

Oklahoma School Testing Program

Oklahoma Modified Alternate Assessment Program (OMAAP)

Grade 8 Mathematics, Reading, and Science

PARENT, STUDENT, AND TEACHER GUIDE



2012–2013

Oklahoma State Department of Education
2704598-W

**Spring Testing Dates
2013 School Year**

**Multiple-Choice Tests
Grades 3–8 Paper/Pencil
April 10–24, 2013**



CTB

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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 Modified Alternate Assessment Program. These tests are designed to measure knowledge in Mathematics, Reading, and Science.

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

This guide provides practice questions, objectives covered in the tests, and a list of test-taking tips. 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 students to get plenty of sleep, eat a good breakfast, and arrive at school on time.

If you have any questions about the Oklahoma Modified Alternate Assessment Program, please contact your local school or the State Department of Education.

Sincerely,

Your State Superintendent of Public Instruction

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About This Guide

This guide is designed to help Grade 8 students prepare for the tests in Mathematics, Reading, and Science that they will take this year as part of the Oklahoma Modified Alternate Assessment Program (OMAAP). It provides an opportunity for parents, students, and teachers to become familiar with OMAAP and to understand how Mathematics, Reading, and Science skills will be assessed.

This guide presents general test-taking tips, lists the standards and objectives that are eligible for assessment in a statewide testing program, presents the blueprint for each test, and provides sample test directions and a sample test for each subject.

The Oklahoma Modified Alternate Assessment Program

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 C³ 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 (OSTP) to measure students' progress in mastering the *Oklahoma C³ Standards*. Tests have been developed by national test publishers that specifically measure the *Oklahoma C³ Standards*. Teachers from throughout Oklahoma have been involved in the review, revision, and approval of the questions that are included in the tests.

The Oklahoma Modified Alternate Assessment Program (OMAAP) is a criterion-referenced testing program that compares a student's performance with performance standards established by the State Board of Education. The performance standards are based upon recommendations from groups of Oklahoma educators who evaluated the test and recommended the performance standards for the different levels of performance for each test. The Oklahoma Performance Index, or OPI, is a scaled score earned by a student that places the student into one of the four performance levels (Advanced, Satisfactory, Limited Knowledge, Unsatisfactory).

The Modified assessments have been developed for students with disabilities who can make significant progress but may not reach grade-level achievement standards within the same time frame as other students, even after receiving the best-designed instructional interventions from highly qualified teachers. The Modified assessments are intended for those students for whom both the Oklahoma Alternate Assessment

Program (OAAP) or portfolio, and the Oklahoma Core Curriculum Tests (OCCT) general assessments are inappropriate.

The Modified assessments provide information about subject-level student academic performance in Mathematics, Reading, and Science in relation to *Oklahoma C³ Standards* based on modified achievement standards. For Science, the 2012–2013 blueprint is the same as 2011–2012.

- Grades 3–8 Mathematics and Reading
- Grades 5 & 8 Science

These assessments provide informative data that educators can use to make instructional decisions, based on student performance in relation to *Oklahoma C³ Standards*. District and school reports included detailed diagnostic information.

Items from the OCCT were modified and reviewed by committees of educators to be used on the OMAAP. For Spring 2013, seven items for Science were also developed specifically for the OMAAP tests, reviewed by Oklahoma educators, and included on the test as field test items. The following table illustrates the modification rules that were used for each subject area.

Subject Area	Modification Rules
Universal	<ul style="list-style-type: none"> • Minimize the number of questions on the page (limit to 2 or 3). • Provide only three answer options instead of four. • Highlight the main points in the question or passage by underlining and using bold font. • Avoid questions that require students to select the better/best answer. • Be consistent in wording of directions across grades and subjects. • Minimize the use of pronouns and prepositional phrases. • Avoid the use of multiple-meaning words and words that can function as more than one part of speech. • Enlarge art when possible. • Simplify art when possible, (i.e., remove unnecessary labels, use less gray scale, use thicker lines when outlining, etc.). • Box informational text in an item. • Bullet information when possible (e.g., bullet detailed information or processes). • Reduce reading load of stem, stimuli, and answer options when possible. • Revise answer options to address parallelism and minimize outliers.

Subject Area	Modification Rules
Math	<ul style="list-style-type: none"> • For lower grades, display numbers on all sides of figures for questions about perimeter. • Unless required by standard, avoid items with negative and positive answer choices that use the same number. • Place any items with coordinate grids on one page. • For lower grades, use grids for questions. • Be consistent with qualifiers in the stem and answer choices. • Avoid questions that use best or closest. • Avoid complicated art. • List coordinate grids in answer options vertically with plenty of space between the answer options to make the grid more accessible to the visually impaired (however, avoid spanning item over two pages). • Simplify reading load, including vocabulary, when possible. • Eliminate stimuli sets. • Delete one part of a compound answer choice when possible. • Delete griddable items, negative items, and items that cannot be modified based on guidelines. • Delete extraneous information including irrelevant material and unnecessary words in items or graphics. • Simplify complex sentence structure and vocabulary in item and answer choices without eliminating math vocabulary. • Change passive voice to active voice when appropriate. • Add precise language to provide additional context for clarification. • Use consistent language within an item in order to focus student attention on what is being asked. • Revise text as necessary to maintain the authenticity and logic of the item due to modifications. • Use bullets to clearly organize complex items into smaller, meaningful parts. • Direct student attention to graphics. • Simplify visual complexity of graphics. • Provide new text and/or reorganize existing text within the question to explain or clarify the graphic. • Provide additional graphics to support text, emphasize ideas, and facilitate comprehension. • Reduce the number of variables and simplify digits in item when appropriate. • Limit the number of steps and/or operations in multi-step problems. • Provide appropriate formula and/or conversion near the item. • Provide explicit directions to explain a process such as measuring (as long as it does not impact reading load).

Subject Area	Modification Rules
<p style="text-align: center;">Reading</p>	<ul style="list-style-type: none"> • Break passages into smaller portions. • Place the questions that pertain to the smaller portion underneath or on a page facing that section. • Add a word bank as needed for Grades 3–5. • Use footnotes for Grades 6–8. • Put items in order of appearance in the passage. • Delete extraneous information including irrelevant material and unnecessary words in items or graphics (e.g., remove “most likely”). • Delete one part of a compound answer choice when possible. • Change passive voice to active voice when appropriate. • Eliminate answer choices that give students the option of making no changes to the item. • Direct student attention to graphics. • Simplify visual complexity of graphics.
<p style="text-align: center;">Science</p>	<ul style="list-style-type: none"> • Reduce the amount of reading. • Avoid complicated art. • Simplify tables and charts by removing irrelevant rows or columns. • Box formulas to make them stand out. • Answer options align to content and process. • Simplify reading load, including vocabulary, when possible. • Eliminate stimuli sets. • Delete cluster items, negative items, and items that cannot be modified based on guidelines. • Delete extraneous information including irrelevant material and unnecessary words in items or graphics. • Simplify complex sentence structure and vocabulary in item and answer choices without eliminating science vocabulary. • Change passive voice to active voice when appropriate. • Change item from an open-ended statement to a direct question or vice versa, as necessary, for clarification. • Add precise language to provide additional context for clarification. • Use consistent language within an item in order to focus student attention on what is being asked. • Revise text as necessary to maintain the authenticity and logic of the item due to modifications. • Use bullets to clearly organize complex items into smaller, meaningful parts. • Direct student attention to graphics. • Simplify visual complexity of graphics. • Provide new text and/or reorganize existing text within the question to explain or clarify the graphic; science content must remain accurate. • Provide additional graphics to support text, emphasize ideas, and facilitate comprehension. • Reduce the number of variables and simplify digits in item when appropriate. • Limit the number of steps and/or operations in multi-step problems. • Provide appropriate formula and/or conversion near the item. • For Biology I, avoid using items that reference x and y axis on a graph.

Test-Taking Tips

The following tips provide effective strategies for taking the Oklahoma Modified Alternate Assessment. Test-taking skills cannot replace studying based on the *Oklahoma C³* standards and objectives, which serve as the foundation for the tests.

General Test-Taking Tips:

- DO...** read this guide carefully and review the sample items.
- 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...** remember that if you cannot finish the test within the time allotted, you will be given additional time to complete the test.
- DO...** mark all your answers in the test book.
- DON'T...** allow any stray pencil marks to go inside of the question boxes from working problems or making notes in your test book.
- 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 8 take Multiple-Choice Tests in Mathematics, Reading, and Science.

Each subject-area test is given in a separate session. Each test takes about 60–90 minutes to complete. However, the tests are not strictly timed. Additional time is available to every student as an immediate extension of the testing session; it is not available as a separate session at another time.

Students who finish early should 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.

For each Grade 8 subject that is tested as part of OMAAP, this guide provides the following:

- the *Oklahoma C³* standards and objectives eligible for testing
- a test blueprint that describes the distribution of *Oklahoma C³* standards and objectives
- an original OCCT sample test item
- the modified OMAAP sample test item
- a sample test with directions
- an answer key showing the correct answer choices and the assessed *Oklahoma C³* standards and objectives

Oklahoma C³ Standards

The *Oklahoma C³ Standards* that are eligible for testing in the Grade 8 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. For the OMAAP assessment, student performance on the Multiple-Choice tests is reported at the standard level in all subject areas. In Mathematics, student performance is reported by the content standards. In Science, student performance is reported by both the process and content standards.

Please note that not all *Oklahoma C³* standards and objectives are appropriate for the statewide assessment. This guide includes only the *Oklahoma C³* standards and objectives that are assessed and are based on the 2002 revision for Science, the 2009 revision for Mathematics, and the 2010 revision for Reading.

Mathematics (Content)—Grade 8

Standard 1: Algebraic Reasoning—The student will graph and solve linear equations and inequalities in problem-solving situations.

1. Equations
 - a. Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.
 - b. Graph and interpret the solution to one- and two-step linear equations on a number line with one variable and on a coordinate plane with two variables.
 - c. Predict the effect on the graph of a linear equation when the slope or y-intercept changes (e.g., make predictions from graphs, identify the slope or y-intercept in the equation $y = mx + b$ and relate to a graph).
 - d. Apply appropriate formulas to solve problems (e.g., $d = rt$, $I = prt$).
2. Inequalities: Model, write, solve, and graph one- and two-step linear inequalities with one variable.

Standard 2: Number Sense and Operation—The student will use numbers and number relationships to solve a variety of problems.

1. Number Sense: Represent and interpret large numbers and numbers less than one in exponential and scientific notation.

2. Number Operations

- a. Use the rules of exponents, including integer exponents, to solve problems (e.g., $7^2 7^3 = 7^5$, $3^{-10} 3^8 = 3^{-2}$).
- b. Solve problems using scientific notation.
- c. Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.

Standard 3: Geometry—The student will use geometric properties to solve problems in a variety of contexts.

1. Construct models, sketch (from different perspectives), and classify solid figures such as rectangular solids, prisms, cones, cylinders, pyramids, and combined forms.
2. Develop the Pythagorean Theorem and apply the formula to find the length of line segments, the shortest distance between two points on a graph, and the length of an unknown side of a right triangle.

Standard 4: Measurement—The student will use measurement to solve problems in a variety of contexts.

1. Develop and apply formulas to find the surface area and volume of rectangular prisms, triangular prisms, and cylinders (in terms of pi).
2. Apply knowledge of ratio and proportion to solve relationships between similar geometric figures.
3. Find the area of a “region of a region” for simple composite figures and the area of cross sections of regular geometric solids (e.g., area of a rectangular picture frame).

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

1. Data Analysis: Select, analyze, and apply data displays in appropriate formats to draw conclusions and solve problems.
3. Central Tendency: Find the measures of central tendency (mean, median, mode, and range) of a set of data and understand why a specific measure provides the most useful information in a given context.

**Oklahoma School Testing Program
Oklahoma Modified Alternative Assessment Program
Grade 8 Mathematics
Test Blueprint
School Year 2012–2013**

The test blueprint reflects the degree to which each *Oklahoma C³* 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 C³</i> Standards and Objectives	Ideal Number of Items	Ideal ¹ Percentage of Items
Algebraic Reasoning: Patterns and Relationships	13–14	30%–33%
Equations (1.1)	8–9	
Inequalities (1.2)	4–5	
Number Sense and Operation	8–9	19%–21%
Number Sense (2.1)	2–3	
Number Operations (2.2)	5–6	
Geometry	7–8	16%–19%
Three Dimensional Figures (3.1)	4–5	
Pythagorean Theorem (3.2)	2–3	
Measurement	6–7	14%–16%
Surface Area and Volume (4.1)	1–3	
Ratio and Proportions (4.2)	1–3	
Composite Figures (4.3)	1–3	
Data Analysis	6–7	14%–16%
Data Analysis (5.1)	2–4	
Central Tendency (5.3)	2–4	
Total Test	40–43²	100%

¹ Percentages are approximations and may result in a sum other than 100 due to rounding.

² The actual number of items scored for a student may be slightly lower pending a review of item statistics.

- Student performance on the Multiple-Choice test will be reported at the standard level. A minimum of six 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.
- The *Oklahoma C³ Standards* correspond to the *PASS* standards. In 2014–2015 the Common Core State Standards will be assessed.

Reading—Grade 8

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 expand vocabulary through word study, literature, and class discussion.

Use a 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.

1. Words in Context—Verify the meaning of a word in its context, even when its meaning is not directly stated, through the use of definitions, restatement, example, comparison, or contrast.
2. Word Origins—Recognize and analyze the influence of historical events on English word meaning and vocabulary expansion.
Example: Identify how the early influences of Spanish explorers in North America impacted American English vocabulary by adding words such as *lasso*, *tortilla*, and *patio* and investigate why these particular words were adopted from the Spanish.
3. Idioms and Comparisons—Analyze idioms and comparisons, such as analogies, metaphors, and similes, to infer the literal and figurative meanings of phrases.
 - a. Idioms: expressions that cannot be understood just by knowing the meanings of the words in the expression, such as *Rush hour traffic moves at a snail's pace* or *as plain as day*.
 - b. Analogies: comparisons of the similar aspects of two different things.
 - c. Metaphors: implies comparisons, such as, *The cup of hot tea was the best medicine for my cold*.
 - d. Similes: comparisons that use *like* or *as*, such as, *The ice was smooth as glass before the skaters entered the rink*.

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

Read and understand grade-level-appropriate material. Describe and connect the essential ideas, arguments, and perspectives of the text by using a knowledge of text structure, organization, and purpose. At Grade 8, in addition to regular classroom reading, read a variety of grade-level-appropriate narrative (story) and expository (informational and technical) texts, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information.

1. Literal Understanding

- a. Apply pre-reading strategies when reading both fiction and nonfiction that is appropriately designed for grade level.
 - Determine the purpose for reading such as to be informed, entertained, persuaded, or to understand.
 - Preview the text and use prior knowledge and experience to make connections to text.
- b. Show understanding by asking questions and supporting answers with literal information from text.

2. Inferences and Interpretation

- a. Make inferences and draw conclusions supported by text evidence and student experiences.
- b. Connect, compare, and contrast ideas, themes, and issues across texts.
Example: Use graphic organizers to show comparisons.

3. Summary and Generalization

- a. Determine the main (or major) idea and how those ideas are supported with specific details.
- b. Paraphrase and summarize text to recall, inform, or organize ideas.

4. Analysis and Evaluation

- a. Distinguish between stated fact, reasoned judgment, and opinion in various texts.
- b. Use text's structure or progression of ideas, such as cause and effect or chronology (sequential order).

- c. Compare/contrast to determine similarities and differences in treatment, scope, or organization.
- d. Problem/solution—offer observations, make connections, react, speculate, interpret, and raise questions in response to text.
- e. Analyze character traits, conflicts, motivations, points of view, and changes that occur within the story.
- f. Analyze the structural elements of the plot, subplot, and climax, and explain the way in which conflicts are or are not resolved.

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

Read and respond to grade-level-appropriate historically or culturally significant works of literature that reflect and enhance a study of history and social science. Clarify the ideas and connect them to other literary works. Participate in self-directed work teams to create observable products.

1. Literary Genres—The student will demonstrate a knowledge of and an appreciation for various forms of literature.
 - a. Analyze the characteristics of genres, including short story, novel, drama, lyric poetry, nonfiction, historical fiction, and informational texts.
 - b. Identify and distinguish characteristics of subgenres, including autobiography, biography, fable, folk tale, mystery, myth, limericks, tall tales, and plays.
2. Literary Elements—Demonstrate knowledge of literary elements and techniques and how they affect the development of a literary work.
 - a. Analyze and explain elements of fiction including plot, conflict, character, mood, setting, theme, point of view, and author’s purpose.
 - b. Identify and explain various points of view and how they affect a story’s interpretation.
3. Figurative Language and Sound Devices—Identify figurative language and sound devices and analyze how they affect the development of a literary work.
 - a. Identify and explain the use of figurative language in literary works to convey mood, images, and meaning, including metaphor, personification, and simile.
 - b. Identify and explain the use of sound devices in literary works to convey mood, images, and meaning, including alliteration, onomatopoeia, and rhyme.

- c. Identify and interpret literary devices such as flashback, foreshadowing, symbolism, and imagery.

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

1. Accessing Information—Select the best source for a given purpose, locate information relevant to research questioning.
 - a. Access information from a variety of primary and secondary sources, including electronic text, experts, and prime resources, to locate information relevant to research questioning.
 - b. Use text organizers, including headings, graphic features (e.g., boldface, italic type), and tables of contents, to locate and organize information.
 - c. Use organizational strategies to learn and recall important ideas from texts, such as preview, questions, reread, and record, as an aid to comprehend increasingly difficult content material.
 - d. Note instances of persuasion, propaganda, and faulty reasoning in text.
2. Interpreting Information—Analyze and evaluate information from a variety of sources.
 - a. Record, organize, and display relevant information from multiple sources in systematic ways (e.g., outlines, timelines, graphic organizers, or note cards).
 - b. Analyze and paraphrase or summarize information from a variety of sources into a research paper.
 - c. Identify and credit the sources used to gain information (e.g., bibliographies, footnotes, appendices).
 - d. Identify and apply test-taking strategies by answering different types and levels of questions, such as open-ended, literal, and interpretive as well as test-like questions, such as multiple-choice, true/false, and short answer.
 - e. Interpret and use graphic sources of information such as maps, graphs, timelines, or tables to address research questions.

**Oklahoma School Testing Program
Oklahoma Modified Alternate Assessment Program
Grade 8 Reading
Test Blueprint
School Year 2012–2013**

The test blueprint reflects the degree to which each *Oklahoma C³* 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 C³</i> Standards and Objectives	Ideal Number of Items	Ideal¹ Percentage of Items
Vocabulary (1.0)	6–7	14%–16%
Words in Context (1.1)	2–3	
Word Origins (1.2)	0–1	
Idioms and Comparisons (1.3)	2–3	
Comprehension (3.0)	16–18	37%–42%
Literal Understanding (3.1)	3–4	
Inferences and Interpretation (3.2)	4–5	
Summary and Generalization (3.3)	4–5	
Analysis and Evaluation (3.4)	4–5	
Literature (4.0)	11–13	26%–30%
Literary Genres (4.1)	3–4	
Literary Elements (4.2)	5–6	
Figurative Language and Sound Devices (4.3)	3–4	
Research and Information (5.0)	6–7	14%–16%
Accessing Information (5.1)	3–4	
Interpreting Information (5.2)	3–4	
<i>Total Test</i>	40–43²	100%

¹ Percentages are approximations and may result in a sum other than 100 due to rounding.

² The actual number of items scored for a student may be slightly lower pending a review of item statistics.

- Student performance on the Multiple-Choice test will be reported at the standard level. A minimum of six 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.
- The *Oklahoma C³ Standards* correspond to the *PASS* standards. In 2014–2015 the Common Core State Standards will be assessed.

Oklahoma C³ Standards

Science—Grade 8

Science Processes and Inquiry

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. Identify qualitative and/or quantitative changes given conditions (e.g., temperature, mass, volume, time, position, length) before, during, and after an event.
2. Use appropriate tools (e.g., metric ruler, graduated cylinder, thermometer, balances, spring scales, stopwatches, computers, handheld data collection devices) to measure objects, organisms, and/or events.
3. Use appropriate International System of Units (SI) (i.e., grams, meters, liters, degrees Celsius, and seconds) and SI prefixes (i.e. milli-, centi-, and kilo-) when measuring objects, organisms and/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. Using observable properties, place an object, organism, and/or event into a classification system (e.g., dichotomous keys, periodic table, biological hierarchy).
2. Identify properties by which a set of objects, organisms, or events could be ordered.

Process Standard 3: Experimental design—Understanding experimental design requires that students recognize the components of a valid experiment. The student will accomplish these objectives to meet this process standard.

2. Evaluate the design of a scientific investigation.
3. Identify variables and/or controls in an experimental setup: independent variable and dependent variable.
6. Recognize potential hazards and practice safety procedures in all science activities.

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 circle graphs. 
3. Evaluate to develop reasonable explanation and/or predictions. 

PHYSICAL SCIENCE

GRADE 8

Standard 1: Properties and Chemical Changes in Matter—Physical characteristics of objects can be described using shape, size, and mass. The materials from which objects are made can be described using color, texture, and hardness. These properties can be used to distinguish and separate one substance from another. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Substances react chemically with other substances to form new substances with different characteristics (e.g., oxidation, combustion, acid/base reactions).
2. Matter has physical properties that can be measured (i.e., mass, volume, temperature, color, texture, density, and hardness) and chemical properties. In chemical reactions and physical changes, matter is conserved (e.g., compare and contrast physical and chemical changes).

Standard 2: Motions and Forces—The motion of an object can be described by its position, direction of motion, and speed as prescribed by Newton’s Laws of Motion. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. The motion of an object can be measured. The position of an object, its speed, and direction can be represented on a graph.
2. An object that is not being subjected to a net force will continue to move at a constant velocity (i.e., inertia, balanced and unbalanced forces).

LIFE SCIENCE

GRADE 8

Standard 3: Diversity and Adaptations of Organisms—Millions of species of animals, plants, and microorganisms are alive today. Although different species might look dissimilar, the unity among organisms becomes apparent from an analysis of internal and external structures. Adaptation involves the selection of naturally occurring variations in populations. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. By classifying organisms, biologists consider details of internal and external structure to infer the degree of relatedness among organisms (i.e., kingdom, phylum, class, order, family, genus, species).
2. Organisms have a great variety of internal and external structures that enable them to survive in a specific habitat (e.g., echolocation, seed dispersal).

EARTH/SPACE SCIENCE

GRADE 8

Standard 4: Structures and Forces of the Earth and Solar System—The earth is mostly rock, three-fourths of its surface is covered by a relatively thin layer of water, and the entire planet is surrounded by a relatively thin blanket of air, and is able to support life. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.
2. The formation, weathering, sedimentation, and reformation of rock constitute a continuing “rock cycle” in which the total amount of material stays the same as its form changes.
3. Atmospheric and ocean circulation patterns affect weather on a global scale (e.g., El Niño, La Niña, Gulf Stream).

Standard 5: Earth's History—The Earth's history involves periodic changes in the structures of the earth over time. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives:

1. Earth's history has been punctuated by occasional catastrophic events (e.g., the impact of asteroids or comets, enormous volcanic eruptions, periods of continental glaciation, and the rise and fall of sea level).
2. Fossils provide important evidence of how life and environmental conditions have changed (e.g., Law of Superposition, index fossil, geologic time period, extinction).

**Oklahoma School Testing Program
Oklahoma Modified Alternate Assessment Program
Grade 8 Science
Test Blueprint
School Year 2012–2013**

The test blueprint reflects the degree to which each *Oklahoma C³* 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 C³</i> Process Standards and Objectives	Ideal Number of Items	Ideal ¹ Percentage of Items
Observe and Measure (P1.0)	6–8	14%–19%
Qualitative/quantitative observations/changes (P1.1)	3–5	
SI (metrics) units/appropriate tools (P1.2 and P1.3)	3–5	
Classify (P2.0)	6–8	14%–19%
Classification system (P2.1)	3–5	
Properties ordered (P2.2)	3–5	
Experiment (P3.0)	13–15	30%–35%
Experimental design (P3.2)	4–6	
Identify variables (P3.3)	4–6	
Hazards/practice safety (P3.6)	3–5	
Interpret and Communicate (P4.0)	11–13	26%–30%
Data tables/line/bar/trend and circle graphs (P4.2)	6–8	
Explanations/prediction (P4.3)	4–6	
Total Test	40–43²	100%

¹ Percentages are approximations and may result in a sum other than 100 due to rounding.

² The actual number of items scored for a student may be slightly lower pending a review of item statistics.

- Student performance on the Multiple-Choice test will be reported at the standard level. A minimum of six 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.
- The OMAAP Grade 8 Science blueprint for 2012–2013 is the same as 2011–2012. No standard setting will be necessary summer of 2013.

**Oklahoma School Testing Program
Oklahoma Modified Alternate Assessment Program
Grade 8 Science (continued)
Test Blueprint
School Year 2012–2013**

<i>Oklahoma C³</i> Content Standards and Objectives	Ideal Number of Items	Ideal ¹ Percentage of Items
Properties and Chemical Changes in Matter (1.0)	6–8	14%–19%
Chemical reactions (1.1)	2–4	
Conservation of matter (1.2)	2–4	
Motion and Forces (2.0)	6–8	14%–19%
Motion of an object (2.1)	2–4	
Object subjected to a force (2.2)	2–4	
Diversity and Adaptations of Organisms (3.0)	7–9	16%–21%
Classification (3.1)	3–5	
Internal and external structures (3.2)	2–4	
Structures/Forces of Earth/Solar System (4.0)	6–8	14%–19%
Landforms result from constructive and destructive forces (4.1)	2–4	
Rock cycle (4.2)	2–4	
Earth’s History (5.0)	6–8	14%–19%
Catastrophic events (5.1)	2–4	
Fossil evidence (5.2)	2–4	
Total Test	36–39^{2*}	90% ^{**}

* Four out of 40 total items assess the “Safety” process standard, for which there is no corresponding content standard.

** The approximate percentages are based on the total number of items on the test matched to the content standards and do not include items added for safety.

¹ Percentages are approximations and may result in a sum other than 100 due to rounding.

² The actual number of items scored for a student may be slightly lower pending a review of item statistics.

- Student performance on the Multiple-Choice test will be reported at the standard level. A minimum of six 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.
- The OMAAP Grade 8 Science blueprint for 2012–2013 is the same as 2011–2012. No standard setting will be necessary summer of 2013.

Sample Items & Tests—Mathematics

The following pages provide an example of a modified test item and a sample test with directions. The answer key at the end of this guide shows the alignment of each sample test item with an *Oklahoma C³* standard or objective.

Sample Item

To see how original OCCT test items are modified by the rules described in the table on pages 2–4 to serve as OMAAP test items, look at the following example.

Original Sample Item

Here is the original OCCT test item and the *Oklahoma C³* standard to which it aligns.

Oklahoma C³ Standard Alignment:

Standard 1. Algebraic Reasoning: Patterns and Relationships—The student will graph and solve linear equations and inequalities in problem-solving situations. 1. Equations a. Model, write, and solve multi-step linear equations with one variable using a variety of methods to solve application problems.

Sample

Stacey delivers newspapers. She earns \$15 each week plus \$2 for each customer on her route. Which equation can she use to find c , the number of customers she needs to earn exactly \$25 each week?

A $15c - 2 = 25$

B $15c + 2 = 25$

C $2c + 15 = 25$

D $2c - 15 = 25$

Modified Sample Item

Here is the sample test item modified to comply with OMAAP guidelines.

Sample

- **Stacey earns \$15 each week for delivering newspapers.**
- **She also earns \$2 for each customer on her route.**

Which equation can she use to find c , the number of customers she needs to earn exactly \$25 each week?

- Ⓐ $15c + 2 = 25$
- Ⓑ $2c + 15 = 25$
- Ⓒ $2c - 15 = 25$

The original OCCT item was modified in these ways:

- Text was edited to reduce reading load.
- Statements with vital information were bulleted to draw attention of student.
- Answer choice A was removed.

Mathematics Sample Test Directions

The sample test is a condensed version of a test, similar to the test you will be taking in this content area.

Sample Test Directions

1. Read each question to yourself.
2. Think of the best answer.
3. Answers will be marked directly in the test booklet.
4. Mark the circle for the answer you have chosen directly on the corresponding letter (as shown in the example below).

Example:

Sample

- **Stacey earns \$15 each week for delivering newspapers.**
- **She also earns \$2 for each customer on her route.**

Which equation can she use to find c , the number of customers she needs to earn exactly \$25 each week?

- A** $15c + 2 = 25$
- $2c + 15 = 25$
- C** $2c - 15 = 25$



Mathematics Sample Test

1

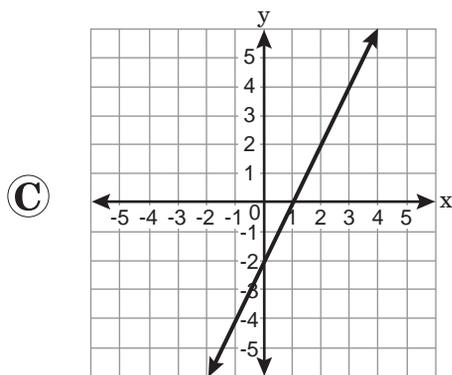
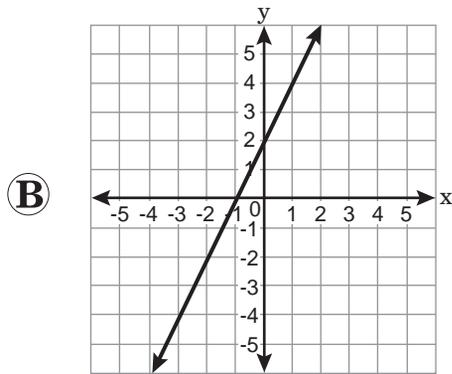
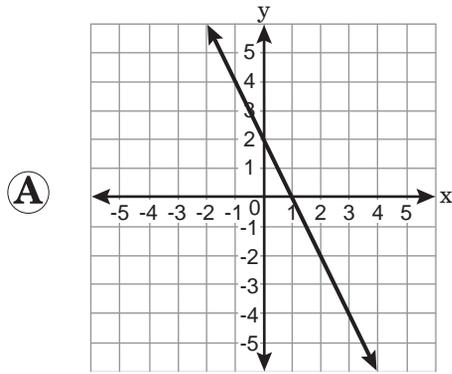
$$4x - 10 = 18$$

Which value of x makes this equation true?

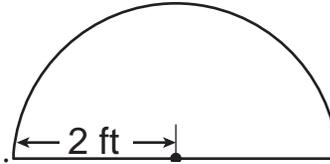
- Ⓐ 2
- Ⓑ 4
- Ⓒ 7

2

Which graph best represents the equation $y = 2x - 2$?



3



What is the area, in square feet (sq ft), of the semicircle?

$$A_{circle} = \pi r^2$$

- Ⓐ 2π sq ft
- Ⓑ 4π sq ft
- Ⓒ 8π sq ft

4

What is the solution to this inequality?

$$2x + 6 < 4$$

- Ⓐ $x < 1$
- Ⓑ $x < -1$
- Ⓒ $x > -1$



5

What is the value of $3^3 \cdot 3^2$?

- (A) 729
- (B) 243
- (C) 54

6

Which expression is a simplified form of the product shown?

$$(3 \times 10^2)(4 \times 10^3)$$

- (A) 1.2×10^5
- (B) 7×10^5
- (C) 1.2×10^6

7

A box is 10 inches long, 3 inches wide, and 4 inches high.

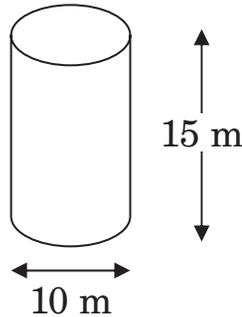
What is the surface area, in square inches (sq in.), of the box?

$$SA_{\text{rectangular prism}} = 2(lw + lh + wh)$$

- (A) 120 sq in.
- (B) 134 sq in.
- (C) 164 sq in.

8

The diagram shows the dimensions of a cylinder in meters (m).



Which of these could be the dimensions, in meters (m), of a different cylinder that is similar to the one shown in the diagram?

- (A) diameter = 20 m, height = 25 m
- (B) diameter = 20 m, height = 30 m
- (C) diameter = 25 m, height = 30 m

9

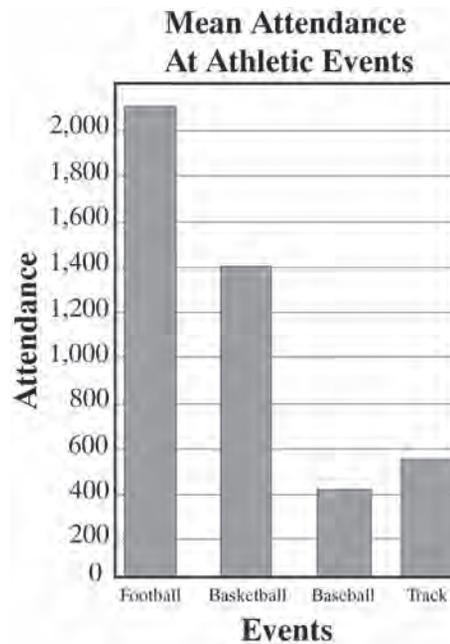
Jill plans to conduct a survey to study the relationship between the number of hours her classmates watch television and their quiz scores.

Which would be the best way for Jill to display the survey data?

- (A) stem-and-leaf plot
- (B) circle graph
- (C) scatterplot

10

The table shows the mean attendance for four different athletic events during the past year.



How much greater was the mean attendance for the football events than the track events?

- Ⓐ 14
- Ⓑ 15
- Ⓒ 1,550



Sample Items & Tests—Reading

The following pages provide an example of a modified test item and a sample test with directions. The answer key at the end of this guide shows the alignment of each sample test item with an *Oklahoma C³* standard or objective.

Sample Item

To see how original OCCT test items are modified by the rules described in the table on pages 2–4 to serve as OMAAP test items, look at the following example.

Original Sample Item

Here is the original OCCT test item and the *Oklahoma C³* standard to which it aligns.

Oklahoma C³ Standard Alignment:

Standard 3: Comprehension—The student will interact with the words and concepts in the text to construct an appropriate meaning; Objective 3.2 Inferences and Interpretation; a. Make inferences and draw conclusions supported by text evidence and student experiences.

Sample Selection

Camping Adventure

A loud crack made Daniel sit straight up in his sleeping bag. The silver-white flash of lightning lit up his father's face. His father was peering out through the tent flap at their remote campsite. In the next instant, torrents of rain as loud as a freight train beat down on the tent.

"We'll have to move to higher ground," Daniel's father yelled above the din. "The river will rise pretty quickly if it's been raining this hard upstream."

Quickly Daniel stepped into his shoes and pulled his poncho on over his clothes. He skillfully rolled up his sleeping bag and strapped it to his backpack, while his father did the same with his own. Within minutes, they were fighting against the wind and rain, pulling apart the tent and bundling up the soggy nylon. They knew exactly what to do.

Sample

Why did Daniel and his father need to move their camp?

- A** because the wind was blowing
- B** because the river might flood
- C** because their tent was soggy
- D** because their campsite was too remote

Modified Sample Item

Here is the sample test item modified to comply with OMAAP guidelines.

Sample Selection

Camping Adventure

A loud crack made Daniel sit straight up in his sleeping bag. The silver-white flash of lightning lit up his father's face. His father was peering out through the tent flap at their remote campsite. In the next instant, torrents of rain as loud as a freight train beat down on the tent.

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Quickly Daniel stepped into his shoes and pulled his poncho on over his clothes. He skillfully rolled up his sleeping bag and strapped it to his backpack, while his father did the same with his own. Within minutes, they were fighting against the wind and rain, pulling apart the tent and bundling up the soggy nylon. They knew exactly what to do.

SAMPLE

Why did Daniel and his father need to move their camp?

- Ⓐ because the wind was blowing
- Ⓑ because the river might flood
- Ⓒ because their tent was soggy

Please note: Reading passages on the OMAAP will be the same length as the passages presented on the OCCT. However, instead of reading the entire passage and then answering all questions, students who take the OMAAP will find that the passages have been divided into smaller sections with questions between each section.

The original item was modified in the following way: Answer choice D was removed.

Reading Sample Test Directions

The sample test is a condensed version of a test, similar to the test you will be taking in this content area.

Sample Test Directions

1. Read each question to yourself.
2. Think of the best answer.
3. Answers will be marked directly in the test booklet.
4. Mark the circle for the answer you have chosen directly on the corresponding letter (as shown in the example below).

Example:

SAMPLE

Why did Daniel and his father need to move their camp?

- Ⓐ because the wind was blowing
- Ⓑ because the river might flood
- Ⓒ because their tent was soggy



Reading Sample Test

Read the selection. Read each question and choose the best answer. Then mark the circle for the answer you have chosen.

Summer Time

- 1 Bobby stared out the window as the bus bounced down the bumpy dirt road. Summer was here, and that meant a two-month stay in the country to live with his grandfather, helping him on his farm. Bobby had dreaded this trip all year. Most of his friends were looking forward to going to the pool and playing baseball, but all Bobby had to look forward to was picking squash and sweating in the corn fields. What could he possibly enjoy about a summer in the country?
- 2 He woke up on his first morning in the old creaky house to the sight of a daddy-longleg spider scuttling across his ceiling. He groaned and got up to walk to the back porch. The morning sun peeked over the horizon. A gentle mist was a blanket rising from a little creek and covering the nearby fields. As the sun rose Bobby could hear the crickets chirping and an orchestra of sounds from other insects as they began their rising and falling hum.
- 3 He stood for a while, looking at the rabbits running through the garden, and heard his grandfather limp up behind him and say, “Right pretty sight, isn’t it, son?” Bobby was surprised to hear his grandfather noticing the beauty of the morning. He was a gruff man and lived alone out on the farm. His grandfather took a deep breath, smiled, and said, “Well, we’d better get to it—it’s gonna be a scorcher today.”



1

As the sun rose Bobby could hear the crickets chirping and an orchestra of sounds from other insects as they began their rising and falling hum.

The metaphor orchestra of sounds refers to

- Ⓐ the mist covering the fields.
- Ⓑ the sun rising over the horizon.
- Ⓒ the noises made by the insects.

2

His grandfather took a deep breath, smiled, and said, “Well, we’d better get to it—it’s gonna be a scorcher today.”

The idiom a scorcher means

- Ⓐ a very bad day.
- Ⓑ a very fast day.
- Ⓒ a very hot day.

**Continue reading “Summer Time.”**

- 4 They walked out to the garden with their baskets. The damp earth made black crescents under Bobby’s fingernails as he worked, the damp scent filling his nose. His grandfather was happily whistling a song out of tune, and again Bobby paused to wonder at his grandfather’s enthusiasm for something considered a chore by most people.
- 5 Later that afternoon, after a lunch of sandwiches, his grandfather turned to him and asked, “You ever been fishing?” When Bobby shook his head, his grandfather walked off to the shed that stood hunched in the shadow of the big oak tree and pulled out two rods and reels and a tackle box. He motioned at Bobby to follow him, and they walked out into the field, down a hill, and to the stream Bobby had noticed earlier. His grandfather sat down on a boulder and showed Bobby how to bait his line. They sat in companionable silence, with Bobby feeling as though he had met his grandfather for the first time. His grandfather obviously loved his life in the country. Bobby knew his friends were sitting next to the pool, laughing and joking, with music blaring and the clear blue chlorinated water shining below them—while his own feet dangled in a creek bed full of brown water with red clay silt¹. He expected to feel jealous, but somehow, with the warm sunlight on his back and the chirping of the birds around him, he didn’t. In fact, he was beginning to think this might be a better place to be after all. And he smiled into the water, relaxing into his new experience of summer.

¹ *silt—fine particles*



3

In paragraph 5, it is reasonable to conclude that Bobby will

- Ⓐ enjoy his time in the country.
- Ⓑ spend next summer at home.
- Ⓒ feel jealous of his friends at the pool.

4

At the end of the story, Bobby feels

- Ⓐ ashamed.
- Ⓑ satisfied.
- Ⓒ jealous.

5

Which statement would be important to include in a summary of the passage?

- Ⓐ Bobby and his grandfather enjoyed fishing together.
- Ⓑ Bobby woke up to see a big spider on his ceiling.
- Ⓒ Bobby's grandfather whistled a song out of tune.



Read the selection. Read each question and choose the best answer. Then mark the circle for the answer you have chosen.

In a Class of Their Own

- 1 Animals are classified into two main categories: vertebrates and invertebrates. Within each category, animals are further classified by their various characteristics. Animal groups that are vertebrates are fish, amphibians, reptiles, birds, mammals, marsupials, primates, rodents, cetaceans (whales and dolphins), and others, such as seals. While these animal groups classify a majority of vertebrates, they do not classify all vertebrates. There are two vertebrates native to Australia that scientists initially had trouble classifying. These two are the duckbilled platypus and the echidna (ĭ-kĭd'nə).

Their Features and Habits

- 2 Platypuses and echidnas are similar in several ways. They both have traits that are purely distinctive of mammals. They are covered with hair, have milk glands to nurse their young, and have large brains. They also have traits that are purely distinctive of reptiles. They lay eggs, and their body temperatures change based upon their surroundings. While platypuses and echidnas share these traits, they differ from one another in other important ways.
- 3 Platypuses live near streams, rivers, and lakes where their unique bodies benefit them. Platypuses have a bill, or beak, that enables them to find crayfish, shrimp, tadpoles, and fish to eat. They also have webbed feet with claws that allow them to swim while in the water and to walk and burrow holes while on land. In addition, platypuses have large, flat tails similar to a beaver's that allow the platypus to store food like camels do in their humps.



4 Echidnas live on land near rocks, hollow logs, or the roots of trees where their unique bodies benefit them. Echidnas have elongated snouts that enable them to break up logs and insect mounds in order to find termites to eat. They also have short, stocky limbs with clawed feet, allowing them to dig holes and search for food. In addition, echidnas have spines covering their bodies that protect them from predators, as do porcupines and hedgehogs.

6

What would add useful information to this passage?

- Ⓐ a scientist's footnotes
- Ⓑ a zookeeper's daily schedule
- Ⓒ an animal trainer's bibliography



Continue reading “In a Class of Their Own.”

Caring for Their Young

- 5 The female platypus digs a hole to nest her young. Inside the hole, she places vegetation to secure her eggs. Before she lays her eggs, she will close any access to the nesting hole to protect the eggs from predators and to provide a stable temperature for the eggs to hatch. She will lay one to three eggs and incubate them by curling her warm body around them. Once the eggs hatch, the young platypuses are nursed by their mother’s milk for approximately three to four months. After this time, the young platypuses are ready to explore the water and land of the outside world.
- 6 The female echidna develops a simple pouch to carry her young. This pouch is where she will lay a single egg. Within ten days this single egg will hatch; however, the young echidna will stay in its mother’s pouch for another three months. After this time, the young echidna will have developed its spikes and left its mother’s pouch, but it will still nurse from its mother’s milk for several more months. During this nursing period, the young echidna will begin to eat the termites and ants that will soon become its sole diet.



7

Which resource would help a student find specific information about how echidnas raise their young?

- Ⓐ a book, Field Guide to Unique Animals
- Ⓑ a travel guide, Australia's Famous Animals
- Ⓒ an encyclopedia entry, "Echidnas and Their Ways"



Continue reading “In a Class of Their Own.”

Their Discovery and Classification

- 7 Platypus specimens were first brought to England from Australia in the late 1700s to early 1800s. Scientists were unsure how to classify this new animal, and many believed the animal to be a fraud. It took almost a century before scientists were able to agree that the platypus was indeed a mammal. The feature that settled the debate over classifying the platypus is the fact that platypus young are nursed by their mother’s milk, a trait unique to mammals. Because echidna young are also nursed by their mother’s milk, they too are classified as mammals.
- 8 However, platypuses and echidnas are a special order of mammal known as “monotremes.” Monotremes (mŏn’ə-trēm’s) differ from other mammals in that monotremes lay eggs like birds or reptiles do. They are also found only in Australia and New Guinea. Because of their uniqueness, platypuses and echidnas are in a class all by themselves.



8

In paragraph 7, why did scientists classify platypuses as mammals?

- Ⓐ They produce milk.
- Ⓑ They have large brains.
- Ⓒ They are covered with hair.

9

However, platypuses and echidnas are a special order of mammal known as “monotremes.”

In this sentence from paragraph 8, what does the word order mean?

- Ⓐ rule
- Ⓑ group
- Ⓒ purchase

10

The purpose for reading this passage is

- Ⓐ to be shown how common echidnas and platypuses are.
- Ⓑ to be persuaded to protect echidnas and platypuses.
- Ⓒ to be informed about echidnas and platypuses.



Sample Items & Tests—Science

The following pages provide an example of a modified test item and a sample test with directions. The answer key at the end of this guide shows the alignment of each sample test item with an *Oklahoma C³* standard or objective.

Sample Item

To see how original OCCT test items are modified by the rules described in the table on pages 2–4 to serve as OMAAP test items, look at the following example.

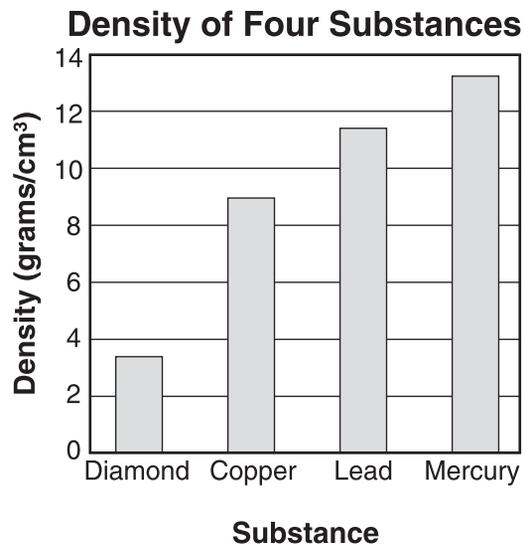
Original Sample Item

Here is the original OCCT test item and the *Oklahoma C³* standard to which it aligns.

Oklahoma C³ Standards Alignment:

- *Oklahoma C³ Content:*
Standard 1. Properties and Chemical Changes in Matter—Physical characteristics of objects can be described using shape, size, and mass. The materials from which objects are made can be described using color, texture, and hardness. These properties can be used to distinguish and separate one substance from another. The student will engage in investigations that integrate the process standards and lead to the discovery of the following objectives.
- Objective 1.2. Matter has physical properties that can be measured (i.e., mass, volume, temperature, color, texture, density, and hardness) and chemical properties. In chemical reactions and physical changes, matter is conserved (e.g., compare and contrast physical and chemical changes).
- *Oklahoma C³ 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.
- Objective 4.2. Interpret data tables, line, bar, trend, and/or circle graphs.

Sample



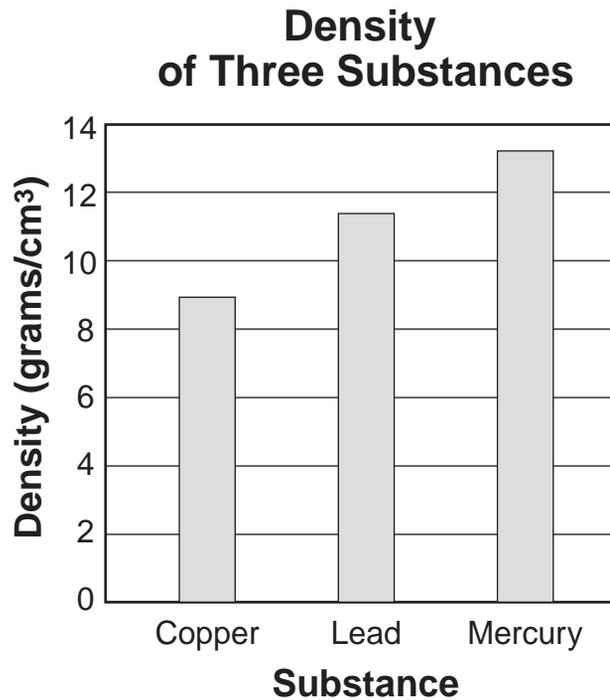
Which substance in the bar graph has the greatest density?

- A** mercury
- B** copper
- C** diamond
- D** lead

Modified Sample Item

Here is the sample test item modified to comply with OMAAP guidelines.

SAMPLE



Which substance in the bar graph has the greatest density?

- Ⓐ copper
- Ⓑ lead
- Ⓒ mercury

The original item was modified in these ways:

- Removed answer choice C, “diamond,” and its corresponding bar in the graph.
- Updated title.
- The word “greatest” was underlined in the stem of the item.
- The order of the answer choices was changed to reflect the order in the bar graph.

Science Sample Test Directions

The sample test is a condensed version of a test, similar to the test you will be taking in this content area.

Sample Test Directions

1. Read each question to yourself.
2. Think of the best answer.
3. Answers will be marked directly in the test booklet.
4. Mark the circle for the answer you have chosen directly on the corresponding letter (as shown in the example below).

Example

SAMPLE

**Density
of Three Substances**

Substance	Density (grams/cm ³)
Copper	9
Lead	11.5
Mercury	13.5

Which substance in the bar graph has the greatest density?

(A) copper

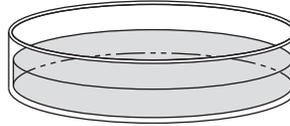
(B) lead

mercury

Science Sample Test

1

Monty wants to measure the liquid in the petri dish.

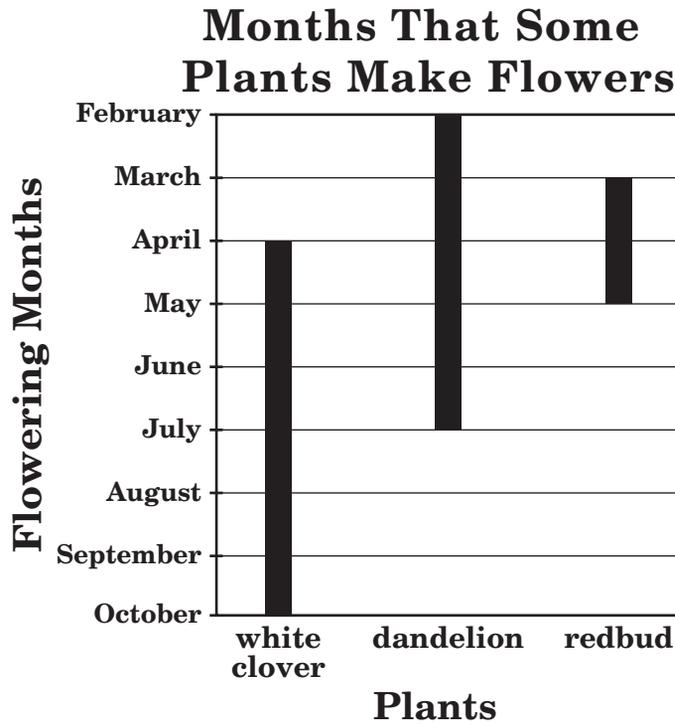


Which measurement and what unit of measurement should he use?

- Ⓐ volume and milliliters
- Ⓑ time and milligrams
- Ⓒ mass and milliseconds



2



Months That Some Plants Make Flowers

Plant	Flowering Begins	Number of Flowering Months
white clover	April	6
dandelion	February	5
redbud	March	?

Which number will complete the table chart?

- (A) 2
- (B) 3
- (C) 4



3

Taylor places 2 grams of salt into a cup of water. He evaporates the water, leaving only salt in the cup.

Why will the 2 grams of salt still be in the cup?

- Ⓐ A chemical change occurred.
- Ⓑ Salt does not dissolve in water.
- Ⓒ Salt does not evaporate with water.

4

Chemistry of a Few Minerals

Mineral	Chemical Formula
Quartz	SiO_2
Topaz	KAlSi_3O_8
Orthoclase	ZrSiO_2

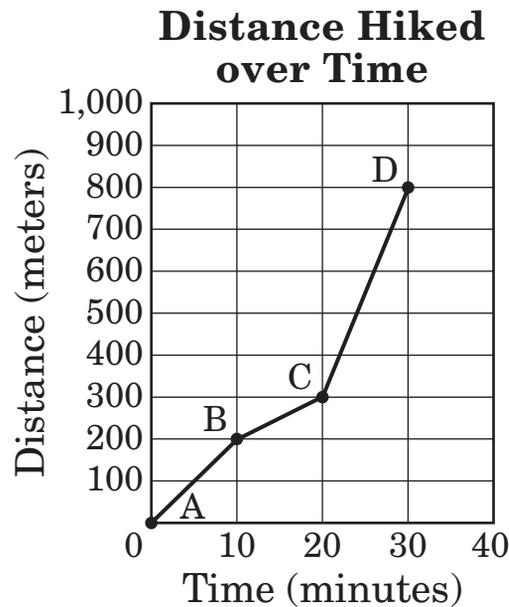
All these minerals belong to the same group.

Which group do these minerals belong to, and which element is contained in each mineral?

- Ⓐ silicates because each mineral contains a combination of silicon and oxygen
- Ⓑ silicates because each mineral contains oxygen
- Ⓒ oxides because each mineral contains oxygen and selenium

5

The graph shows how fast Janie moved at different points in her hike.



$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

What was Janie's speed from point A to point B?

- Ⓐ 10 $\frac{\text{meters}}{\text{minute}}$
- Ⓑ 20 $\frac{\text{meters}}{\text{minute}}$
- Ⓒ 200 $\frac{\text{meters}}{\text{minute}}$



6

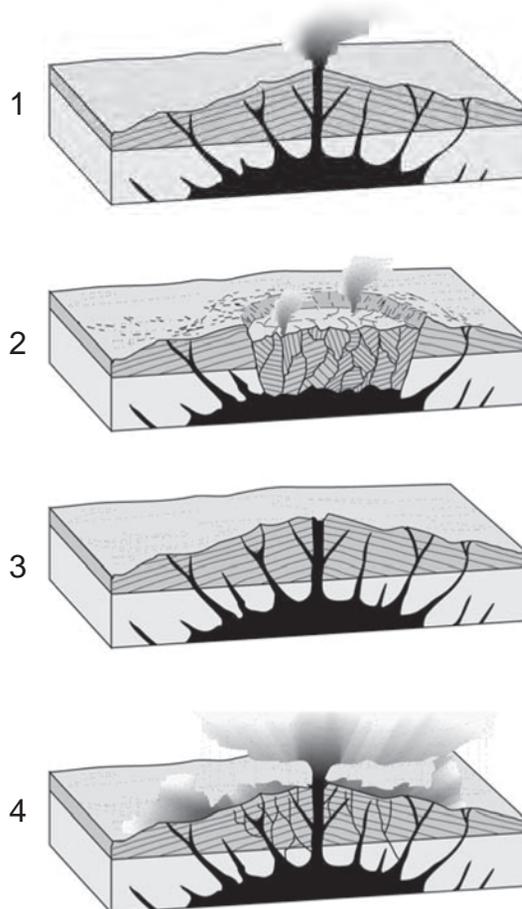
Use the following information to calculate the volume of a rock in milliliters (mL).

1. Place 250 mL of water in a graduated cylinder.
2. Place the rock in the graduated cylinder.
3. The water level in the graduated cylinder rises to 318 mL.

What is the volume of the rock?

- Ⓐ 68 mL
- Ⓑ 318 mL
- Ⓒ 568 mL

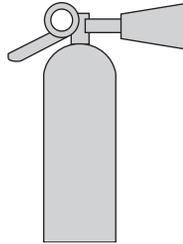
7



Which list shows the order of events that formed the volcanic crater?

- (A) 2, 1, 3, 4
- (B) 3, 1, 4, 2
- (C) 4, 3, 1, 2

8



In which situation should this safety equipment be used?

- Ⓐ fire
- Ⓑ broken glass
- Ⓒ chemical spills

9

Elise did an experiment to see if different fertilizers affected the number of tomatoes a tomato plant made.

Which variable must Elise change during her experiment to determine the effects?

- Ⓐ amount of light
- Ⓑ type of fertilizer
- Ⓒ number of tomatoes



10

Shannon wanted to see if a solid substance is an acid or a base.

1. Place the blue litmus paper in the dissolved substance.
2. Dissolve the substance in water.
3. Look at any changes in the color of the litmus paper.
4. Grind the solid substance into a powder.

In which order should she do these steps?

- Ⓐ 2, 1, 3, 4
- Ⓑ 3, 2, 1, 4
- Ⓒ 4, 2, 1, 3



Answer Key

Mathematics		
Number	Answer	<i>OK C³</i> Objective
Sample	B	1.1a
1	C	1.1a
2	C	1.1b
3	A	1.1d
4	B	1.2
5	B	2.2a
6	C	2.2b
7	C	4.1
8	B	4.2
9	C	5.1
10	C	5.3

Reading		
Number	Answer	<i>OK C³</i> Objective
Sample	B	3.2a
1	C	1.3c
2	C	1.3a
3	A	3.2a
4	B	3.4e
5	A	3.3b
6	A	5.2c
7	C	5.1a
8	A	3.1b
9	B	1.1
10	C	3.1a

Science			
Number	Answer	<i>OK C³</i> Process Objective	<i>OK C³</i> Content Objective
Sample	C	4.2	1.2
1	A	1.3	1.2
2	A	4.2	3.1
3	C	4.3	1.2
4	A	2.1	1.1
5	B	1.1	2.1
6	A	1.2	1.2
7	B	2.2	4.1
8	A	3.6	N/A
9	B	3.3	3.2
10	C	3.2	1.2

