and multiple-meaning words (4-5); and

(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-*, and *un-* (4-8).

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

(F) determine a text's main (or major) ideas and how those ideas are supported with details (4-8); and

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

**Objective 2: The student will apply knowledge of literary elements to understand culturally diverse written texts.**

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

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

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

**Objective 3: The student will use a variety of strategies to analyze culturally diverse written texts.**

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

(E) use the text's structure or progression of ideas such as cause and effect or chronology to locate and recall information (4-8);

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

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

## Grade 4 Reading (continued)

(4.12) **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);

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

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

**Objective 4: The student will apply critical-thinking skills to analyze culturally diverse written texts.**

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

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

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

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

(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).

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

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

# Grade 5 Mathematics

Refer to the *TAKS Information Booklet* Mathematics Grades 3-6 or Mathematics Grades 5-9 for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate an understanding of numbers, operations, and quantitative reasoning.

(5.1) **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 the billions place; and

(B) use place value to read, write, compare, and order decimals through the thousandths place.

(5.2) **Number, operation, and quantitative reasoning.** The student uses fractions in problem-solving situations. The student is expected to

(A) generate equivalent fractions;

(B) compare two fractional quantities in problem-solving situations using a variety of methods, including common denominators; and

(C) use models to relate decimals to fractions that name tenths, hundredths, and thousandths.

(5.3) **Number, operation, and quantitative reasoning.** The student adds, subtracts, multiplies, and divides to solve meaningful problems. The student is expected to

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

(B) use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology);

(C) use division to solve problems involving whole numbers (no more than two-digit divisors and three-digit dividends without technology);

(D) identify prime factors of a whole number and common factors of a set of whole numbers; and

(E) model and record addition and subtraction of fractions with like denominators in problem-solving situations.

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

(A) round whole numbers and decimals through tenths to approximate reasonable results in problem situations; and

(B) estimate to solve problems where exact answers are not required.

## Grade 5 Mathematics (continued)

**Objective 2: The student will demonstrate an understanding of patterns, relationships, and algebraic reasoning.**

(5.5) **Patterns, relationships, and algebraic thinking.** The student makes generalizations based on observed patterns and relationships. The student is expected to

(A) use [concrete objects or] pictures to make generalizations about determining all possible combinations;

(B) use lists, tables, charts, and diagrams to find patterns and make generalizations such as a procedure for determining equivalent fractions; and

(C) identify prime and composite numbers using [concrete] models and patterns in factor pairs.

(5.6) **Patterns, relationships, and algebraic thinking.** The student describes relationships mathematically. The student is expected to

(A) select from and use diagrams and number sentences to represent real-life situations.

**Objective 3: The student will demonstrate an understanding of geometry and spatial reasoning.**

(5.7) **Geometry and spatial reasoning.** The student generates geometric definitions using critical attributes. The student is expected to

(A) identify critical attributes including parallel, perpendicular, and congruent parts of geometric shapes and solids; and

(B) use critical attributes to define geometric shapes or solids.

(5.8) **Geometry and spatial reasoning.** The student models transformations. The student is expected to

(A) sketch the results of translations, rotations, and reflections; and

(B) describe the transformation that generates one figure from the other when given two congruent figures.

(5.9) **Geometry and spatial reasoning.** The student recognizes the connection between ordered pairs of numbers and locations of points on a plane. The student is expected to

(A) locate and name points on a coordinate grid using ordered pairs of whole numbers.

**Objective 4: The student will demonstrate an understanding of the concepts and uses of measurement.**

(5.10) **Measurement**. The student selects and uses appropriate units and procedures to measure volume. The student is expected to

(A) measure volume using [concrete] models of cubic units.

## Grade 5 Mathematics (continued)

(5.11) **Measurement.** The student applies measurement concepts. The student is expected to

(A) measure to solve problems involving length (including perimeter), weight, capacity, time, temperature, and area; and

(B) describe numerical relationships between units of measure within the same measurement system such as an inch is one-twelfth of a foot.

### Objective 5: The student will demonstrate an understanding of probability and statistics.

(5.12) **Probability and statistics.** The student describes and predicts the results of a probability experiment. The student is expected to

(A) use fractions to describe the results of an experiment; and

(B) use experimental results to make predictions.

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

(A) use tables of related number pairs to make line graphs;

(B) describe characteristics of data presented in tables and graphs including the shape and spread of the data and the middle number; and

(C) graph a given set of data using an appropriate graphical representation such as a picture or line.

### Objective 6: The student will demonstrate an understanding of the mathematical processes and tools used in problem solving.

(5.14) **Underlying processes and mathematical tools.** The student applies Grade 5 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) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness; and

(C) select or develop an appropriate problem-solving 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.

(5.15) **Underlying processes and mathematical tools.** The student communicates about Grade 5 mathematics using informal language. The student is expected to

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

(5.16) **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world. The student is expected to

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

# Grade 5 Science

Refer to the *TAKS Information Booklet* Science Grades 5, 10, and 11 Exit Level for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate an understanding of the nature of science.

(3.1, 4.1, 5.1) **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.

(5.2) **Scientific processes.** The student uses scientific methods during field and laboratory investigations. The student is expected to

(A) plan and implement descriptive and simple experimental 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 using tools [including computers] to organize, examine, and evaluate information.

(3.3, 4.3, 5.3) **Scientific processes.** The student uses critical thinking and scientific problemsolving 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; and

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

(5.4) **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, microscopes, [cameras, sound recorders, computers,] hand lenses, rulers, thermometers, compasses, balances, [hot plates,] meter sticks, timing devices, magnets, collecting nets, and safety goggles.

## Objective 2: The student will demonstrate an understanding of the life sciences.

(5.10) **Science concepts.** The student knows that likenesses between offspring and parents can be inherited or learned. The student is expected to

(A) identify traits that are inherited from parent to offspring in plants and animals; and

(B) give examples of learned characteristics that result from the influence of the environment.

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

(A) compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem;

(B) analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem; and

(C) predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem.

(5.6) **Science concepts.** The student knows that some change occurs in cycles. The student is expected to

(C) describe and compare life cycles of plants and animals.

(3.8) **Science concepts.** The student knows that living organisms need food, water, light, air, a way to dispose of waste, and an environment in which to live. The student is expected to

(A) observe and describe the habitats of organisms within an ecosystem;

(B) observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space;

(C) describe environmental changes in which some organisms would thrive, become ill, or perish; and

(D) describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home.

(2.9) **Science concepts.** The student knows that living organisms have basic needs. The student is expected to

(A) identify the external characteristics of different kinds of plants and animals that allow their needs to be met; and

(B) compare and give examples of the ways living organisms depend on each other and on their environments.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(4.6) **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.

## Grade 5 Science (continued)

**Objective 3: The student will demonstrate an understanding of the physical sciences .**

(5.8) **Science concepts.** The student knows that energy occurs in many forms. The student is expected to

(A) differentiate among forms of energy including light, heat, electrical, and solar energy;

(B) identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses;

(C) demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects; and

(D) verify that vibrating an object can produce sound.

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

(A) classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound;

(B) demonstrate that some mixtures maintain the physical properties of their ingredients;

(C) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water; and

(D) observe and measure characteristic properties of substances that remain constant such as boiling points and melting points.

(3.6) **Science concepts.** The student knows that forces cause change. The student is expected to

(A) measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull has been applied.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(4.6) **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.

**Objective 4: The student will demonstrate an understanding of the earth sciences.**

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

(A) interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering; and

(C) identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon.

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

(A) identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow;

(B) draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences; and

(C) identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources.

(5.6) **Science concepts.** The student knows that some change occurs in cycles. The student is expected to

(A) identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles; and

(B) identify the significance of the water, carbon, and nitrogen cycles.

(4.11) **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.

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

(A) identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources;

(C) identify the planets in our solar system and their position in relation to the Sun; and

(D) describe the characteristics of the Sun.

(3.6) **Science concepts.** The student knows that forces cause change. The student is expected to

(B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.

(5.5) **Science concepts.** The student knows that a system is a collection of cycles, structures, and processes that interact. The student is expected to

(A) describe some cycles, structures, and processes that are found in a simple system; and

(B) describe some interactions that occur in a simple system.

(4.6) **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.

# Grade 5 Reading

Refer to the *TAKS Information Booklet* Reading Grades 3-6 or Reading Grades 5-8 for a more complete description of the objectives measured.

## Objective 1: The student will demonstrate a basic understanding of culturally diverse written texts.

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

(B) draw on experiences to bring meanings to words in context such as interpreting figurative language and multiple-meaning words (4-5); and

(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-*, and *un-* (4-8).

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

(F) determine a text's main (or major) ideas and how those ideas are supported with details (4-8); and

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

## Objective 2: The student will apply knowledge of literary elements to understand culturally diverse written texts.

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

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

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

## Objective 3: The student will use a variety of strategies to analyze culturally diverse written texts.

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

(E) use the text's structure or progression of ideas such as cause and effect or chronology to locate and recall information (4-8);

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

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

## Grade 5 Reading (continued)

(5.12) **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);

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

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

**Objective 4: The student will apply critical-thinking skills to analyze culturally diverse written texts.**

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

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

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

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

(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).

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

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