

**Oklahoma School Testing Program**  
**Oklahoma Core Curriculum Tests (OCCT)**  
**Grade 5 Mathematics, Reading,**  
**and Science**

**PARENT, STUDENT, AND TEACHER GUIDE**



School Year 2012–2013

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Oklahoma State Department of Education

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2013 School Year**

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April 10–24, 2013**

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**STATE SUPERINTENDENT OF PUBLIC INSTRUCTION  
STATE OF OKLAHOMA**

Dear Parent/Guardian and Student:

Soon students will be participating in the Oklahoma Core Curriculum Tests. These tests are designed to measure knowledge in Mathematics, Reading, Science, and Writing. Social Studies will be administered as a field test this year.

Parents/guardians will receive a report on their child's performance on the tests. This report will indicate their child's areas of strength as well as areas needing improvement.

This guide provides a list of test-taking tips, objectives covered in the test, and practice tests. Parents/guardians are encouraged to discuss these materials with their child to help prepare them for the tests. During the test week, it is very important for each child to get plenty of sleep, eat a good breakfast, and arrive at school on time.

If you have any questions about the Oklahoma Core Curriculum Tests, please contact your local school or the State Department of Education.

Sincerely,  
Your State Superintendent of Public Instruction

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## The Oklahoma Core Curriculum Tests

The Governor, state legislators, and other Oklahoma elected officials have committed themselves to ensuring that all Oklahoma students receive the opportunity to learn the skills required to succeed in school and in the workplace. To achieve this goal, schools must prepare every Oklahoma student for colleges, universities, and jobs that require new and different skills.

Under the direction of the Legislature, Oklahoma teachers, parents, and community leaders met to agree upon the skills that students are expected to master by the end of each grade. The results of their efforts, *Oklahoma C<sup>3</sup> Standards* provide the basis for Oklahoma's core curriculum.

In addition, the Legislature established the criterion-referenced test component of the Oklahoma School Testing Program to measure students' progress in mastering the *Oklahoma C<sup>3</sup>* standards and objectives. Tests have been developed by national test publishers that specifically measure the *Oklahoma C<sup>3</sup>* standards and objectives at Grade 5. Teachers from throughout Oklahoma have been involved in the review, revision, and approval of the questions that are included in the tests.

The Oklahoma Core Curriculum Tests (OCCT), a criterion-referenced testing program, compares a student's performance with performance standards established by the State Board of Education. These standards, referred to as the Oklahoma Performance Index, or OPI, identify specific levels of performance required on each test. These standards are based upon reviews from groups of Oklahoma educators and citizens who evaluated the tests and made recommendations.

In the content areas of Mathematics and Reading, a student's test performance is reported according to one of four performance levels: Advanced, Proficient, Limited Knowledge, and Unsatisfactory. In the content area of Science, the four performance levels include: Advanced, Satisfactory, Limited Knowledge, and Unsatisfactory.

This year, students in Grade 5 will take Multiple-Choice tests in Mathematics, Reading, and Science.

This guide provides an opportunity for parents, students, and teachers to become familiar with how these skills in these subject areas will be assessed. It presents general test-taking tips, lists the *Oklahoma C<sup>3</sup>* standards and objectives that are eligible for assessment in a statewide testing program, gives a blueprint for the tests, and provides practice test questions. Finally, information regarding preparing for testing to the Common Core State Standards is presented.

## Test-Taking Tips

The following tips provide effective strategies for taking the Oklahoma Core Curriculum Tests. Test-taking skills cannot replace studying based on the *Oklahoma C<sup>3</sup>* standards and objectives, which serve as the foundation for the tests.

### General Test-Taking Tips:

- DO...** read this guide carefully and complete the practice tests.
- DO...** make sure you understand all test directions. If you are uncertain about any of the directions, raise your hand to ask questions before testing has started.
- DON'T...** wait until the last minute to study for the test. These tests cover a lot of material, and you cannot learn it all in a short amount of time.
- DON'T...** worry about the tests. Students who are calm and sure of themselves do better on tests.

### Tips for the Multiple-Choice Tests:

- DO...** read each question and every answer choice carefully. Choose the best answer for each question.
- DO...** check your work if you finish your test early. Use the extra time to answer any questions that you skipped.
- DO...** read the selections on the Reading test carefully.
- DO...** underline, mark, make notes, or work problems in your test book if needed.
- DO...** mark all your answers on the answer sheet. Make sure the question number in the test book matches the test number on the answer sheet.
- DO...** remember that if you cannot finish the test within the time allotted, you will be given additional time to complete the test.
- DON'T...** spend too much time on any one question. If a question takes too long to answer, skip it and answer the other questions. You can return to any skipped questions after you have finished all other questions.

## The Multiple-Choice Tests

Each year, students in Grade 5 take Multiple-Choice Tests in Mathematics, Reading, and Science. Social Studies will be administered as a field test this year.

Each Multiple-Choice subject test is divided into two separate sections. These two sections of the test may be administered on the same day with a break given between the sections or on consecutive days. Students should have enough time to complete all sections. Students may be given additional time if needed, but additional time will be given as an extension of the same testing period, not at a different time.

Students who finish early need to make sure their work is complete and are encouraged to check and verify their answers prior to closing their test books. Students will not be allowed to reopen their test books once they have been closed for a given test session.

The following sections

- list the *Oklahoma C<sup>3</sup> Standards* that are eligible for Multiple-Choice testing in each subject area.
- reproduce the student directions.
- present practice test questions for each subject.
- provide information about preparing for testing to the Common Core State Standards.

## Oklahoma C<sup>3</sup> Standards

The *Oklahoma C<sup>3</sup> Standards* that are eligible for testing in the Grade 5 Multiple-Choice Tests for each subject area are presented below. They represent the portion of the Oklahoma core curriculum in these subject areas that is assessed on the Oklahoma Core Curriculum Tests. The skills are grouped into standards with specific objectives listed under each one. Student performance on the Multiple-Choice Tests is reported at the standard and objective levels in all subject areas. In Mathematics, student performance is reported by the content standards. In Science, student performance is reported by the process standards.

Please note that not all *Oklahoma C<sup>3</sup> standards* and objectives are appropriate for the statewide assessment. This guide includes only the *Oklahoma C<sup>3</sup> standards* and objectives that are assessed by the OCCT and are based on the 2011 revision for Science, the 2009 revision for Mathematics, and the 2010 revision for Reading.

### ***Mathematics (Process)—Grade 5***

#### **Process Standard 1: Problem Solving**

1. Use problem-solving approaches (e.g., act out situations, represent problems with drawings and lists, use concrete, pictorial, graphical, oral, written, and/or algebraic models, understand a problem, devise a plan, carry out the plan, look back).

2. Formulate problems from everyday and mathematical situations (e.g., how many forks are needed?, how many students are absent?, how can we share/divide these cookies?, how many different ways can we find to compare these fractions?).
3. Develop, test, and apply strategies to solve a variety of routine and non-routine problems (e.g., look for patterns, make a table, make a problem simpler, process of elimination, trial and error).
4. Verify and interpret results with respect to the original problem (e.g., students explain verbally why an answer makes sense, explain in a written format why an answer makes sense, verify the validity of each step taken to obtain a final result).
5. Distinguish between necessary and irrelevant information in solving problem (e.g., play games and discuss “best” clues, write riddles with sufficient information, identify unnecessary information in written story problems).

**Process Standard 2: Communication**

1. Express mathematical ideas coherently and clearly to peers, teachers, and others (e.g., with verbal ideas, models or manipulatives, pictures, or symbols).
2. Extend mathematical knowledge by considering the thinking and strategies of others (e.g., agree or disagree, rephrase another student’s explanation, analyze another student’s explanation).
3. Relate manipulatives, pictures, diagrams, and symbols to mathematical ideas.
4. Represent, discuss, write, and read mathematical ideas and concepts. Start by relating everyday language to mathematical language and symbols and progress toward the use of appropriate terminology (e.g., “add more” becomes “plus”, “repeated addition” becomes “multiplication”, “fair share” becomes “divide”, “balance the equation” becomes “solve the equation”).

**Process Standard 3: Reasoning**

1. Explain mathematical situations using patterns and relationships (e.g., identify patterns in situations, represent patterns in a variety of ways, extend patterns to connect with more general cases).
2. Demonstrate thinking processes using a variety of age-appropriate materials and reasoning processes (e.g., manipulatives, models, known facts, properties and relationships, inductive [specific to general], deductive [general to specific], spatial, proportional, logical reasoning [“and” “or” “not”], and recursive reasoning).
3. Make predictions and draw conclusions about mathematical ideas and concepts. Predictions become conjectures and conclusions become more logical as students mature mathematically.

**Process Standard 4: Connections**

1. Relate various concrete and pictorial models of concepts and procedures to one another (e.g., use two colors of cubes to represent addition facts for the number 5, relate patterns on a hundreds chart to multiples, use base-10 blocks to represent decimals).

2. Link concepts to procedures and eventually to symbolic notation (e.g., represent actions like snap, clap, clap with symbols A B B, demonstrate  $3 \cdot 4$  with a geometric array, divide a candy bar into 3 equal pieces that represent one piece as  $\frac{1}{3}$ ).
3. Recognize relationships among different topics within mathematics (e.g., the length of an object can be represented by a number, multiplication facts can be modeled with geometric arrays,  $\frac{1}{2}$  can be written as .5 and 50%).
4. Use mathematical strategies to solve problems that relate to other curriculum areas and the real world (e.g., use a timeline to sequence events, use symmetry in art work, explore fractions in quilt designs and to describe pizza slices).

**Process Standard 5: Representation**

1. Create and use a variety of representations appropriately and with flexibility to organize, record, and communicate mathematical ideas (e.g., dramatizations, manipulatives, drawings, diagrams, tables, graphs, symbolic representations).
2. Use representations to model and interpret physical, social, and mathematical situations (e.g., counters, pictures, tally marks, number sentences, geometric models; translate between diagrams, tables, charts, graphs).

**Mathematics (Content)—Grade 5**

**Standard 1: Algebraic Reasoning: Patterns and Relationships—The student will use algebraic methods to describe patterns and solve problems in a variety of contexts.**

1. Describe rules that produce patterns found in tables, graphs, and models, and use variables (e.g., boxes, letters, pawns, number cubes, or other symbols) to solve problems or to describe general rules in algebraic expression or equation form.
2. Use algebraic problem-solving techniques (e.g., use a balance to model an equation and show how subtracting a number from one side requires subtracting the same amount from the other side) to solve problems.
3. Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g.,  $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$ ).

**Standard 2: Number Sense and Operation—The student will use numbers and number relationships to acquire basic facts. The student will estimate and compute with whole numbers, fractions, and decimals.**

1. Number Sense
  - a. Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through thousandths.
  - b. Represent with models the connection between fractions and decimals compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems (e.g., use  $10 \times 10$  grids, base 10 blocks).
  - c. Identify and compare integers using real world situations (e.g., owing money, temperature, or measuring elevations above and below sea level).

2. Number Operations

- a. Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g.,  $3.72 + 1.4$ ,  $\$4.56 - \$2.12$ ).
- b. Estimate, add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).
- c. Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve problems.

**Standard 3: Geometry—The student will apply geometric properties and relationships.**

1. Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).
2. Classify angles (e.g., acute, right, obtuse, straight).

**Standard 4: Measurement—The student will use appropriate units of measure to solve problems in a variety of contexts.**

1. Measurement
  - a. Compare, estimate, and determine the measurement of angles.
  - b. Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.
  - c. Convert basic measurements of volume, mass, and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).
2. Money: Solve a variety of problems involving money.

**Standard 5: Data Analysis—The student will use data analysis, statistics, and probability to interpret data in a variety of contexts.**

1. Data Analysis
  - a. Compare and translate displays of data and justify the selection of the type of table or graph (e.g., charts, tables, bar graphs, pictographs, line graphs, circle graphs, Venn diagrams).
2. Probability
  - a. Determine the probability of events occurring in familiar contexts or experiments and express probabilities as fractions from zero to one (e.g., find the fractional probability of an event given a biased spinner).
  - b. Use the fundamental counting principle on sets with up to four items to determine the number of possible combinations (e.g., create a tree diagram to see possible combinations).
3. Central Tendency: Determine the range (spread), mode (most often), and median (middle) of a set of data.

**Oklahoma School Testing Program  
Oklahoma Core Curriculum Tests  
Grade 5 Mathematics  
Test Blueprint  
School Year 2012–2013**

The Test Blueprint reflects the degree to which each *Oklahoma C<sup>3</sup>* standard and objective is represented on the test. The overall distribution of operational items in a test form is intended to look as follows:

<i>Oklahoma C<sup>3</sup></i> Standards and Objectives	Ideal Number of Items*	Ideal Percentage of Items**	Reporting Category***
<b>Algebraic Reasoning: Patterns and Relationships</b>	<b>13</b>	<b>26%</b>	<b>13</b>
Algebra Patterns (1.1)	5		5
Equations (1.2)	4		4
Number Properties (1.3)	4		4
<b>Number Sense and Operation</b>	<b>16</b>	<b>32%</b>	<b>16</b>
Number Sense (2.1)	8		8
Number Operations (2.2)	8		8
<b>Geometry</b>	<b>7</b>	<b>14%</b>	<b>7</b>
Circles and Polygons (3.1)	4		4
Angles (3.2)	3		3
<b>Measurement</b>	<b>7</b>	<b>14%</b>	<b>7</b>
Measurement (4.1)	5		5
Money (4.2)	2		2
<b>Data Analysis</b>	<b>7</b>	<b>14%</b>	<b>7</b>
Data Analysis (5.1)	3		5
Probability (5.2)	2		
Central Tendency (5.3)	2		2
<b>Total Test</b>	<b>50</b>	<b>100%</b>	<b>50</b>

\* A minimum of 4 items is required to report results for an objective, and a minimum of 6 items is required to report a standard. While the actual numbers of items on the test may not match the blueprint exactly, each future test will move toward closer alignment with the ideal blueprint.

\*\* Percents are approximations and may result in a sum other than 100 due to rounding.

\*\*\* Objectives have been grouped for reporting purposes only.

The *Oklahoma C<sup>3</sup> Standards* correspond to the *PASS* standards. In 2014–2015 the Common Core State Standards will be assessed.

## Reading—Grade 5

**Reading/Literature: The student will apply a wide range of strategies to comprehend, interpret, evaluate, appreciate, and respond to a wide variety of texts.**

### **Standard 1: Vocabulary—The student will develop and expand knowledge of words and word meanings to increase vocabulary.**

1. Words in Context
  - a. Use knowledge of word parts and word relationships, as well as context clues (the meaning of the text around a word), to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words.
  - b. Use prior experience and context to understand and explain the figurative use of words and similes (comparisons that use like or as: *His feet were as big as boats*), and metaphors (implied comparisons: *The giant's steps were thunderous*).
2. Affixes, Roots, and Stems
  - a. Interpret new words by analyzing the meaning of prefixes and suffixes.
  - b. Apply knowledge of root words to determine the meaning of unknown words within a passage.
  - c. Use word origins, including knowledge of less common roots (*graph = writing, terras = earth*) and word parts (*hemi = half, bio = life*) from Greek and Latin to analyze the meaning of complex words (*terrain, hemisphere, biography*).
3. Synonyms, Antonyms, and Homonyms/Homophones

Apply knowledge of fifth grade level synonyms, antonyms, homonyms/homophones, and multiple meaning words to determine the meaning of words and phrases.

### **Standard 3: Comprehension/Critical Literacy—The student will interact with the words and concepts in the text to construct an appropriate meaning.**

1. Literal Understanding
  - a. Use prereading strategies independently (to preview, activate prior knowledge, predict content of text, formulate questions that might be answered by the text, and establish purpose for reading).
  - b. Read and comprehend both fiction and nonfiction that is appropriately designed for fifth grade.
  - c. Recognize main ideas presented in a particular segment of text; identify and assess evidence that supports those ideas.
  - d. Use the text's structure or progression of ideas such as cause and effect or chronology to organize or recall information.
2. Inferences and Interpretation
  - a. Apply prior knowledge and experience to make inferences and respond to new information presented in text.
  - b. Draw inferences and conclusions about text and support them with textual evidence and prior knowledge.

- c. Describe elements of character development in written works (e.g., differences between main and minor characters; changes that characters undergo; the importance of a character's actions, motives, stereotypes, and appearance to plot and theme).
  - d. Make inferences or draw conclusions about characters' qualities and actions (e.g., based on knowledge of plot, setting, characters' motives, characters' appearances, stereotypes, other characters' responses to a character).
3. Summary and Generalization
- a. Summarize and paraphrase information from entire reading selection including the main idea and significant supporting details.
  - b. Make generalizations with information gleaned from text.
  - c. Support ideas and arguments by reference to relevant aspects of text and issues across texts.
  - d. Organize text information in different ways (e.g., timeline, outline, graphic organizer) to support and explain ideas.
4. Analysis and Evaluation
- a. Identify and analyze the characteristics of poetry, drama, fiction, and nonfiction and explain the appropriateness of the literary form chosen by an author for a specific purpose.
  - b. Identify the main problem or conflict of the plot and explain how it is resolved.
  - c. Contrast the actions, motives, and appearances of characters in a work of fiction and discuss the importance of the contrasts to the plot or theme.
  - d. Make observations and connections, react, speculate, interpret, and raise questions in analysis of texts.
  - e. Recognize structural patterns found in information text (e.g., cause/effect, problem/solution, sequential order).
  - f. Distinguish among facts and inferences supported by evidence and opinions in text.

**Standard 4: Literature—The student will read to contrast meaning and respond to a wide variety of literary forms.**

1. Literary Genres—Demonstrate knowledge of and appreciation for various forms (genres) of literature.
- a. Recognize characteristics of literary genres and forms (e.g., contemporary realistic fiction, historical fiction, nonfiction, modern fantasy, poetry, drama, and traditional stories such as fairy tales, fables, myths, and legends).
  - b. Read and construct meaning from a variety of genres.
  - c. Demonstrate an understanding of similarities and differences within and among literary works of various genres and cultures (e.g., in terms of settings, character types, events, and role of natural phenomena).

2. Literary Elements—Demonstrate knowledge of literary elements and techniques and how they affect the development of a literary work.
  - a. Develop a knowledge of the literary elements of fiction (plot, problems, attempts to resolve conflicts, resolution, etc.) and the text structure of nonfiction (compare/contrast, cause/effect, sequence, main idea, and details).
  - b. Compare/contrast genres, themes, ideas, and story elements across texts read, listened to, or viewed.
  - c. Identify the author’s purpose (persuade, inform, or entertain).
  - d. Recognize and identify the writer’s perspective or point of view in a literary selection (e.g., first person, second person) and how it affects the text.
3. Figurative Language and Sound Devices—Identify figurative language and sound devices in writing and how they affect the development of a literary work.
  - a. Identify and discuss certain words and rhythmic patterns that can be used in a selection to imitate sounds (e.g., rhythm, rhyme, alliteration).
  - b. Evaluate and identify figurative language, such as simile, metaphors, hyperbole, personification, and idioms.
    - Simile: a comparison that uses *like* or *as*.
    - Metaphor: an implied comparison.
    - Hyperbole: an exaggeration for effect.
    - Personification: a description that represents a thing as a person.
    - Idioms: an expression that does not mean what it literally says.
  - c. Identify the function and effect of common literary devices, such as imagery, metaphor, and symbolism.
    - Symbolism: the use of an object to represent something else; for example, a dove might symbolize peace.
    - Imagery: the use of language to create vivid pictures in the reader’s mind.
    - Metaphor: an implied comparison in which a word or phrase is used in place of another, such as *He was drowning in money*.
  - d. Interpret poetry and recognize poetic styles (e.g., rhymed, free verse, and patterned [cinquain, diamante]).

**Standard 5: Research and Information—The student will conduct research and organize information.**

1. Accessing Information—Select the best source for a given purpose.
  - a. Determine and use appropriate sources for accessing information including, dictionaries, thesaurus, library catalogs and databases, magazines, newspapers, technology/Internet, encyclopedias, atlases, almanacs, tables of contents, glossaries, and indexes.
  - b. Identify and credit the sources used to gain information.
  - c. Use text features to access information (e.g., format, italics, heading, subheadings, graphics, sequence, diagrams, illustrations, charts, and maps).
  - d. Use reference features of printed text, such as citations, endnotes, and bibliographies to locate relevant information about a topic.

- e. Use the features of informational texts, such as formats, graphics, diagrams, illustrations, charts, maps, and organization, to find information and support understanding. Example: Locate specific information in a social studies textbook by using its organization, sections on different world regions, and textual features, such as headers, maps, and charts.
  - f. Recognize and apply test-taking strategies by answering different levels of questions, such as literal, as well as multiple choice, true/false, short answer, inferential, evaluative, or open-ended.
2. Interpreting Information—Analyze and evaluate information from a variety of sources.
- a. Follow multistep directions to accomplish a task (e.g., video games, computer programs, recipes).
  - b. Select a topic, formulate questions, and synthesize information from a variety of print, nonprint, and technological resources (e.g., dictionaries, reference books, atlases, magazines, informational texts, thesaurus, and technology/Internet).
  - c. Develop notes that include important information on a selected topic.
  - d. Summarize information from multiple sources into a written report or summary.
  - e. Create simple documents using a computer and employing organizational features, such as passwords, entry and pull-down menus, word searches, the thesaurus, and spell checks.

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Grade 5 Reading  
Test Blueprint  
School Year 2012–2013**

The Test Blueprint reflects the degree to which each *Oklahoma C<sup>3</sup>* standard and objective is represented on the test. The overall distribution of operational items in a test form is intended to look as follows:

<i>Oklahoma C<sup>3</sup></i> Standards and Objectives	Ideal Number of Items*	Ideal Percentage of Items**
<b>Vocabulary</b>	<b>12</b>	<b>24%</b>
Words in Context (1.1)	4	
Affixes, Roots, and Stems (1.2)	4	
Synonyms, Antonyms, and Homonyms (1.3)	4	
<b>Comprehension/Critical Literacy</b>	<b>20</b>	<b>40%</b>
Literal Understanding (3.1)	4	
Inferences and Interpretation (3.2)	4–6	
Summary and Generalization (3.3)	4–6	
Analysis and Evaluation (3.4)	4–6	
<b>Literature</b>	<b>12</b>	<b>24%</b>
Literary Genre (4.1)	4	
Literary Elements (4.2)	4	
Figurative Language/Sound Devices (4.3)	4	
<b>Research and Information</b>	<b>6</b>	<b>12%</b>
Accessing Information (5.1)	2–4	
Interpreting Information (5.2)	2–4	
<b>Total Test</b>	<b>50</b>	<b>100%</b>

\* A minimum of 4 items is required to report results for an objective, and a minimum of 6 items is required to report a standard. While the actual numbers of items on the test may not match the blueprint exactly, each future test will move toward closer alignment with the ideal blueprint.

\*\* Percents are approximations and may result in a sum other than 100 due to rounding.

The *Oklahoma C<sup>3</sup> Standards* correspond to the *PASS* standards. In 2014–2015 the Common Core State Standards will be assessed.

### Scoring Criteria

Scoring criteria focus on the clear understanding of the reading process, effective understanding and application of responding to text, and effective understanding and analysis of information and research.

## *Science Processes and Inquiry—Grade 5*

**Process Standard 1: Observe and Measure—Observing is the first action taken by the learner to acquire new information about an object, organism, or event. Opportunities for observation are developed through the use of a variety of scientific tools. Measurement allows observations to be quantified. The student will accomplish these objectives to meet this process standard.**

1. Observe and measure objects, organisms, and/or events (e.g., mass, length, time, volume, temperature) using the International System of Units (SI) (i.e., grams, milligrams, meters, millimeters, centimeters, kilometers, liters, milliliters, and degrees Celsius). Measure using tools (e.g., simple microscopes or magnifier, graduated cylinders, gram spring scales, metric rulers, metric balances and Celsius thermometers).
2. Compare and/or contrast similar and/or different characteristics (e.g., color, shape, size, texture, sound, position, change) in a given set of objects, organisms, or events.

**Process Standard 2: Classify—Classifying establishes order. Objects, organisms, and events are classified based on similarities, differences, and interrelationships. The student will accomplish these objectives to meet this process standard.**

1. Classify a set of objects, organisms, and/or events using no more than three observable properties (e.g., dichotomous keys).
2. Arrange objects, organisms and/or events in serial order (e.g., least to greatest, fastest to slowest).

**Process Standard 3: Experiment—Experimenting is a method of discovering information. It requires making observations and measurements to test ideas. The student will accomplish these objectives to meet this process standard.**

2. Evaluate the design of a scientific investigation (e.g., order of investigation procedures, number of tested variables). 
4. Recognize potential hazards and practice safety procedures in all science investigations.

**Process Standard 4: Interpret and Communicate—Interpreting is the process of recognizing patterns in collected data by making inferences, predictions, or conclusions. Communicating is the process of describing, recording, and reporting experimental procedures and results to others. Communication may be oral, written, or mathematical and includes organizing ideas, using appropriate vocabulary, graphs, other visual representations, and mathematical equations. The student will accomplish these objectives to meet this process standard.**

2. Interpret data tables, line bar, trend, and/or simple circle graphs. 
3. Make predictions based on patterns in experimental data. 
4. Communicate the results of investigations and/or give explanations based on data. 

**Process Standard 5: Inquiry—Inquiry can be defined as the skills necessary to carry out the process of scientific or systemic thinking. In order for inquiry to occur, students must have the opportunity to ask a question, formulate a procedure, and observe phenomena. The student will accomplish these objectives to meet this process standard.**

### *Physical Science—Grade 5*

**Standard 1: Properties of Matter and Energy—Describe characteristics of objects based on physical qualities such as size, shape, color, mass, temperature, and texture. Energy can produce changes in properties of objects such as changes in temperature. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:**

1. Matter has physical properties that can be used for identification (e.g., color, texture, shape).
2. Physical properties of objects can be observed, described, and measured using tools such as simple microscopes, gram spring scales, metric rulers, metric balances, and Celsius thermometers.
3. Energy can be transferred in many ways (e.g., energy from the Sun to air, water, and metal).
4. Energy can be classified as either potential or kinetic.

### *Life Science—Grade 5*

**Standard 2: Organisms and Environments—Organisms within an ecosystem are dependent on one another and the environment. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:**

1. Organisms in an ecosystem depend on each other for food, shelter, and reproduction.
  - a. Ecosystems include food chains and food webs.
  - b. Relationships exist between consumers, producers, and decomposers within an ecosystem.
  - c. Predator and prey relationships affect populations in an ecosystem.
2. Changes in environmental conditions due to human interactions or natural phenomena can affect the survival of individual organisms and/or entire species.
  - a. Earth's resources can be natural (non-renewable) or man-made (renewable).
  - b. The practices of recycling, reusing, and reducing help to conserve Earth's limited resources.

### *Earth/Space Science—Grade 5*

**Standard 3: Structure of Earth and the Solar System—Interaction between air, water, rock/soil, and all living things. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:**

1. Soil consists of weathered rocks and decomposed organic material from dead plants, animals, and bacteria. Soils are often found in layers.
2. Weather exhibits daily and seasonal patterns (i.e., air temperature, basic cloud types—cumulus, cirrus, stratus, and nimbus, wind direction, wind speed, humidity, precipitation).
  - a. Weather measurement tools include thermometer, barometer, anemometer, and rain gauge.
  - b. Weather maps are used to display current weather and weather predictions.

3. Earth is the third planet from the Sun in a system that includes the moon, the Sun, and seven other planets.
  - a. Most objects in the solar system are in regular and predictable motion (e.g., phases of the moon).
  - b. Objects in the Solar System have individual characteristics (e.g., distance from Sun, number of moons, temperature of object).
  - c. The Earth rotates on its axis while making revolutions around the Sun.

**NOTE:**

Book Icons  identify Information Literacy skills. Students are best served when these are taught in collaboration and cooperation between the classroom teacher and the library media specialist.

Use of term “i.e.” means “in exactness;” use of term “e.g.” means “example given.”

**Oklahoma School Testing Program  
Oklahoma Core Curriculum Tests  
Grade 5 Science  
Test Blueprint  
School Year 2012–2013**

The test blueprint reflects the degree to which each *Oklahoma C<sup>3</sup>* standard and objective is represented on the test. The overall distribution of operational items in a test form is intended to look as follows:

<i>Oklahoma C<sup>3</sup></i> Process Standards and Objectives	Ideal Number of Items for Alignment*	Ideal Percentage of Items**
<b>Observe and Measure</b>	<b>8–10</b>	<b>18–22%</b>
SI Metric (P1.1)	4–6	
Similar/different characteristics (P1.2)	4	
<b>Classify</b>	<b>8–10</b>	<b>18–22%</b>
Observable properties (P2.1)	4–6	
Serial order (P2.2)	4–5	
<b>Experiment</b>	<b>13–15</b>	<b>29–33%</b>
Experimental design (P3.2)	9–11	
Hazards/practice safety (P3.4)	4	
<b>Interpret and Communicate</b>	<b>12–14</b>	<b>27–31%</b>
Data tables/line/bar/trend and circle graphs (P4.2)	4–6	
Prediction based on data (P4.3)	4–6	
Explanations based on data (P4.4)	4–6	
<b>Total Test</b>	<b>45</b>	<b>100%</b>

\* A minimum of 4 items is required to report results for an objective, and a minimum of 6 items is required to report a standard. While the actual numbers of items on the test may not match the blueprint exactly, each future test will move toward closer alignment with the ideal blueprint.

\*\* Percents are approximations and may result in a sum other than 100 due to rounding.

Grade 5 Science C<sup>3</sup> Standards correspond to the *PASS* standard revision 2011.

Oklahoma School Testing Program  
 Oklahoma Core Curriculum Tests  
 Grade 5 Science (Continued)  
 Test Blueprint  
 School Year 2012–2013

<i>Oklahoma C<sup>3</sup></i> Content Standards and Objectives	Ideal Number of Items for Alignment*	Ideal Percentage of Items**
<b>Properties of Matter and Energy</b>	<b>16–18</b>	<b>39–44%</b>
Matter has physical properties (1.1)	4–5	
Physical properties can be measured (1.2)	4–5	
Energy can be transferred (1.3)	4–5	
Potential/Kinetic Energy (1.4)	4–5	
<b>Organisms and Environments</b>	<b>10–13</b>	<b>24–32%</b>
Dependence upon community (2.1)	5–7	
Individual organism and species survival (2.2)	5–7	
<b>Structures of the Earth and the Solar System</b>	<b>12–15</b>	<b>29–37%</b>
Properties of Soils (3.1)	4–6	
Weather patterns (3.2)	4–6	
Earth as a planet (3.3)	4	
<b><i>Total Test</i></b>	<b><i>41*</i></b>	<b><i>100%**</i></b>

\* Safety items are not included within the content blueprint.

\*\* The ideal percents are based on the total number of items on a test that are matched to the content standards and do not include items added for safety.

## Multiple-Choice Practice Tests

### Student Directions

1. Multiple-Choice Practice Tests for each of the subjects assessed are provided in the sections that follow. Each test includes 15 practice questions that are similar to the questions on the test.
2. Mark your answers to the practice test questions on the separate answer sheet on the inside back cover of this guide. Carefully tear off the answer sheet where it is perforated.
3. Turn to the Mathematics Practice Test. Read the directions at the top of the page.
4. Look at Sample A in the box. Read it to yourself and think of the answer. Now look at the Mathematics section on the answer sheet at the back of this book. The correct answer to Sample A has been indicated.
5. Read Sample B of the Mathematics Practice Test. Mark your answer to Sample B. Next answer the 15 practice questions. For any of the tests, you may underline, mark, make notes, or work out problems in your test book. Mark only one answer for each question.

**Note for students:**

*The practice tests in the following section are short versions of the type of Multiple-Choice Tests you will be taking. Follow the instructions as you take the practice tests on the pages that follow.*

6. After you finish the Mathematics Practice Test, go on to the Reading Practice Test, and then the Science Practice Test. Read the directions to yourself and then answer the practice questions.
7. When you are finished, check your answers against the correct answers in the Answer Keys. The standards and objectives for each question are also shown.



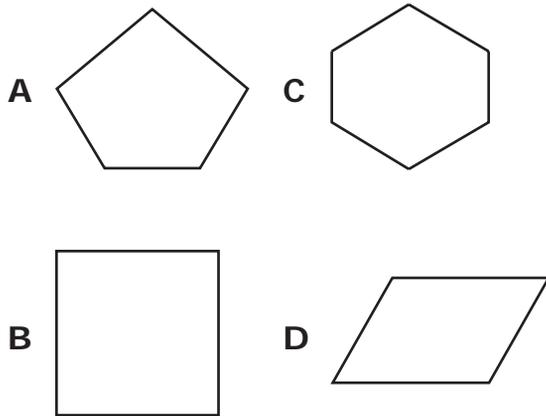
**DIRECTIONS**

Read each question and choose the best answer. Find the question number on the answer sheet that matches the question number on the Mathematics Practice Test. Mark your answer in the Mathematics section of the answer sheet.

The correct answer for Sample A has been filled in on the answer sheet to show how to mark your answers. Mark your answer for Sample B.

Sample A

Which shape below is a square?



Sample B

Marcos taught his brother a number pattern that uses the rule “skip-count by twos.” The pattern below shows the first 4 numbers in Marcos’s pattern.

1, 3, 5, 7, . . .

What are the next four numbers in Marcos’s pattern?

- A 2, 4, 6, 8
- B 2, 3, 4, 5
- C 9, 11, 13, 15
- D 9, 10, 11, 12

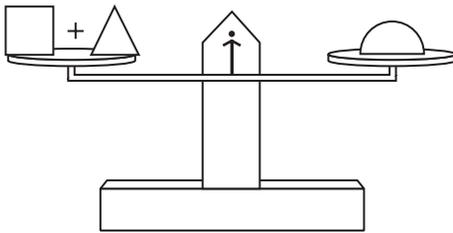


- 1 If  $n$  is the input number, which expression could be used to find the value of the output shown in this table?

Input ( $n$ )	1	2	3	4	5
Output	3	5	7	9	11

- A  $2 \cdot n + 1$
- B  $3 \cdot n$
- C  $4 \cdot n - 1$
- D  $n + 2$

- 2 The scale shown is balanced.

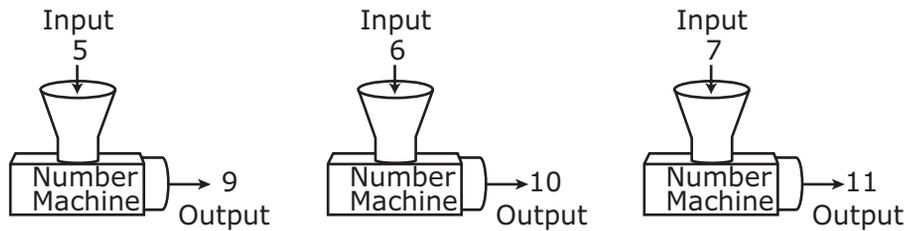


Which sentence must be true?

- A  $\triangle = \text{semicircle} + \square$
- B  $\triangle = \text{semicircle} - \square$
- C  $\triangle = \text{semicircle} \times \square$
- D  $\triangle = \text{semicircle} \div \square$



- 3 This number machine used the same rule each time to find the output numbers shown.



If  $n$  is the input number, which rule could the machine have used to find each output number?

- A  $n + 4$
- B  $n - 4$
- C  $n \cdot 4$
- D  $n \div 4$

- 4 At Mr. Clark's shop, his employees work 20 hours each week and earn \$7 per hour. He uses this expression to find the total weekly payroll for  $n$  employees.

$$7 \cdot (20 \cdot n)$$

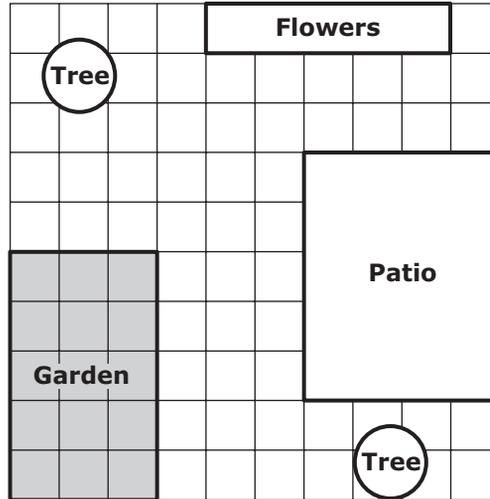
Which is an equivalent expression that can be used to find the total weekly payroll?

- A  $7 \cdot (20 \div n)$
- B  $(7 \cdot 20) \cdot n$
- C  $20 \cdot (n + 7)$
- D  $(n + 20) \cdot 7$



- 5 Thomas made a drawing of his yard on a grid. The shaded squares represent the area for the garden.

**Thomas's Yard**



Which decimal number is equivalent to the fractional part of Thomas's yard that will become the garden?

- A 0.015
- B 0.15
- C 1.50
- D 15.00



**6** Martin is going to make a cake using the choices shown in the table.

Cake Flavor	Icing Type	Sprinkle Color
chocolate	maple	red
vanilla	white	blue
strawberry	yellow	

How many different cakes can Martin make using one cake flavor, one icing type, and one sprinkle color?

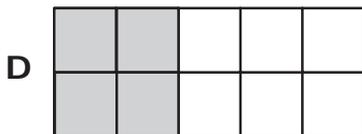
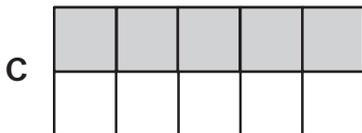
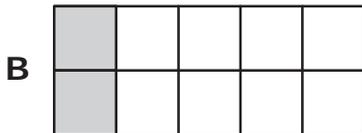
- A 18 different cakes
- B 12 different cakes
- C 8 different cakes
- D 3 different cakes

**7** Maggie had a bag of peanuts that weighed 2.84 pounds. She took some of the peanuts out of the bag. The bag then weighed 1.24 pounds. What was the weight of the peanuts that Maggie took out of the bag?

- A 4.08 pounds
- B 3.60 pounds
- C 1.60 pounds
- D 1.06 pounds



- 8 Each rectangle pictured represents one whole and is made up of small squares that are all the same size. Which rectangle has  $\frac{1}{5}$  of its area shaded?



- 9 Kamilah took \$7.75 to her school book fair. She bought 3 posters and 1 book. The prices, including tax, for items sold at the book fair are shown.

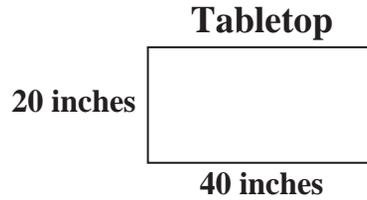
Item	Price
stickers	\$0.25
pencil	\$0.35
poster	\$1.05
gel pen	\$1.60
book	\$3.00

What is the greatest number of pencils Kamilah can buy with the money she has left?

- A 5 pencils
- B 4 pencils
- C 2 pencils
- D 1 pencil



- 10 Kim is using 1-inch-square tiles to cover a rectangular tabletop.



What is the area, in square inches, of the tabletop?

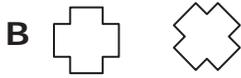
- A 60 square inches
- B 120 square inches
- C 400 square inches
- D 800 square inches

- 11 Once a year, Patia's grandfather measures her height. Last year, Patia was  $4\frac{1}{2}$  feet (ft) tall. One year later, she is  $4\frac{3}{4}$  feet tall. How much did Patia grow in that one year?

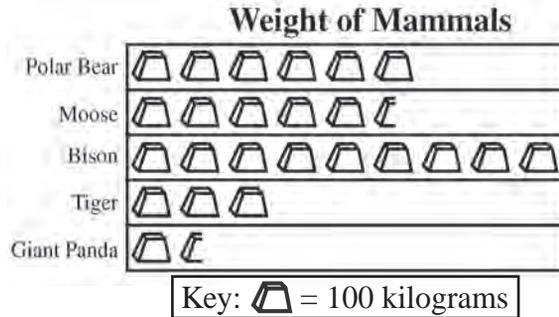
- A  $\frac{1}{4}$  ft
- B  $\frac{4}{6}$  ft
- C  $\frac{4}{12}$  ft
- D  $\frac{7}{8}$  ft



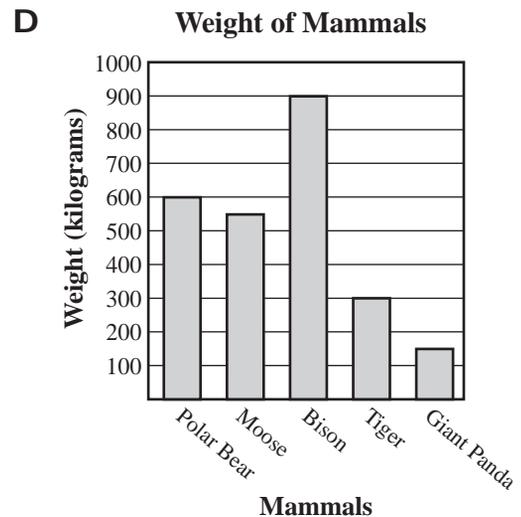
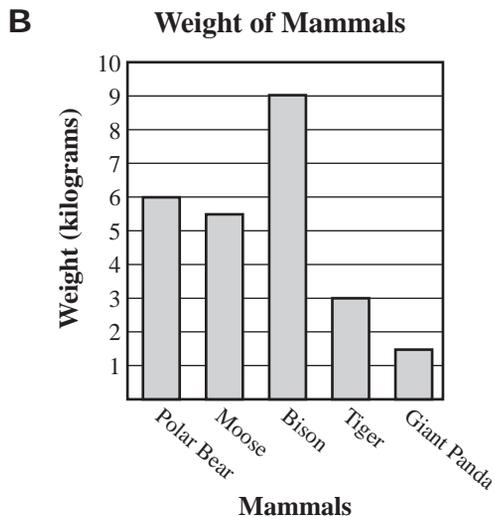
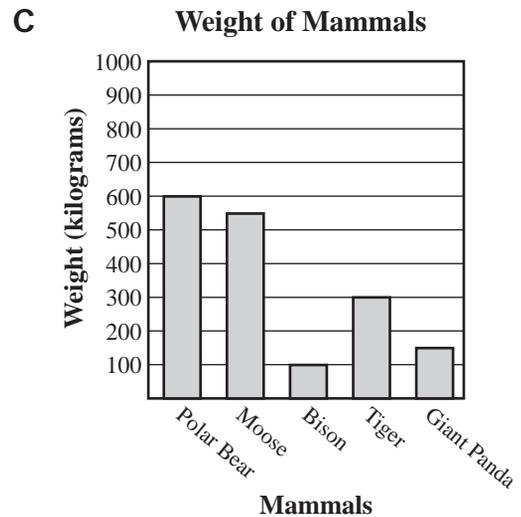
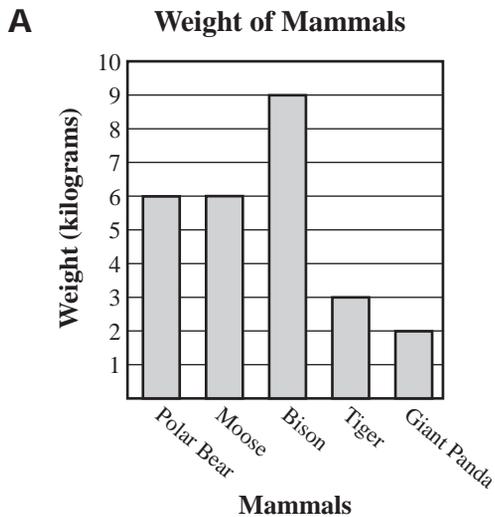
12 Which pair of shapes appears to be congruent?



13 Katie wants to use a bar graph instead of this pictograph for her report on mammals.



Which bar graph shows the same information as the pictograph?





- 14 This table shows the favorite sports of 5<sup>th</sup> graders at Abram Middle School.

**Favorite Sports**

Sport	Percent of 5 <sup>th</sup> Graders
baseball	23%
basketball	20%
football	40%
soccer	17%

Which type of graph is most appropriate to display the data in this table?

- A bar graph
- B circle graph
- C line graph
- D pictograph

- 15 Jan plans to make some dip for her party.

- The recipe calls for 1 cup of sour cream.
- She plans to triple the recipe.
- Sour cream is sold in 1-pint containers.

What is the least number of 1-pint containers of sour cream Jan must have to make the dip?

- A 4 containers
- B 3 containers
- C 2 containers
- D 1 container



**DIRECTIONS**

Read each selection and the questions that follow it. Choose the best answer for each question. Find the question number on the Reading Practice Test. Mark your answer in the Reading section of the answer sheet.

The correct answer for Sample A has been filled in on the answer sheet to show how to mark your answers. Mark your answer for Sample B.

**Fast Tracks**

- 1 The fastest person can run about 26 miles per hour. However, there are even faster speeds in the animal world. Did you know that the ostrich can run up to 40 miles per hour? The cheetah, however, wins the race. It can dash up to 60 miles per hour when running on flat ground for short distances. Now that's impressive!

**Sample A**

This passage is mostly about

- A how fast an ostrich can run.
- B how the cheetah runs races.
- C how people can run at impressive speeds.
- D how some animals can run faster than people.

**Sample B**

In the title, the author is probably talking about tracks made by

- A cars.
- B trains.
- C animals.
- D bicycles.



Read the selection below. Then answer the questions that follow.

### Carl's Problem

- 1 Carl sat on the couch in the living room, his head in his hands, sighing in distress. "I didn't mean to do it," he kept repeating. "It was an accident."
- 2 His older sister, Emily, just home from school, came into the room carrying her backpack and a notebook. "Why the gloomy face and sighs?" she asked.
- 3 Carl groaned again, "What was I thinking?"
- 4 "What happened today?" she asked.
- 5 "I just won the school spelling bee," he said.
- 6 "You just won a spelling contest, and you are upset? You are the best soccer player in the school and you always get A's on everything. You should be proud of yourself. Why are you so discouraged?"
- 7 Carl rolled off the couch and said, "Tim is the best speller in school and probably the world, and I beat him!"
- 8 "Nobody wins all the time and just because Tim happens to be your best friend is no reason to carry on like a wet cat."
- 9 Carl paced around the room with his shoulders slumped. "But Tim is my best friend. The one thing he does better than anybody else is spell. I don't want him to feel bad."
- 10 "Aha!" Emily said, "The sun of truth is rising on the horizon. Tim feels like he doesn't have any talents and that's really sad, but it simply is not true. There must be something Tim can do really well besides spell!"
- 11 "Think about what he's good at doing," Emily suggested.
- 12 Carl thought for a moment and then said, "He's really good at imitating people."
- 13 "Well, little brother, I think I have a remedy for your unhappiness," Emily said, smiling. "Mr. Beck is having tryouts tomorrow for the school play. The main character has to imitate all the other characters in the play, so it's perfect for Tim."
- 14 "That is a fantastic idea, Emily. I know Tim will do a great job!"
- 15 The next day, Carl tried to persuade Tim to attend the play tryouts. Tim finally agreed, although he believed he would never get a part.
- 16 Emily was at the tryouts to encourage Tim as well. "You do imitations of your friends all the time. Just be yourself and you will do great!"
- 17 The tryouts went as Emily had predicted. Many students wanted the part of the lead character, but Tim did superb imitations of the characters. It took only seconds for Mr. Beck to decide who would play the lead. "Tim," he beamed, "you're a natural born actor!"
- 18 Tim grinned from ear to ear and so did Carl.



**1** Carl felt bad about winning the spelling bee because he

- A made his sister angry.
- B disappointed his teacher.
- C saw the winning word on a poster.
- D spelled the words better than his friend.

**2** In paragraph 10, what does the phrase “The sun of truth is rising on the horizon” mean?

- A It is nearly daybreak.
- B Real events are very confusing.
- C The facts are being discovered.
- D Information will remain hard to get.

**3** How does Carl’s sister help to solve his conflict?

- A She laughs at him.
- B She gives him an idea.
- C She suggests the boys help each other study.
- D She signs him up for another spelling contest.



**4** How did Tim change in “Carl’s Problem”?

- A He develops more confidence.
- B He finds a new talent in acting.
- C He quits entering spelling contests.
- D He becomes better friends with his sister.

**5** Which statement is an opinion?

- A Carl paced around the room with his shoulders slumped.
- B “Mr. Beck is having tryouts tomorrow for the school play.”
- C “That is a fantastic idea, Emily.”
- D Tim grinned from ear to ear, and so did Carl.

**6** Which conclusion best states the theme?

- A Everybody feels bad once in a while.
- B Helping a friend gain confidence is rewarding.
- C Big sisters often know a great deal of information.
- D Being good at sports is not important to everyone.



Read the selection below. Then answer the questions that follow.

### Simple Seeds

1            Tiny pieces of possible beauty  
              Spill out and fill my palm.  
Simple seeds whose looks deceive.  
              Future vines, stems, and blooms  
5            Hidden inside a plain package.

              Tenderly placed in a cradle of soil,  
              Covered up, put into darkness  
              Until something deep inside,  
10            Something mysterious and marvelous,  
              Draws them back up to the sun again.

              Directing the sun from top to bottom,  
              Spreading water from bottom to top  
In an ancient, primitive, endless cycle,  
              Spring's cool rains and summer's  
15            Release the seeds' inner power,

              Reminding me again that greatness  
              Comes from simple things  
              If cared for gently, watched quietly  
              And always appreciated.





**7** What does ancient mean in line 13?

- A old
- B worn
- C broken
- D honored

**8** Which word is a synonym for appreciated as it is used in line 19?

- A interested
- B satisfied
- C amused
- D valued

**9** The reader can tell that “Simple Seeds” is a poem because

- A it is short.
- B there is punctuation.
- C it is written in sentences.
- D the lines follow a pattern.



**10** What can the reader conclude about the author of this poem?

- A** She is an eager and energetic person.
- B** She loves flowers and will grow a lovely garden.
- C** She spends too much time outside with her plants.
- D** She sees the possibility for greatness in ordinary things.

**11** Which source would best help a student find more information about how to plant a small garden?

- A** a dictionary
- B** an online site
- C** a picture book
- D** an encyclopedia



Read the selection below. Then answer the questions that follow.

## The Nurse Who Taught the Doctors

- 1 It could happen in seconds. One minute a child would be running and playing. The next minute, the youngster would be in pain and not able to move. The disease, polio, had struck.
- 2 These moments usually occurred without warning. Many children were suddenly not able to walk and run. Doctors tried easing the pain by putting the children's legs in braces and casts. They also believed the supports would strengthen the muscles. Actually, as a simple country nurse proved, the opposite was true.
- 3 Elizabeth or "Sister" Kenny, as she became known, was from Australia. She was born on a farm in 1880. Until well into her 20s, she worked on the family farm. As a teenager, she had shown an interest in medicine. While treating her broken wrist, a doctor let Kenny borrow some medical books. He taught her about the body's muscles.
- 4 When Kenny was about 30 years old, she was offered a nursing job. The job meant working in the Australian bush. The bush was a very rough land, but Kenny did not mind. Bush settlements were far from hospitals and doctors. She knew the people living there needed her.
- 5 In 1911, Kenny was called to help a little girl. The girl was in great pain and could not move. Kenny had never seen this illness. She called upon her former doctor for help. He told her the girl had polio. He also said no one knew how to treat it. "Do your best," was his only suggestion.
- 6 Kenny's best idea was to dip wool strips in warm water. She wrapped these strips around the girl's legs. Amazingly, the moist heat eased her pain. Next, Kenny helped the girl exercise her legs. Before long, the girl was walking again without any help. Six other children in the area also got polio. Kenny handled them the same way. They also began to feel better and were able to walk again.
- 7 Many doctors did not believe in Kenny's methods because her handling of polio was so different from theirs. Many did not like that a simple nurse succeeded where they were failing. World War I interrupted Kenny's effort to win them over.
- 8 Kenny served bravely as a nurse during the war. She performed well and earned the rank of "Sister."
- 9 After the war, polio remained a problem. By the 1930s, it was breaking out around the world. In 1933, Sister Kenny opened a polio care center in Townsville, Queensland. Patients from around the world came to receive her care. Still, many doctors would not treat polio using her methods.
- 10 In 1940, some supporters suggested Sister Kenny travel to America. There some doctors finally listened. They helped her start the Sister Kenny Institute in Minneapolis, Minnesota. At the Institute, she showed doctors how to care for polio patients.
- 11 Sister Kenny continued her work until she passed away in 1952. That same year, a new medicine was introduced. People who took this medicine no longer worried about getting polio. By then, doctors realized her exercises had other uses. Today, they ease many kinds of bone or muscle problems. Sister Kenny had introduced the new medical field of physical therapy to the world.



**12** Kenny's treatment of polio was different from most doctors' because she

- A suggested bed rest.
- B used moist heat and exercise.
- C taught patients how to walk again.
- D used braces to straighten the legs of the patients.

**13** Doctors were unwilling to accept Kenny's methods because

- A Kenny was not trained as a doctor.
- B their methods worked as well as hers did.
- C Kenny did not treat many patients with polio.
- D the doctors had worked with polio patients for a long time.

**14** Which information should be included in notes about why Elizabeth Kenny was successful?

- A A new medicine was developed that prevented polio.
- B Elizabeth grew up on a farm in Australia and was educated at home.
- C She worked to educate the medical people who did not believe in her.
- D Visitors are welcome to tour the Sister Kenny Institute in Minneapolis.



15

In 1911, Kenny helped a young girl recover from polio by wrapping her legs with hot, damp rags and having the girl do special exercises.  
(Thomas, Henry. Elizabeth Kenny, p. 58)

In 1940, Kenny demonstrated her technique to doctors in the United States, which was suffering through a severe polio epidemic.  
(Ostenso, Martha. Biography of Elizabeth Kenny, p. 241)

Which best summarizes the information in these sources?

- A In 1940, Kenny traveled to the United States to give doctors a demonstration of the technique for treating polio that she had first developed in 1911.
- B Kenny showed doctors her technique by helping a young girl recover from polio by wrapping her legs with hot, damp rags and having the girl do special exercises.
- C When a polio epidemic hit the United States in 1940, Kenny showed doctors there her technique for treating the disease with special exercises and hot, damp leg wraps.
- D Kenny helped a young girl recover from polio by wrapping her legs with hot, damp rags and having her do special exercises, and she demonstrated this technique to doctors in the United States.



**DIRECTIONS**

Read each question and choose the best answer. Find the question number on the answer sheet that matches the question number on the Science Practice Test. Mark your answer in the Science section of the answer sheet.

The correct answer for Sample A has been filled in on the answer sheet to show how to mark your answers. Mark your answer for Sample B.

## Sample A

Effect of Water on a Substance

Substance	Results When Added to Water
W	Substance slowly disappears
X	Substance sinks to bottom of container
Y	Substance floats on top of water
Z	Substance changes water color to red

The table shows the results of testing the effect water has on four substances. Which two substances are similar because water caused a physical change to occur?

- A W and X
- B W and Z
- C X and Y
- D Y and Z



## Sample B

The fifth-grade class recorded the highest and lowest temperatures for five months. The temperatures for each month are shown in the table, except for December.

**Temperature Readings at  
Whitney Elementary School**

Month	Lowest Temperature (°F)	Highest Temperature (°F)
September	50	87
October	45	85
November	29	72
December	5	
January	2	48

What would be a reasonable highest temperature reading for the month of December?

- A 85
- B 79
- C 52
- D 35



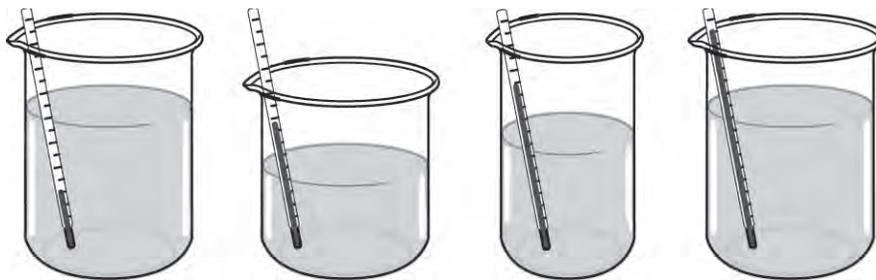
- 1** Students conducted an experiment to show that heat moves from warmer objects to cooler objects. Several steps for the experiment are listed below.

1. obtain two metal objects
2. heat one object
3. measure the mass of each object
4. measure the temperature of each object
5. place objects together
6. after 3 minutes, measure the temperature of each object

Which step is not needed to complete this experiment?

- A 2
- B 3
- C 4
- D 6

**2**



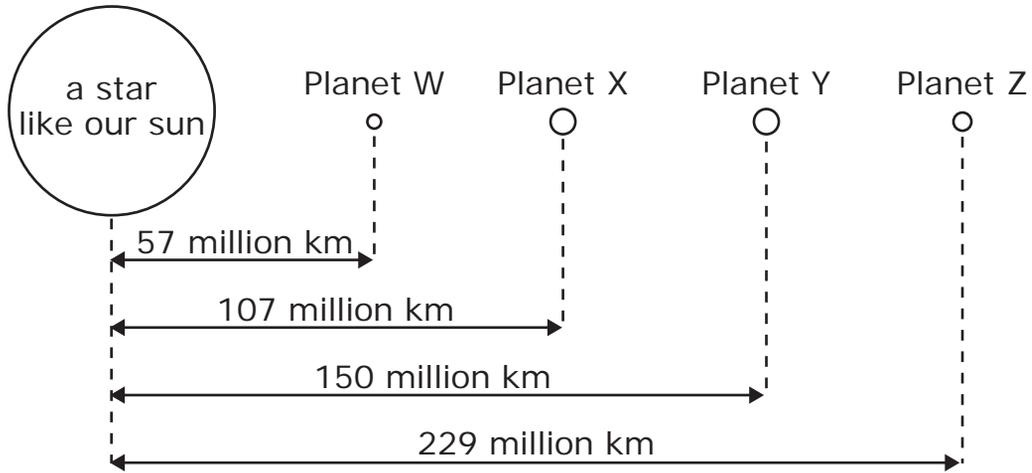
These objects are arranged by

- A the colors of the liquids.
- B the sizes of the containers.
- C the amounts of the liquids.
- D the temperatures of the liquids.



3

### Solar System Drawing



### Number of Moons Orbiting Planets

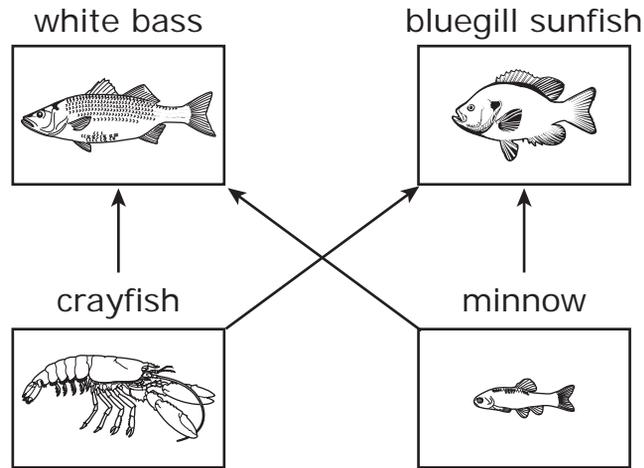
Student	Planet	Number of Moons
Jana	W	1
Fred	W	2
Gaile	Y	1
Malcom	Y	2

Using the drawing and data table, which student identified a planet that is most similar to Earth?

- A Jana
- B Fred
- C Gaile
- D Malcom



4



**Yearly Count of White Bass and Bluegill Sunfish**

Fish	Year 1	Year 2	Year 3	Year 4
white bass	100	120	125	95
bluegill sunfish	100	80	75	105

Two types of fish living together in a lake were counted for four years.

Based on the food web and the data table, which statement best explains the changing numbers of white bass and bluegill sunfish in the lake?

- A The white bass increased because they are eating the bluegill sunfish.
- B The bluegill sunfish increased because they are eating the white bass.
- C The white bass and the bluegill sunfish were competing for the same food sources, so their numbers increase and decrease.
- D The bluegill sunfish and the white bass were both being eaten by crayfish and minnows, so their numbers increase and decrease.



**5** A scientist would like to observe how a fish responds when a solid chemical is added to the fish's tank.

How should the scientist measure the solid chemical and what might the scientist learn from the experiment?

**A**

Chemical Measurement	What Might the Scientist Learn?
mass in grams	how changes to a fish's environment might affect its population

**B**

Chemical Measurement	What Might the Scientist Learn?
mass in grams	how an entire pond ecosystem is affected by a substance

**C**

Chemical Measurement	What Might the Scientist Learn?
volume in liters	how changes to a fish's environment might affect its population

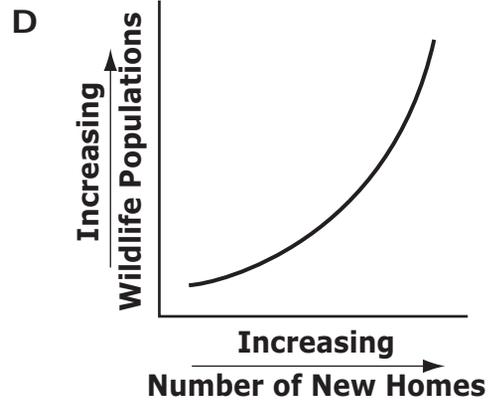
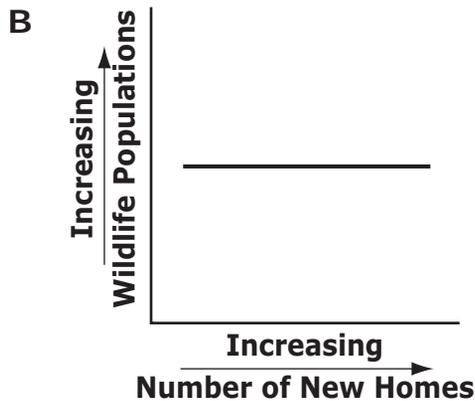
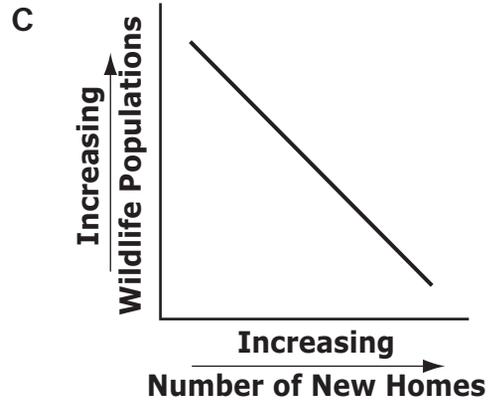
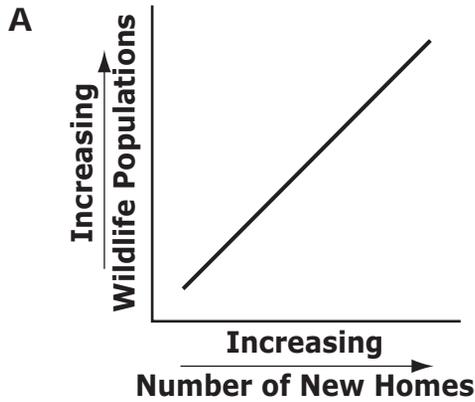
**D**

Chemical Measurement	What Might the Scientist Learn?
volume in liters	how an entire pond ecosystem is affected by a substance



6 Many wildlife populations decrease in size when their habitats are changed because their habitat became developed.

Which graph best shows this relationship?

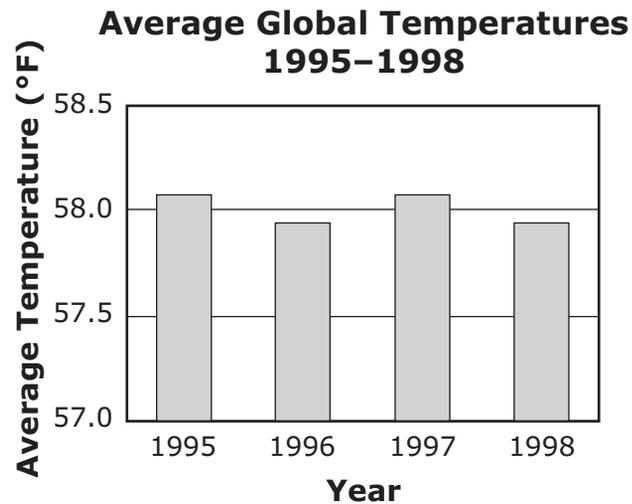


7 The mass of an ice cube is best measured in

- A grams using a balance.
- B meters using a meter stick.
- C liters using a graduated cylinder.
- D degrees Celsius using a thermometer.



- 8 Scientists collected data on average global temperatures during four years.



Their graph shows that from 1995 to 1998, average global temperatures were

- A the same.
- B increasing.
- C decreasing.
- D decreasing and increasing.

- 9 Students are investigating an unknown liquid in a clear plastic cup.

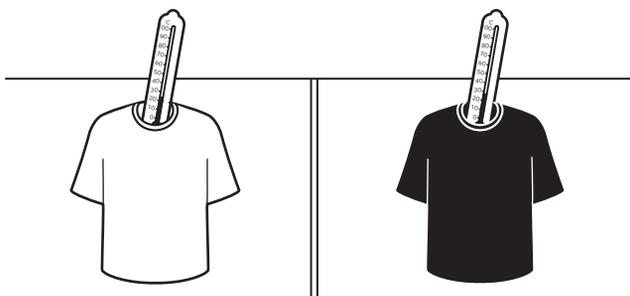
Which action is most dangerous for the students?

- A tasting the liquid
- B observing the liquid through the cup
- C feeling the cup to check for temperature changes
- D smelling the liquid by waving their hands over the cup



10 A teacher asks students the following question: "Does color affect the temperature of a material?" The students set up the following experiment.

- place a white T-shirt and a black T-shirt on the sidewalk in direct sunlight
- insert a thermometer in the neck of each T-shirt
- measure the temperature using a thermometer every 5 minutes for 20 minutes
- record the data in the table



Temperatures of T-shirts Over Time

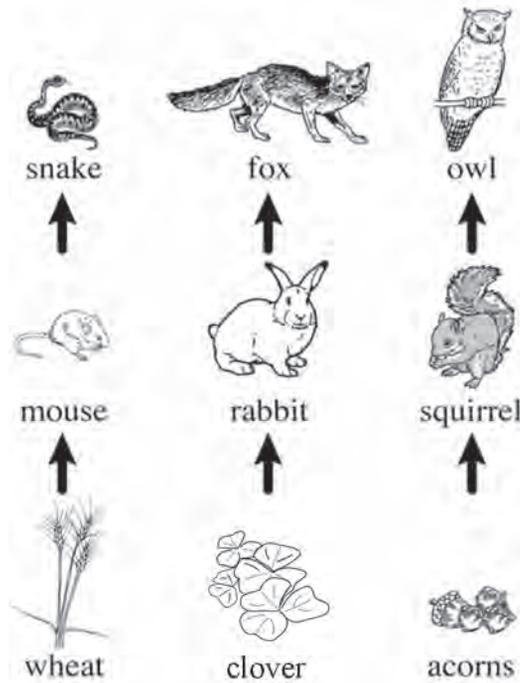
Time (minutes)	Temperature (°C)	
	White T-shirt	Black T-shirt
0	22	22
5	22	23
10	23	24
15	23	26
20	23	28

Which statement best describes what happened during this experiment?

- A Sunlight energy caused the temperature of each T-shirt to change equally.
- B Sunlight energy decreased heat energy in the sidewalk under the T-shirts, which made them warmer.
- C Energy from the Sun increased the temperature of the black T-shirt more than the white T-shirt.
- D Energy from the sidewalk caused the white T-shirt to lose more heat energy than the black T-shirt.



11



**Characteristics of Organisms  
in Land Ecosystems**

producers	organisms that make their own energy from sunlight
consumers	organisms that must consume other organisms for energy

Which set of organisms from the food chains above contains only consumers?

- A snake, rabbit, acorns
- B wheat, clover, acorns
- C mouse, clover, owl
- D snake, rabbit, squirrel



- 12 Students are asked to identify the clouds they saw one afternoon. The students observed that the clouds were low in the sky and were light gray. The students could not see any blue sky through the clouds.

### Identification Key

Line	Characteristics	Identification
1a	clouds are low in the sky	go to 2
1b	clouds are high in the sky	go to 3
2a	clouds are gray	go to 4
2b	clouds are white or gray and white	go to 5
3	clouds are feathery	cirrus
4a	clouds are light gray and cover the sky like a blanket	stratus
4b	clouds are dark gray and hide the Sun; it is raining continuously	nimbus
5a	clouds are puffy like cotton balls	cumulus
5b	clouds are large, puffy, and tall like a tower; there may be a thunderstorm	cumulonimbus

Which cloud type was most likely observed by the students?

- A stratus
- B nimbus
- C cumulus
- D cumulonimbus



- 13 The table below shows how fish populations in three aquariums changed over a four-month period. No fish were added to or taken from any of the aquariums during the four months.

**Fish Populations**

Aquarium	September 8		January 8	
	Males	Females	Males	Females
1	2	3	21	26
2	0	5	0	4
3	5	0	5	0

The fish populations will be counted again in the three aquariums on May 8th.

Which of the following is the most likely population of Aquarium 3 in May?

- A 0 to 5 male fish
- B 2 to 4 female fish
- C 6 to 20 male and female fish
- D more than 20 male and female fish

14

A student wants to measure the temperature of water in a cup before and after placing it in a refrigerator for 30 minutes. The student plans to use a spring scale to make the measurement.

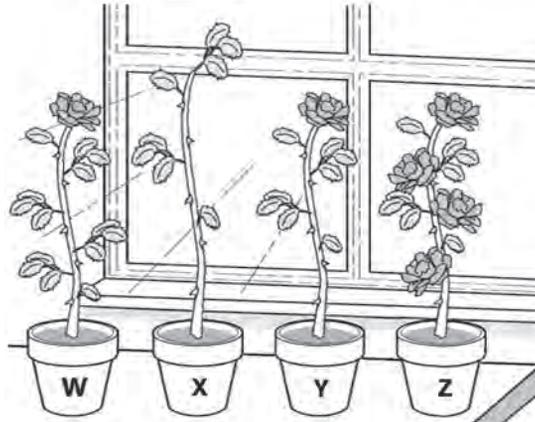
Which statement best explains a problem with this student activity?

- A A spring scale does not measure the correct property.
- B A spring scale does not measure small numbers.
- C The investigation involves a refrigerator.
- D The investigation involves a 30 minute period of time.



15

A gardener watered each of these containers with equal amounts of water. Only one container was given fertilizer that increases the number of flowers on the plant.



Which plant was most likely given the fertilizer?

- A plant W
- B plant X
- C plant Y
- D plant Z



## Preparing for Testing to the Common Core State Standards

“The Common Core State Standards Initiative is a state-led effort to establish a shared set of clear educational standards for English language arts and mathematics that states can voluntarily adopt. The standards have been informed by the best available evidence and the highest state standards across the country and globe and designed by a diverse group of teachers, experts, parents, and school administrators, so they reflect both our aspirations for our children and the realities of the classroom. These standards are designed to ensure that students graduating from high school are prepared to go to college or enter the workforce and that parents, teachers, and students have a clear understanding of what is expected of them. The standards are benchmarked to international standards to guarantee that our students are competitive in the emerging global marketplace.” (www.corestandards.org)

Oklahoma’s State Board of Education adopted the Common Core State Standards (CCSS) in 2010 along with the majority of other states. These next few years will be a time of transition as Oklahoma begins moving from our current *Oklahoma C<sup>3</sup> Standards* curriculum to the CCSS. Transition will include teacher development, local curriculum revision, and test development for a new generation of state assessments. This transition will be complete and fully implemented by the 2014–15 school year.

In order to begin bridging to the requirements of the CCSS, students in Grade 5 will participate in field testing of five items aligned to the CCSS for Mathematics and five items aligned to the CCSS for Reading this year. Reading items will include one short constructed response item related to a passage. These newly developed CCSS-based items were reviewed by committees of Oklahoma educators in the summer of 2012. Students will not be scored on these field test items.

## Mathematics CCSS

### Operations and Algebraic Thinking (5.OA)

#### Write and interpret numerical expressions.

1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation “add 8 and 7, then multiply by 2” as  $2 \times (8 + 7)$ . Recognize that  $3 \times (18932 + 921)$  is three times as large as  $18932 + 921$ , without having to calculate the indicated sum or product.*

#### Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. *For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.*

## Number and Operations in Base Ten (5.NBT)

### Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and  $1/10$  of what it represents in the place to its left.
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
3. Read, write, and compare decimals to thousandths.
  - a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g.,  $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .
  - b. Compare two decimals to thousandths based on meanings of the digits in each place, using  $>$ ,  $=$ , and  $<$  symbols to record the results of comparisons.
4. Use place value understanding to round decimals to any place.

### Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently multiply multi-digit whole numbers using the standard algorithm.
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

## Number and Operations—Fractions (5.NF)

### Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example,  $2/3 + 5/4 = 8/12 + 15/12 = 23/12$ . (In general,  $a/b + c/d = (ad + bc)/bd$ .)*
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. *For example, recognize an incorrect result  $2/5 + 1/2 = 3/7$ , by observing that  $3/7 < 1/2$ .*

**Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

3. Interpret a fraction as division of the numerator by the denominator ( $a/b = a \div b$ ). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret  $3/4$  as the result of dividing 3 by 4, noting that  $3/4$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $3/4$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
  - a. Interpret the product  $(a/b) \times q$  as a parts of a partition of  $q$  into  $b$  equal parts; equivalently, as the result of a sequence of operations  $a \times q \div b$ . *For example, use a visual fraction model to show  $(2/3) \times 4 = 8/3$ , and create a story context for this equation. Do the same with  $(2/3) \times (4/5) = 8/15$ . (In general,  $(a/b) \times (c/d) = ac/bd$ .)*
  - b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
5. Interpret multiplication as scaling (resizing), by:
  - a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
  - b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence  $a/b = (n \times a)/(n \times b)$  to the effect of multiplying  $a/b$  by 1.
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.<sup>1</sup>
  - a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, create a story context for  $(1/3) \div 4$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $(1/3) \div 4 = 1/12$  because  $(1/12) \times 4 = 1/3$ .*
  - b. Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for  $4 \div (1/5)$ , and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that  $4 \div (1/5) = 20$  because  $20 \times (1/5) = 4$ .*

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<sup>1</sup> Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.

- c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, how much chocolate will each person get if 3 people share  $\frac{1}{2}$  lb of chocolate equally? How many  $\frac{1}{3}$ -cup servings are in 2 cups of raisins.*

## Measurement and Data (5.MD)

### Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

### Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.*

### Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
- A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
  - A solid figure which can be packed without gaps or overlaps using  $n$  unit cubes is said to have a volume of  $n$  cubic units.
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
- Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
  - Apply the formulas  $V = l \times w \times h$  and  $V = b \times h$  for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
  - Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

## Geometry (5.G)

### Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate).
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. Classify two-dimensional figures into categories based on their properties.
3. Understand that attributes belonging to a category of twodimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.*
4. Classify two-dimensional figures in a hierarchy based on properties.

## Reading CCSS

### Literature

#### Key Ideas and Details

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize the text.
3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

#### Craft and Structure

4. Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
5. Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
6. Describe how a narrator's or speaker's point of view influences how events are described.

#### Integration of Knowledge and Ideas

7. Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).
8. (Not applicable to literature)
9. Compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

### **Range of Reading and Level of Text Complexity**

10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently.

### **Informational Text**

#### **Key Ideas and Details**

1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

#### **Craft and Structure**

4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
5. Compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts.
6. Analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent.

#### **Integration of Knowledge and Ideas**

7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
8. Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).
9. Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

### **Range of Reading and Level of Text Complexity**

10. By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.

### **Foundational Skills**

#### **Phonics and Word Recognition**

3. Know and apply grade-level phonics and word analysis skills in decoding words.
  - a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.

**Fluency**

4. Read with sufficient accuracy and fluency to support comprehension.
  - a. Read on-level text with purpose and understanding.
  - b. Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.
  - c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

## Answer Keys

<b>Mathematics</b>		
Number	Answer	OK C <sup>3</sup> Objective
Sample A	B	3.1
Sample B	C	1.1
1	A	1.1
2	B	1.2
3	A	1.1
4	B	1.3
5	B	2.1b
6	A	5.2b
7	C	2.2a
8	B	2.1b
9	B	4.2
10	D	4.1b
11	A	2.2b
12	B	3.1
13	D	5.1a
14	B	5.1a
15	C	4.1c

<b>Reading</b>		
Number	Answer	OK C <sup>3</sup> Objective
Sample A	D	3.3a
Sample B	C	3.1a
1	D	3.2c
2	C	1.1b
3	B	3.4b
4	B	3.2c
5	C	3.4f
6	B	4.2a
7	A	1.1a
8	D	1.3
9	D	3.4a
10	D	4.2d
11	B	5.1a
12	B	3.1b
13	A	4.1b
14	C	5.2c
15	C	5.2d

<b>Science</b>			
Number	Answer	OK C <sup>3</sup> Process Objective	OK C <sup>3</sup> Content Objective
Sample A	B	1.2	1.1
Sample B	C	4.2	3.2
1	B	3.2	1.3
2	D	2.2	1.2
3	C	2.1	3.3
4	C	4.4	2.1
5	A	1.1	2.2
6	C	4.2	2.2
7	A	1.1	1.2
8	D	4.4	3.2
9	A	3.4	N/A
10	C	1.2	1.3
11	D	2.1	2.1
12	A	2.1	3.2
13	A	4.3	2.1
14	A	3.2	1.2
15	D	4.4	2.2





# Oklahoma School Testing Program

# Answer Sheet

## Grade 5 — Multiple-Choice Practice Tests

To Measure *Oklahoma's C<sup>3</sup> Standards*

Your State Superintendent of Public Instruction  
Oklahoma State Department of Education  
2013

\_\_\_\_\_  
**Name**

### Mathematics

SAMPLES  
A  B  C  D  
B  A  C  D

1  A  B  C  D  
2  A  B  C  D  
3  A  B  C  D  
4  A  B  C  D

5  A  B  C  D  
6  A  B  C  D  
7  A  B  C  D  
8  A  B  C  D

9  A  B  C  D  
10  A  B  C  D  
11  A  B  C  D  
12  A  B  C  D

13  A  B  C  D  
14  A  B  C  D  
15  A  B  C  D

### Reading

SAMPLES  
A  B  C  D  
B  A  C  D

1  A  B  C  D  
2  A  B  C  D  
3  A  B  C  D  
4  A  B  C  D

5  A  B  C  D  
6  A  B  C  D  
7  A  B  C  D  
8  A  B  C  D

9  A  B  C  D  
10  A  B  C  D  
11  A  B  C  D  
12  A  B  C  D

13  A  B  C  D  
14  A  B  C  D  
15  A  B  C  D

### Science

SAMPLES  
A  B  C  D  
B  A  C  D

1  A  B  C  D  
2  A  B  C  D  
3  A  B  C  D  
4  A  B  C  D

5  A  B  C  D  
6  A  B  C  D  
7  A  B  C  D  
8  A  B  C  D

9  A  B  C  D  
10  A  B  C  D  
11  A  B  C  D  
12  A  B  C  D

13  A  B  C  D  
14  A  B  C  D  
15  A  B  C  D

