

Georgia Milestones

Assessment System



Assessment Guide Grade 5



Assessment Guide

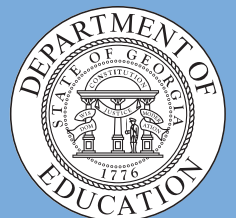


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THE GEORGIA MILESTONES ASSESSMENT SYSTEM

The purpose of the Georgia Student Assessment Program is to measure student achievement of the state-adopted content standards and inform efforts to improve teaching and learning. Results of the assessment program are utilized to identify students failing to achieve mastery of content, to provide educators with feedback about instructional practice, and to assist school districts in identifying strengths and weaknesses in order to establish priorities in planning educational programs.

The State Board of Education is required by Georgia law (O.C.G.A. §20-2-281) to adopt assessments designed to measure student achievement relative to the knowledge and skills set forth in the state-adopted content standards. The Georgia Milestones Assessment System (Georgia Milestones) fulfills this requirement and, as a key component of Georgia's Student Assessment Program, is a comprehensive summative assessment program spanning grade 3 through high school. Georgia Milestones measures how well students have learned the knowledge and skills outlined in the state-adopted content standards in Language Arts, Mathematics, Science, and Social Studies. Students in grades 3 through 8 take an end-of-grade assessment in English Language Arts and Mathematics; additionally, students in grades 5 and 8 are assessed in Science; and students in grade 8 are assessed in Social Studies. High school students take an end-of-course assessment for each of the five courses designated by the State Board of Education. In accordance with State Board Rule, Georgia Milestones end-of-course measures serve as the final exams for the specified high school courses.

The main purpose of Georgia Milestones is to inform efforts to improve student achievement by assessing student performance on the standards specific to each course or subject/grade tested. Specifically, Georgia Milestones is designed to provide students and their parents with critical information about the students' achievement and, importantly, their preparedness for the next educational level. The assessment system is a critical informant of the state's accountability measure, the College and Career Ready Performance Index (CCRPI), providing an important gauge about the quality of the educational services and opportunities provided throughout the state. The ultimate goal of Georgia's assessment and accountability system is to ensure that all students are provided the opportunity to engage with high-quality content standards, receive high-quality instruction predicated upon those standards, and are positioned to meet high academic expectations.

Features of the Georgia Milestones Assessment System include:

- technology-enhanced items in all grades and courses;
- open-ended (constructed-response) items in English Language Arts (all grades and courses);
- a writing component (in response to passages read by students) at every grade level and course within the English Language Arts assessment; and
- online administration as the primary mode of administration.

The mode of administration for the Georgia Milestones program is online. Paper/pencil test materials, such as Braille forms, will be available for the small number of students who cannot interact with the computer due to their disability as documented in an IEP, IAP/504, or EL-TPC Plan.

Georgia Milestones follows guiding principles to help ensure that the assessment system:

- is sufficiently challenging to ensure Georgia students are well positioned to compete with other students across the United States and internationally;
- is intentionally designed across grade levels to send a clear signal of student academic progress and preparedness for the next level, whether it is the next grade level, course, or college or career;
- is accessible to all students, including those with disabilities or limited English proficiency, at all achievement levels;
- supports and informs the state’s educator-effectiveness initiatives, ensuring items and forms are appropriately sensitive to quality instructional practices; and
- includes innovative technology-enhanced items.

GEORGIA MILESTONES END-OF-GRADE (EOG) ASSESSMENTS

As previously mentioned, Georgia law (§20-2-281) mandates that the State Board of Education adopt annual measures of student achievement in the content areas of English Language Arts (ELA) and Mathematics in grades 3–8, Science in grade 5 and 8, and Social Studies in grade 8. Students must participate in the Georgia Milestones content areas measured at the end of each grade in which they are enrolled. State law further mandates that student achievement in reading, as measured as a component of the Georgia Milestones English Language Arts (ELA) EOG assessment, be utilized in promotion and retention decisions for students in grades 3, 5, and 8, while student achievement in mathematics, as measured by the Georgia Milestones Mathematics EOG assessment, be considered in grades 5 and 8. Students who fail to demonstrate grade-level achievement on these measures must receive remediation and be offered an opportunity for a retest prior to consideration for promotion to grades 4, 6, and 9 (§20-2-283 and State Board of Education Rule 160-4-2-.11).

Results of the EOG assessments, according to the legislated and identified purposes, must:

- provide a valid measure of student achievement of the state content standards across the full achievement continuum;
- provide a clear signal of each student’s preparedness for the next educational level (i.e., grade);
- allow for the detection of the academic progress made by each student from one assessed grade to the next;
- be suitable for use in promotion and retention decisions at grades 3 (reading), 5 (reading and mathematics), and 8 (reading and mathematics);
- support and inform educator-effectiveness measures; and
- inform state and federal accountability measures at the school, district, and state levels.

ASSESSMENT GUIDE

The Georgia Milestones Grade 5 EOG Assessment Guide is provided to acquaint Georgia educators and other stakeholders with the structure and content assessed by the tests. Importantly, this guide is not intended to inform instructional planning. It is essential to note that there are a small number of content standards that are better suited for classroom or individual assessment rather than large-scale summative assessment. While those standards are not included on the tests, and therefore are not included in this Assessment Guide, the knowledge, concepts, and skills inherent in those standards are often required for the mastery of the standards that are assessed. Failure to attend to all content standards within a content area can limit a student's opportunity to learn and show what he or she knows and can do on the assessments.

The Georgia Milestones Grade 5 EOG Assessment Guide is in *no way* intended to substitute for the state-mandated content standards; it is provided to help educators better understand the structure and content of the assessments, *but is not all-encompassing of the knowledge, concepts, and skills covered in Grade 5 or assessed on the tests*. The state-adopted content standards and associated standards-based instructional resources, such as the Content Frameworks, should be used to plan instruction. This Assessment Guide can serve as a *supplement* to those resources, in addition to any locally developed resources, **but should not be used in isolation**. In principle, this Assessment Guide is intended to be descriptive of the assessment program and should not be considered all-inclusive. The state-adopted content standards are located at www.georgiastandards.org.

TESTING SCHEDULE

The Georgia Milestones Grade 5 EOG assessment is offered during the Main Administration each spring and one Summer Administration for retests.

Students will take the Georgia Milestones Grade 5 EOG assessment on days specified by their local school district during the testing window. Each district determines a local testing window within the state-designated testing window.

DEPTH OF KNOWLEDGE DESCRIPTORS

Items found on the Georgia Milestones assessments, including the Grade 5 EOG assessment, are developed with a particular emphasis on cognitive complexity, or Depth of Knowledge (DOK). DOK is measured on a scale of 1 to 4 and refers to the level of cognitive demand required to complete a task (or in this case, an assessment item). The higher the level, the *more complex* the assessment; however, higher levels do not necessarily mean *more difficult* items. For instance, a question can have a low DOK but a medium or even high difficulty level. Conversely, a DOK 4 question may have a low difficulty level but still require a great deal of cognitive thinking (e.g., analyzing and synthesizing information instead of just recalling it). The following descriptions and table show the expectations of the four DOK levels in greater detail.

Level 1 (Recall of Information) generally requires students to identify, list, or define, often asking them to recall who, what, when, and where. Consequently, this level usually asks students to recall facts, terms, concepts, and trends and may ask them to identify specific information contained in documents, excerpts, quotations, maps, charts, tables, graphs, or illustrations. Items that require students to “describe” and/or “explain” could be classified at Level 1 or Level 2, depending on what is to be described and/or explained. A Level 1 “describe” and/or “explain” would require students to recall, recite, or reproduce information.

Level 2 (Basic Reasoning) includes the engagement of some mental processing beyond recalling or reproducing a response. A Level 2 “describe” and/or “explain” would require students to go beyond a description or explanation of recalled information to describe and/or explain a result or “how” or “why.”

Level 3 (Complex Reasoning) requires reasoning, using evidence, and thinking on a higher and more abstract level than Level 1 and Level 2. Students will go beyond explaining or describing “how and why” to justifying the “how and why” through application and evidence. Level 3 questions often involve making connections across time and place to explain a concept or “big idea.”

Level 4 (Extended Reasoning) requires the complex reasoning of Level 3 with the addition of planning, investigating, applying significant conceptual understanding, and/or developing that will most likely require an extended period of time. Students should be required to connect and relate ideas and concepts *within* the content area or *among* content areas in order to be at this highest level. The distinguishing factor for Level 4 would be evidence (through a task, a product, or an extended response) that the cognitive demands have been met.

The following table identifies skills that students will need to demonstrate at each DOK level, along with sample question cues appropriate for each level.

Level	Skills Demonstrated	Question Cues
<p>Level 1</p> <p>Recall of Information</p>	<ul style="list-style-type: none"> • Make observations • Recall information • Recognize formulas, properties, patterns, processes • Know vocabulary, definitions • Know basic concepts • Perform one-step processes • Translate from one representation to another • Identify relationships 	<ul style="list-style-type: none"> • Tell who, what, when, or where • Find • List • Define • Identify; label; name • Choose; select • Compute; estimate • Express as • Read from data displays • Order
<p>Level 2</p> <p>Basic Reasoning</p>	<ul style="list-style-type: none"> • Apply learned information to abstract and real-life situations • Use methods, concepts, and theories in abstract and real-life situations • Perform multi-step processes • Solve problems using required skills or knowledge (requires more than habitual response) • Make a decision about how to proceed • Identify and organize components of a whole • Extend patterns • Identify/describe cause and effect • Make basic inferences or logical predictions from data or text • Interpret facts • Compare or contrast simple concepts/ideas 	<ul style="list-style-type: none"> • Apply • Calculate; solve • Complete • Describe • Explain how; demonstrate • Construct data displays • Construct; draw • Analyze • Extend • Connect • Classify • Arrange • Compare; contrast • Predict

Level	Skills Demonstrated	Question Cues
Level 3 Complex Reasoning	<ul style="list-style-type: none"> Solve an open-ended problem with more than one correct answer Create a pattern Generalize from given facts Relate knowledge from several sources Draw conclusions Translate knowledge into new contexts Compare and discriminate between ideas Assess value of methods, concepts, theories, processes, and formulas Make choices based on a reasoned argument Verify the value of evidence, information, numbers, and data 	<ul style="list-style-type: none"> Plan; prepare Create; design Ask “what if?” questions Generalize Justify; explain why; support; convince Assess Rank; grade Test; judge Recommend Select Conclude
Level 4 Extended Reasoning	<ul style="list-style-type: none"> Analyze and synthesize information from multiple sources Examine and explain alternative perspectives across a variety of sources Describe and illustrate how common themes are found across texts from different cultures Apply mathematical models to illuminate a problem or situation Design a mathematical model to inform and solve a practical or abstract situation Combine and synthesize ideas into new concepts 	<ul style="list-style-type: none"> Design Connect Synthesize Apply concepts Critique Analyze Create Prove

SCORES

Students will receive a scale score and an Achievement Level designation based on total test performance. In addition, students will receive information on how well they performed at the domain level. For more information on scoring, please see the *Georgia Milestones End-of-Grade (EOG) Interpretive Guide for Score Reports*. Additional information on the items contributing to these scores is found in the Description of Test Format and Organization sections for English Language Arts (ELA), Mathematics, and Science.

Selected-response items and technology-enhanced items are machine scored. The Mathematics and Science assessments consist of selected-response and technology-enhanced items. However, the English Language Arts (ELA) assessment consists of a variety of item types that contribute to the student's score, including selected-response, technology-enhanced, constructed-response, extended constructed-response, and extended writing-response. Items that are not machine scored—i.e., constructed-response, extended constructed-response, and extended writing-response items—require rubrics for manual scoring.

ENGLISH LANGUAGE ARTS (ELA)

DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Georgia Milestones English Language Arts (ELA) EOG assessment is a criterion-referenced test, designed to provide information about how well a student has mastered the grade-level state-adopted content standards in English Language Arts (ELA). The assessment consists of both operational items and field test items (newly written items that are being tried out and do not contribute to the student's score). Each student will receive one of four Achievement Level designations, depending on how well the student has mastered the content standards. The four Achievement Level designations are Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. In addition to criterion-referenced information, the Georgia Milestones measures will also produce an estimate of how Georgia students are achieving relative to their peers nationally. The norm-referenced information provided is supplementary to the criterion-referenced Achievement Level designation and will not be utilized in any manner other than to serve as a barometer of national comparison. Only the criterion-referenced scores and Achievement Level designations will be utilized in the accountability metrics associated with the assessment program (such as student growth measures, educator-effectiveness measures, or the CCRPI).

The table on the following page outlines the number and types of items included on the Grade 5 English Language Arts EOG assessment.

Grade 5 English Language Arts (ELA) EOG Assessment Design

Description	Number of Items	Number of Points
1-point Selected-Response and Technology-Enhanced Items ^{1, 2}	37	37
2-point Technology-Enhanced Items ¹	5	10
2-point Constructed-Response Items	1	2
4-point Extended Constructed-Response Items	1	4
7-point Extended Writing-Response Items	1	7
Field Test Items ³	6	0
Total⁴	51	60

¹ **Technology-Enhanced:** Possible variants of the technology-enhanced item types used for ELA include evidence-based selected-response, drag-and-drop, and drop-down.

² **1-point Selected-Response and Technology-Enhanced Items:** The ratio of selected-response to technology-enhanced items may vary. The target range of 1-point technology-enhanced items is 0 to 5.

³ **Field Test Items:** Field test items may include 1-point selected-response, 1-point technology-enhanced, 2-point evidence-based selected-response, 2-point technology-enhanced, and 4-point extended constructed-response items.

⁴ **Total:** Of the total 51 items, 45 contribute to the student's ELA score.

The test will be given in three sections. Students will be given a maximum of 90 minutes to complete Section 1, which includes the extended writing-response. Students may have up to 80 minutes per section to complete Sections 2 and 3. The total estimated testing time for the Grade 5 English Language Arts (ELA) EOG assessment ranges from approximately 125 to 250 minutes. Total testing time describes the amount of time students have to complete the assessment. It does not take into account the time required for the test examiner to complete pre-administration and post-administration activities (such as reading the standardized directions to students). Section 1, which focuses on writing, must be administered on a separate day. Sections 2 and 3 must be scheduled such that both will be completed in a single day or over the course of two consecutive days (one section each day) and should be completed within the same week following the district's testing protocols for the EOG measures (in keeping with state guidance).

CONTENT MEASURED

The Grade 5 English Language Arts (ELA) assessment will measure the Grade 5 standards that are described at www.georgiastandards.org.

The content of the assessment is organized into two groupings, or domains, of standards for the purposes of providing feedback on student performance. A content domain is a reporting category that *broadly* describes and defines the content of the course, as measured by the EOG assessment. The standards for Grade 5 English Language Arts (ELA) are grouped into two domains: Reading and Vocabulary, and Writing and Language. Each domain was created by organizing standards that share similar content characteristics. The content standards describe the level of expertise that Grade 5 English Language Arts (ELA) educators should strive to develop in their students. Educators should refer to the content standards for a full understanding of the knowledge, concepts, and skills that may be assessed on the EOG assessment.

The approximate proportional number of points associated with each domain is shown in the following table. A range of cognitive levels will be represented on the Grade 5 English Language Arts (ELA) EOG assessment. Educators should always use the content standards when planning instruction.

GRADE 5 ENGLISH LANGUAGE ARTS (ELA): DOMAIN STRUCTURES AND CONTENT WEIGHTS

Reporting Categories and Content Standards

Reporting Category/Domain	Content Standards Assessed	Approximate # of Points	Approximate % of Test
Reading and Vocabulary		32	53%
Key Ideas and Details	ELAGSE5.RL (1, 2, 3)	17	28%
	ELAGSE5.RI (1, 2, 3)		
Craft and Structure/ Integration of Knowledge and Ideas	ELAGSE5.RL (5, 6, 7, 9)	9	15%
	ELAGSE5.RI (5, 6, 7, 8, 9)		
Vocabulary Acquisition and Use	ELAGSE5.RL4/RI4	6	10%
	ELAGSE5.L (4, 4a, 4b, 4c, 5, 5a, 5b, 5c, 6)		
Writing and Language		28	47%
Writing	ELAGSE5.W (1, 1a, 1b, 1c, 1d, 2, 2a, 2b, 2c, 2d, 2e, 3, 3a, 3b, 3c, 3d, 3e, 4, 7, 8, 9, 9a, 9b)	16	27%
Language	ELAGSE5.L (1, 1a, 1b, 1c, 1d, 1e, 2, 2a, 2b, 2c, 2d, 2e, 3, 3a)	12	20%
Total		60	100%

Text Type Reporting Categories and Content Standards

Each reading and vocabulary question connects to one of the Reading and Vocabulary domains as well as to one of the Text Type domains. While each item is categorized into two different domains, performance on each item counts only one time in determining the student's total score.


Reporting Category/Domain	Content Standards Assessed	Approximate # of Reading and Vocabulary Points	Approximate % of Reading and Vocabulary Points
Text Type		32	100%
Reading Literary Text	ELAGSE5.RL (1, 2, 3, 4, 5, 6, 7, 9)	16	50%
	ELAGSE5.L (4, 4a, 4b, 4c, 5, 5a, 5b, 5c, 6)		
Reading Informational Text	ELAGSE5.RI (1, 2, 3, 4, 5, 6, 7, 8, 9)	16	50%
	ELAGSE5.L (4, 4a, 4b, 4c, 5, 5a, 5b, 5c, 6)		

ITEM TYPES

The English Language Arts (ELA) portion of the Grade 5 EOG assessment consists of selected-response, technology-enhanced, constructed-response, extended constructed-response, and extended writing-response items.

A selected-response item, sometimes called a multiple-choice item, is defined as a question, problem, or statement that appears on a test followed by several answer choices, sometimes called options or response choices. The incorrect choices, called distractors, usually reflect common errors. The student's task is to choose, from the alternatives provided, the best answer to the question posed in the stem (the question). The English Language Arts (ELA) selected-response items will have four answer choices.

A technology-enhanced item is an innovative way to measure student skills and knowledge by using scaffolding within a multi-step process. Technology-enhanced items are worth one or two points. If the item is worth two points, partial credit is awarded for special combinations of responses that do not include all the correct answers. For ELA, there are a number of specific technology-enhanced item types being used:

- In Evidence-Based Selected-Response (EBSR) items, the student responds to a two-part question. In the first part, the student responds to an inferential or key concept question related to a stimulus text. In the second part, the student provides evidence from the same text to support the inference or idea. In both parts of an EBSR item, the student selects the responses from the choices provided. There is one correct answer for each part of an EBSR item. If the student responds correctly to both parts of the EBSR item, the student receives two points. Partial credit may be awarded when a student answers the first part correctly.
- In drag-and-drop items, the student can show language, writing, research, or comprehension skills by organizing or sequencing information into a table or simple graphic. The student uses a mouse, touchpad, or touchscreen to move responses to designated areas on the screen.
- In drop-down menu items, the student reads a stimulus text with two to four drop-down menus embedded in the text. The student uses a mouse, touchpad, or touchscreen to open each drop-down menu and select the correct answer from the drop-down options. Each drop-down menu will include two to four options.
- Since some technology-enhanced items in this guide were designed to be used only in an online, interactive-delivery format, some of the item-level directions will not appear to be applicable when working within the format presented in this document (for example, "Move the descriptions onto the lines of the paragraph" or "Click To Respond").
- This icon  identifies special directions that will help the student answer technology-enhanced items as shown in the format presented within this guide. These directions do not appear in the online version of the test but explain information about how the item works that would be easily identifiable if the student were completing the item in an online environment.

To give students practice using technology-enhanced items in an online environment very similar to how they will appear on the online test, visit "Experience Online Testing Georgia."

1. Go to the website "Welcome to Experience Online Testing Georgia" (<http://gaexperienceonline.com/>).
2. Select "Test Practice."
3. On the right side of the page, you will see "End-of-Grade (EOG) Spring Main." Select "Online Tools Training" which appears underneath it.
4. Select "EOG Test Practice."
5. Select "Technology Enhanced Items."
6. Select "All Grades."

7. You will be taken to a login screen. Use the username and password provided on the screen to log in and practice navigating technology-enhanced items online.

Please note that Google Chrome is the only supported browser for this public version of the online testing environment.

A constructed-response item asks a question and solicits the student to provide a response he or she constructs on his or her own, as opposed to selecting from options provided. The constructed-response items on the EOG assessment will be worth two points. Partial credit may be awarded if part of the response is appropriate based upon the prompt and the rubric.

An extended constructed-response item is a specific type of constructed-response item that elicits a longer, more detailed response from the student than a two-point constructed-response item. The stimulus used for this type of item may be a literary or informational passage or a paired passage set. A paired passage set may consist of two literary passages, two informational passages, or one of each passage type. The extended constructed-response items on the EOG assessment will be worth four points. For English Language Arts (ELA), the student will respond to a narrative prompt based on a passage the student has read, and the response will be scored for the Writing and Language domain. Partial credit may be awarded if part of the response is appropriate based upon the prompt and the rubric.

The extended writing-response items require students to write an opinion essay or develop an informative/explanatory response. As part of the extended writing task, students must first read two passages and then respond to three multiple-choice items and one constructed-response item. All of these items help students write their extended essay by focusing them on the main idea(s) and key details in the passages. Two of the selected-response items will address each of the passages separately. One selected-response item and the constructed-response item will address both of the passages together. All three selected-response items and the constructed-response item contribute to the Reading and Vocabulary domain. These items will be followed by an extended writing-prompt, which requires the student to draw from reading experiences when writing an essay response and to cite evidence from the passage(s) to support claims and conclusions in the essay. The writing task is worth seven points that contribute to the Writing and Language domain.

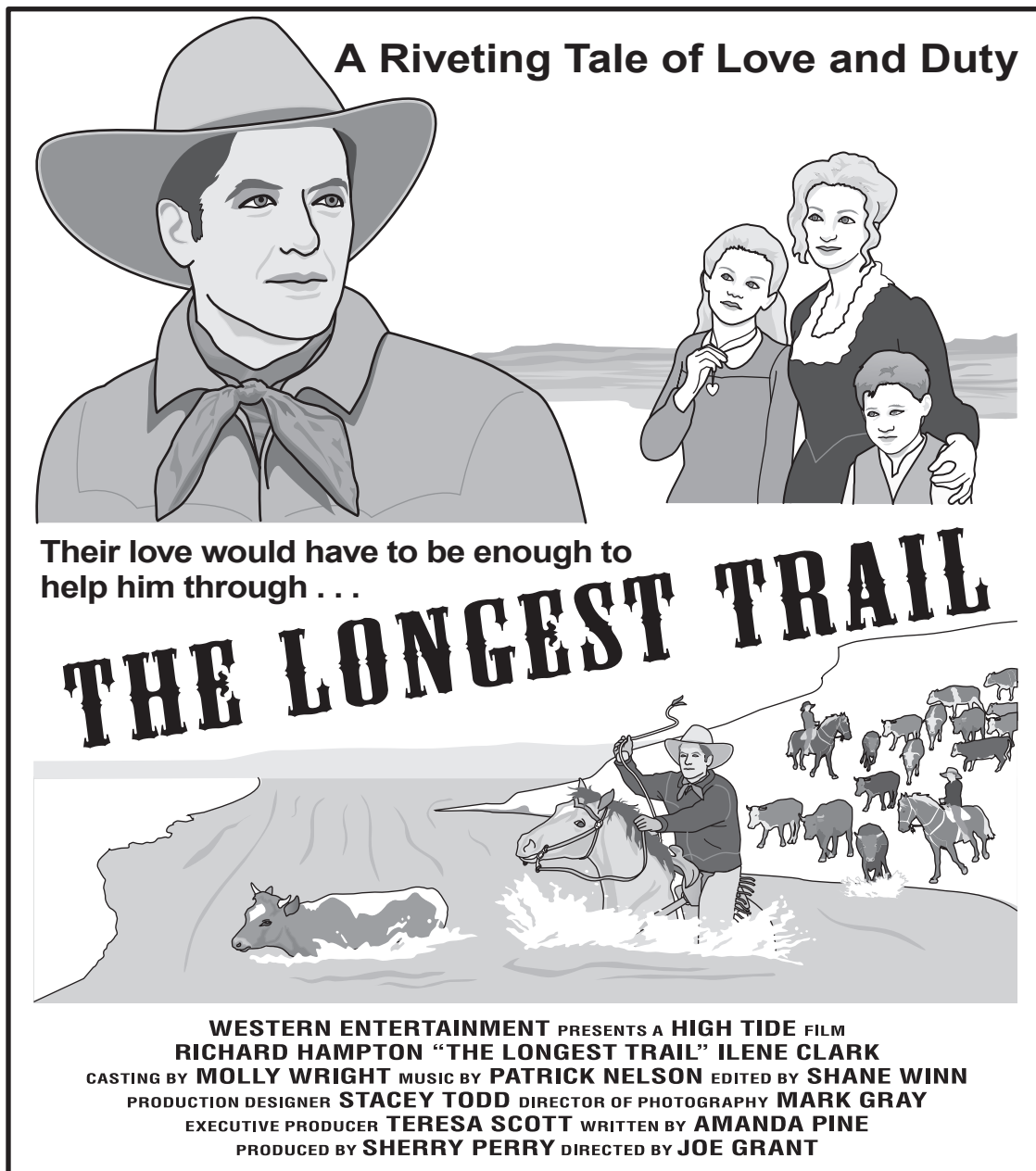
ENGLISH LANGUAGE ARTS (ELA) DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent the applicable DOK levels across various Grade 5 English Language Arts (ELA) content domains are provided.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Example Items 1 and 2

Read the movie poster for *The Longest Trail* and the movie review “The Truth of the Matter,” and answer example items 1 and 2.



The Truth of the Matter

As the sun sets over a beautiful western town, a handsome young man gazes at a lovely young woman. Their clothes are neatly pressed and neither has a hair out of place. It's a perfect scene. There is only one problem. It is too good to be true.

The scene is from the movie *The Longest Trail*. It is a beautifully filmed movie with talented actors, but it does not show what life was really like in the 1800s.

As the movie begins, we learn that a group of cowboys has been traveling on a cattle trail for many days in the late winter. Their goal is to transport cattle from a city in southern Texas to a city in Oklahoma. The first scene takes place as the group crosses the Red River. The river is flowing quickly, and there are some tense moments as the cowboys attempt to get their horses and cattle across. However, they all make it across without a scratch, and they laugh as they head back to the trail.

The truth is that the life of a cowboy was much more dangerous and exhausting than the movie shows. The cowboys in the movie laughed that their clothes and horses were wet. But real cowboys knew that wearing wet clothes in the winter was dangerous and could cause them to suffer from a condition called hypothermia. Their body temperatures could drop, and they could get sick or die.

The cowboys in the movie continue on down the trail. At night, they tell stories around the campfire and then drift off to sleep. Real cowboys, however, never really got a good night's rest. Instead, they spent a large part of the night keeping watch. They had to make sure their animals did not wander off, were not attacked by predators, and were not stolen by other cowboys.

The next day, the cowboys in the movie get up and begin to prepare for the day ahead. However, Joshua, the main character, decides that he is going to return home to Texas. He misses his wife and his family and wants nothing more than to see them again. He explains to the other cowboys that he must leave them or regret the journey forever. Then he turns his horse around and heads south.

Though the situation makes for a great Hollywood story, it is completely unrealistic. Cowboys sacrificed a great deal and often had to leave family behind. Cowboys were paid poorly, and they would never leave a job without completing it. If they did, they would not get paid at all.

Joshua returns to his home in Texas and finds his beautiful wife just as the sun is setting. In real life, Joshua would have found it very hard to make the trip back to Texas alone. Cowboys faced many obstacles on their travels, such as falling off their horses or running into wild animals. Traveling alone meant there was no one to give the cowboy aid if he had an injury or got sick.

Though many parts of the movie were beautifully filmed, the movie was simply not realistic. *The Longest Trail* should be called *The Longest Trail Away from the Truth*.

Example Item 1**Selected-Response:** 1 point**DOK Level:** 2**English Language Arts (ELA) Grade 5 Content Domain:** Reading and Vocabulary**Standard:** ELAGSE5RI1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.**Which sentence from “The Truth of the Matter” BEST supports the conclusion that filmmakers value dramatic stories over accurate ones?**

- A. As the movie begins, we learn that a group of cowboys has been traveling on a cattle trail for many days in the late winter.
- B. The truth is that the life of a cowboy was much more dangerous and exhausting than the movie shows.
- C. The next day, the cowboys in the movie get up and begin to prepare for the day ahead.
- D. Cowboys sacrificed a great deal and often had to leave family behind.

Correct Answer: B

Explanation of Correct Answer: The correct answer is choice (B) The truth is that the life of a cowboy was much more dangerous and exhausting than the movie shows. This is the only sentence that explicitly compares the movie to reality, supporting that the moviemakers value drama over historical accuracy. Choices (A) and (C) are incorrect because they describe only what happens in the movie and do not support the conclusion in the prompt. Choice (D) is incorrect because it doesn't connect this reality to what the movie shows to prove that the moviemakers value drama.

Example Item 2

Drag-and-Drop Technology-Enhanced: 2 points

DOK Level: 3

English Language Arts (ELA) Grade 5 Content Domain: Reading and Vocabulary

Standard: ELAGSE5RI3. 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.

Based on "The Truth of the Matter," complete the chart to show the comparisons the author makes between the lives of movie cowboys and the lives of real cowboys. Move each phrase under the correct heading in the chart. TWO phrases will not be used.

Lives of Movie Cowboys	Lives of Real Cowboys
<ul style="list-style-type: none">• unconcerned about clothes and horses getting wet••	<ul style="list-style-type: none">• understand the dangers of hypothermia••

sleep peacefully around the campfire
use a map to determine location
cross rivers easily
keep night watch over animals
know they might not return to family
go fishing on days off

Click To Respond

➡ Due to the size of the response area, this item has a "Click To Respond" button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish example item 2.

Example Item 2. Continued.

Lives of Movie Cowboys	Lives of Real Cowboys
<ul style="list-style-type: none"> • unconcerned about clothes and horses getting wet • • 	<ul style="list-style-type: none"> • understand the dangers of hypothermia • •

sleep peacefully around the campfire
 use a map to determine location
 cross rivers easily
 keep night watch over animals
 know they might not return to family
 go fishing on days off



Use a mouse, touchpad, or touchscreen to move the descriptions below the chart into the chart next to the bullets.

Example Item 2. Continued.**Scoring Rubric**

Points	Description
2	The student correctly fills in both columns (order within each column does not matter).
1	The student correctly fills in one column (order within each column does not matter).
0	The student does not correctly fill in either column.

Exemplar Response

The correct response is shown below.

Lives of Movie Cowboys	Lives of Real Cowboys
<ul style="list-style-type: none">• unconcerned about clothes and horses getting wet• sleep peacefully around the campfire• cross rivers easily	<ul style="list-style-type: none">• understand the dangers of hypothermia• keep night watch over animals• know they might not return to family

use a map to determine location

go fishing on days off

The correct responses in the left column are “sleep peacefully around the campfire” and “cross rivers easily” because those represent traits that are realistic only in the lives of Hollywood cowboys, not real cowboys. The correct responses in the right column are “keep night watch over animals,” and “know they might not return to family” because these represent the traits of a real cowboy that may be unpopular or uncomfortable to see depicted in movies. NOTE: The response order within each drop zone does not affect scoring.

Example Item 3

Extended Writing-Response: 7 points

DOK Level: 4

English Language Arts (ELA) Grade 5 Content Domain: Writing and Language

Standards:

ELAGSE5W2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELAGSE5L1. Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking.

ELAGSE5L2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.

This section of the test assesses your skill to comprehend reading passages and use information from the passages to write an informational essay.

Before you begin writing your essay, you will read two passages.

As you read the passages, think about details you may use in an informational essay about the schools.

These are the titles of the passages you will read:

1. The Center
2. School Pride Day

The Center

The Student Greeting Committee welcomes you to Centerville!

Our Centerville School is proud to be located in the heart of Centerville. Students and teachers fondly call the school C-School, or just The Center. Because we are in the center of town, we do our best to make sure the school stands out as clean, fun, and friendly. In fact, one of our biggest after-school clubs is the School Cleanup Crew. This “crew” keeps the school clean and welcoming, inside and out.

Sports are popular here. It is hard to choose from all that is offered, but the most popular sport is basketball. It’s also fun to play or watch the basketball games, especially when we play Grant School. They are our biggest “enemy” on the court. Though we say we are enemies, really it is just for fun.

Our school mascot is a great white shark named Jaws. He comes out to every event to cheer on the school. Kids love trying out to be the mascot. There are tryouts at the beginning of each semester. Lots of students hope for the opportunity to wear the Jaws costume at school events.

The cafeteria at The Center has a good selection. Every day, students can select from two different meals. Generally, the meal listed first on the menu board is the most popular. The second meal listed is usually something that most kids would not eat. Every other Friday, we have pizza day. Every student loves this day. Pizza and salad are brought in from a local pizzeria, and the cafeteria turns into a pizza party.

The school is pretty crowded, so at recess and on the way to lunch, it can be crazy in the hallways. It is best to plan ahead so that you can just go with the flow of traffic rather than having to go against the stream of students.

We know you will enjoy being a student at Centerville School. It won’t take long for you to feel like you are part of The Center.

School Pride Day

School Pride Day is coming up, and our school has a lot to be proud of. From sports to music, we have it all. Come help us celebrate all the things we do best.

For starters, our school chess team took the top prize at this year's Champion Chess Tournament. Not only did our chess team come in first place, but the team members also won the prize for being good sports. The judges thought our school chess team was smart on the chessboard and kind on the sidelines. Way to go, chess team!

Both our orchestra and our band have something to celebrate. The orchestra was asked to play at the City Festival, and the mayor herself introduced the orchestra. Also, the school band is competing in a music competition at the end of the month. Congratulations to the orchestra and good luck to the band!

We all know that sports are a big part of our school. You can see that on game days when the students are all wearing their school T-shirts and jerseys in support of the teams. Even the teachers show their support by wearing their sweatshirts and school scarves.

Congratulations to the volleyball and basketball teams for having their best seasons yet. And congratulations to all teams on the field and court for making our school proud.

When it comes to community support, we couldn't be prouder. Our last school garage sale, held in our school parking lot, raised hundreds of dollars for the local food pantries. Thanks to the school families for giving the school so many wonderful things that we were able to help many community families in need.

New additions to the school are the mini-libraries at both entrances to the school. With the help of a local business, we built two mailbox-style libraries that hold books for children and adults alike. These books are available for anyone to take; just help yourself.

Show your school spirit and come out to celebrate School Pride Day with us. Learn about clubs and events that you can get involved in. Congratulate your peers and get involved!

WRITING TASK

There are many qualities that contribute to a positive school community.

Think about the ideas in BOTH passages, and then write an **informational essay** in your own words detailing the similarities and differences in how the schools are described in each passage.

Be sure to use information from BOTH passages in your **informational essay**.

Writer's Checklist

Be sure to:

- Introduce the topic clearly, provide a focus, and organize information in a way that makes sense.
- Use information from the two passages so that your essay includes important details.
- Develop the topic with facts, definitions, details, quotations, or other information and examples related to the topic.
- Identify the passages by title or number when using details or facts directly from the passages.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Use linking words and phrases to connect ideas.
- Clarify the relationships among ideas and concepts.
- Use clear language and vocabulary.
- Provide a conclusion that supports the information presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

Now write your informational essay on your answer document. Refer to the Writer's Checklist as you write and proofread your essay.

The following is an example of a seven-point response. See the seven-point, two-trait rubric for a text-based informational/explanatory response on pages 66 and 67 to see why this example would earn the maximum number of points.

The two passages describe the schools similarly, but there are also differences. The first text focuses more on introducing a student to things he or she should know about the school, while the second text focuses more on the accomplishments of the school.

The first passage prepares a student for life in the school. It describes a favorite after-school club that cleans up the campus. It also talks about how popular the sports teams are and things to remember when using the cafeteria. It also prepares the student for how “crazy” it can be in the halls.

The second passage is more focused on all the things the school has accomplished. It celebrates the chess team’s win and the orchestra’s recognitions. It describes the pride students and teachers have in the school, and it brags a bit about the community support and mini-libraries.

Both passages show the good things the schools have to offer. They also introduce students to the schools so that they will feel more comfortable.

While they focus on different things, the passages both represent the schools positively.

ENGLISH LANGUAGE ARTS (ELA) ADDITIONAL SAMPLE ITEMS

This section has two parts. The first part is a set of 20 sample items for the English Language Arts (ELA) portion of the EOG assessment. The second part contains a table that shows for each item the standard assessed, the DOK level, the correct answer (key), and a rationale/explanation about the key and distractors. The sample items can be utilized as a mini-test to familiarize students with the item formats found on the assessment.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Items 1–9

Read the story and answer questions 1 through 9.

Buddy's Trick

"Look, Buddy is napping on our couch again," Angela said with a note of wonder to her brother, Carlos.

Their neighbors, the Thortons, had a black cat named Buddy. Lately, Buddy kept appearing in the children's house, but they did not know how he managed his mysterious trick.

Gently, Angela scooped up Buddy, and the sociable cat snuggled into her arms like a cozy stuffed animal.

"Buddy's tail has streaks of blue paint on it," Angela noticed. "Dad is painting our house that color. Maybe Dad left a window open and Buddy climbed inside."

"Let's go and check," suggested Carlos. In a flash, he sprinted out of the house, eager to find an answer, but Angela followed slowly. What if we solve the mystery and end Buddy's visits? I enjoy discovering him, Angela thought.

As Angela joined Carlos, he pointed to a ladder leaning against the house. The painted blue window above it was open. "Buddy must have climbed up the ladder and leaped through the window!" Carlos exclaimed.

"He's not an ordinary cat; he's an acrobat!"

Angela thoughtfully stared at the ladder's slippery metal rungs. "Buddy's claws cannot grip those rungs," she concluded.

A moment later, Dad's head poked through the open window and ended their discussion. "I've been painting this room all morning," he explained, "and no cat has crept by me."

"Maybe there's another open window," Carlos declared. Before Angela could reply, he bolted off again like a runner at the start of a race. When Angela caught up with him, he was resting on the front steps, his face sweaty.

"The other windows are closed," Carlos reported, "but I can still solve this mystery."

"How?" asked Angela, curious about her brother's next plan. Carlos always had imaginative ideas.

"Buddy really likes you," Carlos stated, staring at the contented cat in Angela's arms. "If you go inside and call him, Buddy will want to come and see you. I'll follow him and discover his secret entrance."

"That's a good idea," Angela admitted. Reluctantly, she gently placed the cat in the grass and walked inside.

Taking a deep breath, she began calling Buddy's name.

Suddenly a black shadow streaked out of their basement and leaped into Angela's arms. A moment later, a delighted Carlos exploded through the front door and joined them.

"Buddy found a loose board by our basement window," Carlos said. "He lifted it with his paw and wiggled under it."

"That explains the blue paint," Angela stated. "Dad stores his leftover paint in the basement. When Buddy slipped inside, he probably rubbed against a paint can."

"I'm going to tell Dad about the loose board," Carlos reported next, pleased at solving their mystery. Angela sighed as the front door slammed behind Carlos. I guess the cat is out of the bag now, she thought. With heavy feet, Angela headed next door to take Buddy home.

Mr. Thorton was in his yard, frantically searching the bushes. When he spotted Angela and Buddy, he sighed with relief. "You've found my runaway cat!" Mr. Thorton cheered. "My wife's out of town and Buddy misses her. Whenever I work in the garden, Buddy mysteriously disappears."

"He comes to visit us," Angela replied. "Unfortunately, he rubbed against a paint can."

"I can give him a bath," Mr. Thorton chuckled. "I hope he's not bothering you."

"I love Buddy's company," Angela assured him. Suddenly a hopeful smile lit up her face. "If my father agrees, I could watch Buddy until your wife returns."

"That would be wonderful," said Mr. Thorton. "Then I could stop worrying about him."

"I'm glad we solved your mystery," Angela laughed as Buddy purred.

Item 1

Selected-Response: 1 point

Which statement from the story supports the idea that Carlos is determined?

- A. "The other windows are closed," Carlos reported, "but I can still solve this mystery."
- B. "Buddy really likes you," Carlos stated, staring at the contented cat in Angela's arms.
- C. "Buddy found a loose board by our basement window," Carlos said. "He lifted it with his paw and wiggled under it."
- D. "I'm going to tell Dad about the loose board," Carlos reported next, pleased at solving their mystery.

Item 2**Selected-Response:** 1 point**Which inference can BEST be made based on these sentences from the story?**

With heavy feet, Angela headed next door to take Buddy home.

Mr. Thorton was in his yard, frantically searching the bushes. When he spotted Angela and Buddy, he sighed with relief. “You’ve found my runaway cat!” Mr. Thorton cheered.

- A. Angela is curious.
- B. Angela is nervous.
- C. Angela is stubborn.
- D. Angela is responsible.

Item 3**Selected-Response:** 1 point**What is the theme of the story?**

- A. Cats can be charming animals.
- B. Cats are interesting creatures.
- C. People should observe the behavior of animals.
- D. People can get answers if they are persistent.

Item 4

Drag-and-Drop Technology-Enhanced: 2 points

Angela enjoys having the cat as a companion. Move the TWO story details into the box that BEST help the reader make this inference.

Inference: Angela enjoys having the cat as a companion.

"Look, Buddy is napping on our couch again," Angela said with a note of wonder to her brother, Carlos. Gently, Angela scooped up Buddy, and the sociable cat snuggled into her arms like a cozy stuffed animal.

"Buddy's claws cannot grip those rungs," she concluded.

"That explains the blue paint," Angela stated.


"If my father agrees, I could watch Buddy until your wife returns."

Click To Respond

Due to the size of the response area, this item has a "Click To Respond" button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish item 4.

Item 4. *Continued.*

?

Inference: Angela enjoys having the cat as a companion.

-
-

“Look, Buddy is napping on our couch again,” Angela said with a note of wonder to her brother, Carlos.

Gently, Angela scooped up Buddy, and the sociable cat snuggled into her arms like a cozy stuffed animal.

“Buddy’s claws cannot grip those rungs,” she concluded.

“That explains the blue paint,” Angela stated.

“If my father agrees, I could watch Buddy until your wife returns.”



Use a mouse, touchpad, or touchscreen to move the descriptions below the box into the box next to the bullets.

Item 5

Selected-Response: 1 point

Why does the author **MOST LIKELY** use the phrase lit up her face to describe Angela?

- A. to show her face is red with embarrassment
- B. to show her skin is glowing
- C. to show she is feeling happy
- D. to show she is feeling sweaty from heat

Item 6

Selected-Response: 1 point

What is the **BEST** meaning of the underlined phrase in the sentence?

I guess the cat is out of the bag now, she thought.

- A. a pet is missed
- B. a bag is emptied
- C. a cat is discovered
- D. a secret is uncovered

Item 7

Selected-Response: 1 point

Read the sentences from the story.

Mr. Thorton was in his yard, frantically searching the bushes. When he spotted Angela and Buddy, he sighed with relief.

Based on the sentences, what is the meaning of the word *frantically*?

- A. full of energy
- B. in a state of confusion
- C. to make excited
- D. in a desperate way

Item 8**Evidence-Based Selected-Response Technology-Enhanced:** 2 points**This question has two parts. Answer Part A, and then answer Part B.****Part A****Why does the author MOST LIKELY tell the story from the point of view of both Angela and Carlos?**

- A. to help the reader learn how to paint basement walls
- B. to help the reader understand the best way to solve a mystery
- C. to help the reader understand how Angela and Carlos are different
- D. to help the reader know why Angela and Carlos like Buddy so much

Part B**Which pair of sentences from the story BEST supports the answer to Part A?**

- A. Angela thoughtfully stared at the ladder's slippery metal rungs.
"Buddy's claws cannot grip those rungs," she concluded.
- B. "How?" asked Angela, curious about her brother's next plan.
Carlos always had imaginative ideas.
- C. "Buddy found a loose board by our basement window," Carlos said.
"He lifted it with his paw and wiggled under it."
- D. "He comes to visit us," Angela replied.
"Unfortunately, he rubbed against a paint can."

Item 9

Extended Constructed-Response: 4 points

Read the sentences from the story.

“The other windows are closed,” Carlos reported, “but I can still solve this mystery.”

“How?” asked Angela, curious about her brother’s next plan. Carlos always had imaginative ideas.

“Buddy really likes you,” Carlos stated, staring at the contented cat in Angela’s arms. “If you go inside and call him, Buddy will want to come and see you. I’ll follow him and discover his secret entrance.”

“That’s a good idea,” Angela admitted. Reluctantly, she gently placed the cat in the grass and walked inside.

Taking a deep breath, she began calling Buddy’s name.

Rewrite this part of the story using more descriptive details. Think about how Angela and Carlos felt as well as what they saw, smelled, and heard.

Narrative Writer’s Checklist

Be sure to:

- Write a narrative response that develops a real or imagined experience.
- Establish a situation and introduce a narrator and/or characters.
- Organize events in a clear and logical order.
 - Use a variety of transitional words and phrases to sequence the events.
- Use dialogue, description, and/or pacing to:
 - develop events.
 - show how characters respond to situations.
- Use concrete words, phrases, and sensory details to describe the events.
- Include a conclusion.
- Use ideas and/or details from the passage(s).
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

Now write your narrative on your answer document. Refer to the Writer’s Checklist as you write and proofread your narrative.

Go on to the next page to finish item 9.

Items 10 and 11

This section of the test assesses your skill to comprehend reading passages and use information from the passages to write an informational essay.

Before you begin writing your essay, you will read two passages and answer one short constructed-response question about what you have read.

As you read the passages, think about details you may use in an informational essay about the schools.

These are the titles of the passages you will read:

1. The Center
2. School Pride Day

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Our Centerville School is proud to be located in the heart of Centerville. Students and teachers fondly call the school C-School, or just The Center. Because we are in the center of town, we do our best to make sure the school stands out as clean, fun, and friendly. In fact, one of our biggest after-school clubs is the School Cleanup Crew. This “crew” keeps the school clean and welcoming, inside and out.

Sports are popular here. It is hard to choose from all that is offered, but the most popular sport is basketball. It’s also fun to play or watch the basketball games, especially when we play Grant School. They are our biggest “enemy” on the court. Though we say we are enemies, really it is just for fun.

Our school mascot is a great white shark named Jaws. He comes out to every event to cheer on the school. Kids love trying out to be the mascot. There are tryouts at the beginning of each semester. Lots of students hope for the opportunity to wear the Jaws costume at school events.

The cafeteria at The Center has a good selection. Every day, students can select from two different meals. Generally, the meal listed first on the menu board is the most popular. The second meal listed is usually something that most kids would not eat. Every other Friday, we have pizza day. Every student loves this day. Pizza and salad are brought in from a local pizzeria, and the cafeteria turns into a pizza party.

The school is pretty crowded, so at recess and on the way to lunch, it can be crazy in the hallways. It is best to plan ahead so that you can just go with the flow of traffic rather than having to go against the stream of students.

We know you will enjoy being a student at Centerville School. It won’t take long for you to feel like you are part of The Center.

School Pride Day

School Pride Day is coming up, and our school has a lot to be proud of. From sports to music, we have it all. Come help us celebrate all the things we do best.

For starters, our school chess team took the top prize at this year's Champion Chess Tournament. Not only did our chess team come in first place, but the team members also won the prize for being good sports. The judges thought our school chess team was smart on the chessboard and kind on the sidelines. Way to go, chess team!

Both our orchestra and our band have something to celebrate. The orchestra was asked to play at the City Festival, and the mayor herself introduced the orchestra. Also, the school band is competing in a music competition at the end of the month. Congratulations to the orchestra and good luck to the band!

We all know that sports are a big part of our school. You can see that on game days when the students are all wearing their school T-shirts and jerseys in support of the teams. Even the teachers show their support by wearing their sweatshirts and school scarves.

Congratulations to the volleyball and basketball teams for having their best seasons yet. And congratulations to all teams on the field and court for making our school proud.

When it comes to community support, we couldn't be prouder. Our last school garage sale, held in our school parking lot, raised hundreds of dollars for the local food pantries. Thanks to the school families for giving the school so many wonderful things that we were able to help many community families in need.

New additions to the school are the mini-libraries at both entrances to the school. With the help of a local business, we built two mailbox-style libraries that hold books for children and adults alike. These books are available for anyone to take; just help yourself.

Show your school spirit and come out to celebrate School Pride Day with us. Learn about clubs and events that you can get involved in. Congratulate your peers and get involved!

Item 10

Constructed-Response: 2 points

How are the viewpoints in “The Center” and “School Pride Day” similar?

Use details from BOTH passages to support your answer. Write your answer on the lines on your answer document.

[illegible]

Item 11

Extended Writing-Response: 7 points

WRITING TASK

There are many qualities that contribute to a positive school community.

Think about the ideas in BOTH passages, and then write an **informational essay** in your own words detailing the similarities and differences in how the schools are described in each passage.

Be sure to use information from BOTH passages in your **informational essay**.

Writer’s Checklist

Be sure to:

- Introduce the topic clearly, provide a focus, and organize information in a way that makes sense.
- Use information from the two passages so that your essay includes important details.
- Develop the topic with facts, definitions, details, quotations, or other information and examples related to the topic.
- Identify the passages by title or number when using details or facts directly from the passages.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Use linking words and phrases to connect ideas.
- Clarify the relationships among ideas and concepts.
- Use clear language and vocabulary.
- Provide a conclusion that supports the information presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

Now write your informational essay on your answer document. Refer to the Writer’s Checklist as you write and proofread your essay.

Items 12–20

Item 12

Selected-Response: 1 point

Read the sentence.

We are going to a meeting about building a communety center that will include a gym and activities for all ages.

Which spelling of the underlined word is correct?

- A. comunity
- B. community
- C. communitty
- D. communaty

Item 13

Selected-Response: 1 point

Which sentence uses the comma correctly?

- A. During the meeting of the art club, we decided to do a volunteer project.
- B. When we make plans after school it is important, to stick to the times we agreed on.
- C. Once lunch was finished we thought, we would take a walk outside.
- D. If you plan to attend the back-to-school night be sure, to tell your English teacher.

Item 14**Selected-Response:** 1 point**Which pair of conjunctions correctly completes the second sentence?**

I really hope to try all of the desserts that are being served tonight. I would like to have _____ the chocolate cake _____ the ice cream.

- A. not/but
- B. neither/nor
- C. either/or
- D. both/and

Item 15**Selected-Response:** 1 point**Which verb phrase correctly completes the sentence?**

We _____ to finish raking leaves before it started to rain.

- A. had hoped
- B. have hoped
- C. will have hoped
- D. will be hoping

Item 16

Drop-Down Technology-Enhanced: 1 point

Choose the correct word or phrase from each drop-down menu to complete the sentence.

In order to become a member of the team, a player must agree to follow the rules attend daily practices.



Use a mouse, touchpad, or touchscreen to click the arrow beside each of the two blank boxes. When you click the arrow, a drop-down menu will appear, showing you all the possible options for that blank. Each drop-down menu with its options is shown below.

In order to become a member of the team, a player must agree to follow the rules attend daily practices.

not only
not
neither

nor
but
but also

Item 17**Drop-Down Technology-Enhanced:** 2 points

Complete the sentences by choosing the correct option from each drop-down menu.

Wearing a helmet when riding a bike may not seem that , it really can prevent injury if you fall. According to research from , wearing a bike helmet reduces the risk of head injury by 85 percent. Each year, thousands of people avoid injury because they wear a helmet. Helmets should be snug when the chin strap is buckled and not be able to move around loosely on the head. People should never ride a bike without the right safety .



Use a mouse, touchpad, or touchscreen to click the arrow beside each of the three blank boxes. When you click the arrow, a drop-down menu will appear, showing you all the possible options for that blank. Each drop-down menu with its options is shown on the next page.

Go on to the next page to finish item 17.

Item 17. *Continued.*

Wearing a helmet when riding a bike may not seem that _____ it really can prevent injury if you fall. According to research from _____, wearing a bike helmet reduces the risk of head injury by 85 percent. Each year, thousands of people avoid injury because they wear a helmet. Helmets should be snug when the chin strap is buckled and not be able to move around loosely on the head. People should never ride a bike without the right safety _____.

important, but
important: but
important but

Wearing a helmet when riding a bike may not seem that _____ it really can prevent injury if you fall. According to research from _____, wearing a bike helmet reduces the risk of head injury by 85 percent. Each year, thousands of people avoid injury because they wear a helmet. Helmets should be snug when the chin strap is buckled and not be able to move around loosely on the head. People should never ride a bike without the right safety _____.

Cleveland clinic children's hospital
Cleveland Clinic children's hospital
Cleveland Clinic Children's Hospital

Wearing a helmet when riding a bike may not seem that _____ it really can prevent injury if you fall. According to research from _____, wearing a bike helmet reduces the risk of head injury by 85 percent. Each year, thousands of people avoid injury because they wear a helmet. Helmets should be snug when the chin strap is buckled and not be able to move around loosely on the head. People should never ride a bike without the right safety _____.

equipmant
equipment
equipmunt

Item 18**Selected-Response:** 1 point

Mario's uncle gave him a collection of old baseball cards. Mario wants to find out how valuable they are.

Which source would provide the **BEST** information for this task?

- A. an interview with a baseball player who was featured on baseball cards
- B. a book about how baseball cards were made and traded
- C. an article that shows photos of commonly traded baseball cards
- D. a website that lists baseball cards that are for sale and their prices

Item 19

Drop-Down Technology-Enhanced: 1 point

Read the draft of a student's opinion essay about staying informed about school events. Choose the correct word or phrase from each drop-down menu to link the reasons and opinion in the essay.

Students should check the school website at least once a week to stay informed on all the important events at our school. Many afterschool activities are listed at the site. the website gives information about the locations and times for sports events. the website gives details about the academic calendar such as when report cards are sent home. Checking the website often is a great way to stay informed.

➡ Use a mouse, touchpad, or touchscreen to click the arrow beside each of the two blank boxes. When you click the arrow, a drop-down menu will appear, showing you all the possible options for that blank. Each drop-down menu with its options is shown below.

Students should check the school website at least once a week to stay informed on all the important events at our school. Many afterschool activities are listed at the site. the website gives information about the locations and times for sports events. the website gives details about the academic calendar such as when report cards are sent home. Checking the website often is a great way to stay informed.


Therefore,
For example,
In contrast,

Students should check the school website at least once a week to stay informed on all the important events at our school. Many afterschool activities are listed at the site. the website gives information about the locations and times for sports events. the website gives details about the academic calendar such as when report cards are sent home. Checking the website often is a great way to stay informed.

Even so,
Besides,
Furthermore,

Item 20**Drag-and-Drop Technology-Enhanced:** 2 points

Read the paragraph from a student's informational essay. Move the TWO ideas that BEST develop the topic onto the blank lines.

 ?

The tropical grasslands of Africa provide a special habitat for many types of animals.

Grasslands, also known as savannas, are large areas covered with many types of long grasses and few trees or bushes. Although the rich plant life of the savanna provides a plentiful food source for animals, the weather can be quite harsh.

The animals that live in the savanna have learned to adapt to these unique conditions.

Some of these animals include elephants, zebras, giraffes, and gazelles.

Millions of people travel to Africa to see the plants and animals of the savanna.

The savanna can have days of pouring rain and months when rain is scarce.

The savannas of Africa have a rainforest on one side and a desert on the other side.

Many animals that thrive in the savanna are herbivores, which means they eat plants.



Use a mouse, touchpad, or touchscreen to move the descriptions below the paragraph onto the lines in the paragraph.

ENGLISH LANGUAGE ARTS (ELA) ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
1	ELAGSE5RL1	2	A	The correct answer is choice (A) “The other windows are closed,” Carlos reported, “but I can still solve this mystery.” Carlos clearly shows confidence in his own abilities, revealing his determination. Choice (B) is incorrect because Carlos is making an observation about Buddy, not showing that he is determined. Choice (C) is incorrect because it reveals Buddy’s cleverness, not Carlos’s determination. Choice (D) is incorrect because it shows that Carlos is content with himself, not that he is determined to do something.
2	ELAGSE5RL1	3	D	The correct answer is choice (D) Angela is responsible. Although Angela shows disappointment in having to return Buddy, she makes the responsible choice and takes him back to where he belongs. Choices (A), (B), and (C) are incorrect because Angela is not showing curiosity, nervousness, or stubbornness in her reaction.
3	ELAGSE5RL2	3	D	The correct answer is choice (D) People can get answers if they are persistent. Carlos and Angela are determined to find out how Buddy keeps getting into their house, so they keep searching and asking questions until they find out. Choices (A) and (B) are incorrect because the central focus of the story is not on cats but on solving a mystery. Choice (C) is incorrect because the theme of the story does not center around observing animal behavior.
4	ELAGSE5RL1	2	N/A	See scoring rubric and exemplar response on page 55.
5	ELAGSE5RL4	2	C	The correct answer is choice (C) to show she is feeling happy. This expression is used to show that someone is delighted or excited about something. Choices (A) and (B) are incorrect because they are literal interpretations and do not express the meaning of the phrase. Choice (D) is incorrect because nothing in the sentence suggests that Angela is sweaty.
6	ELAGSE5L5b	2	D	The correct answer is choice (D) a secret is uncovered. Angela thinks this after she and Carlos finally solve the mystery of how Buddy enters their house, so the phrase means that a secret is revealed. Choice (A) is incorrect because Angela isn’t missing Buddy here. Choice (B) is incorrect because Buddy was not found in a bag. Choice (C) is incorrect because the phrase does not typically refer to an actual cat.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
7	ELAGSE5L4a	2	D	The correct answer is choice (D) in a desperate way. Mr. Thorton, Buddy's owner, is very worried about his pet, so he desperately searches for him. Choice (A) is incorrect because "frantically" describes an action, not a level of energy. Choice (B) is incorrect because Mr. Thorton is not confused; he knows his pet is missing, and he is desperate to find him. Choice (C) is incorrect because Mr. Thorton isn't exciting anyone in his search.
8	ELAGSE5RL6	3	C/B	<p>The correct answer choice is (C) to help the reader understand how Angela and Carlos are different and (B) "How?" asked Angela, curious about her brother's next plan. Carlos always had imaginative ideas.</p> <p>Angela and Carlos approach the mystery very differently. Angela is somewhat reluctant as she is fond of the cat, while Carlos is excited to figure out how the cat is getting into the house. Telling the story from each sibling's point of view helps the reader understand the differences between them. The answer choice for Part B of the item shows the sentences from the passage that best support how Angela and Carlos are different.</p> <p>In Part A, choice (A) is incorrect as the passage does not focus on the act of painting basement walls, though paint and the basement are part of the passage. Choice (B) is incorrect because the passage is not designed to be instructional. Choice (D) is incorrect because the reader never learns much about how Carlos feels about Buddy; rather, Angela's feelings about Buddy are a central component of the passage. The incorrect options in Part B support incorrect answers in Part A.</p>
9	ELAGSE5W3	4	N/A	See exemplar responses on page 56 and the four-point holistic rubric beginning on page 64.
10	ELAGSE5RI6	3	N/A	See scoring rubric and exemplar responses on page 57.
11	ELAGSE5W2, ELAGSE5L1, ELAGSE5L2	4	N/A	See exemplar response on page 58 and the seven-point, two-trait rubric beginning on page 66.
12	ELAGSE5L2e	1	B	The correct answer is choice (B) community. This is the correct spelling of the word. Choices (A), (C), and (D) are incorrect because <i>comunity</i> , <i>communitty</i> , and <i>communaty</i> are all misspellings.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
13	ELAGSE5L2b	2	A	The correct answer is choice (A) During the meeting of the art club, we decided to do a volunteer project. Choice (B) is incorrect because a comma should not be placed after <i>important</i> . Choice (C) is incorrect because a comma should not be placed after <i>thought</i> . Choice (D) is incorrect because a comma does not belong after <i>sure</i> .
14	ELAGSE5L1e	2	D	The correct answer is choice (D) both/and. This choice of conjunctions correctly completes the sentence. Choices (A), (B), and (C) are incorrect because <i>not/but</i> , <i>neither/nor</i> , and <i>either/or</i> do not correctly complete the sentence.
15	ELAGSE5L1b	2	A	The correct answer is choice (A) had hoped. This option is the correct verb tense for the sentence. The choices (B), (C), and (D) do not work because <i>have hoped</i> , <i>will have hoped</i> , and <i>will be hoping</i> are not verb tenses that make sense in the sentence.
16	ELAGSE5L1e	2	N/A	See scoring rubric and exemplar response on page 59.
17	ELAGSE5L2	2	N/A	See scoring rubric and exemplar response on page 60.
18	ELAGSE5W7	2	D	The correct answer is choice (D) a website that lists baseball cards that are for sale and their prices. This is correct because sales/price information would be the best information for Mario's task of finding the value of the cards. Choice (A) is incorrect because an interview with a featured player would not relate to price or value. Choice (B) is incorrect because a book about manufacturing and trading baseball cards would not have much information on their value. Choice (C) is incorrect because an article with photos of commonly traded cards would not necessarily have information about baseball card pricing.
19	ELAGSE5W1c	2	N/A	See scoring rubric and exemplar response on page 61.
20	ELAGSE5W2b	2	N/A	See scoring rubric and exemplar response on page 62.

ENGLISH LANGUAGE ARTS (ELA) EXAMPLE SCORING RUBRICS AND EXEMPLAR RESPONSES


Item 4

Scoring Rubric

Points	Description
2	The student correctly fills in both bullets (order within the box does not matter).
1	The student correctly fills in one bullet (order within the box does not matter).
0	The student does not correctly fill in either bullet.

Exemplar Response

The correct response is shown below.


?

Inference: Angela enjoys having the cat as a companion.

- Gently, Angela scooped up Buddy, and the sociable cat snuggled into her arms like a cozy stuffed animal.
- “If my father agrees, I could watch Buddy until your wife returns.”

“Look, Buddy is napping on our couch again,” Angela said with a note of wonder to her brother, Carlos.

“Buddy’s claws cannot grip those rungs,” she concluded.

“That explains the blue paint,” Angela stated.

The correct responses are “Gently, Angela scooped up Buddy, and the sociable cat snuggled into her arms like a cozy stuffed animal.” and “If my father agrees, I could watch Buddy until your wife returns.” Sentence 1 (“Gently, Angela...”) uses vocabulary (“sociable” and “snuggle”) and figurative language (“like a cozy stuffed animal”) that creates a friendly tone associated with companionship. Sentence 2 (“If my father...”) gives detail that shows Angela’s interest in being with Buddy. NOTE: The response order does not affect scoring.

Item 9

To view the four-point holistic rubric for a text-based narrative response, see pages 64 and 65.

Exemplar Response

Points Awarded	Sample Response
4	<p>“The other windows are tightly closed. I can’t budge them, so I doubt Buddy could have opened them,” Carlos reported. He tapped his foot on the ground and said, “But I can still solve this mystery.”</p> <p>Angela stroked Buddy’s soft fur and felt the vibrations of his purr under her hand. “How?” she asked, extremely curious about her brother’s next plan. Carlos always had the most imaginative and brilliant ideas.</p> <p>“Buddy really likes you,” Carlos stated, reaching out to scratch the cat behind the ears. “If you go inside and call him sweetly, Buddy will run quickly to come and see you. I’ll creep behind him and discover his secret entrance.”</p> <p>“That’s a good idea,” Angela sadly admitted. She didn’t really want to find out how Buddy got in, but she reluctantly set him gently in the fresh-smelling grass. She walked inside, took a deep breath, and began calling Buddy’s name.</p>
3	<p>“The other windows are tightly closed. I can’t budge them,” Carlos reported. He tapped his foot on the ground and said, “But I can still solve this mystery.”</p> <p>Angela stroked Buddy’s soft fur and felt the vibrations of his purr under her hand. “How?” she asked, curious about her brother’s next plan. Carlos always had the most imaginative ideas.</p> <p>“Buddy really likes you,” Carlos stated. “If you go inside and call him sweetly, Buddy will run to come and see you. I’ll creep behind him and discover his secret entrance.”</p> <p>“That’s a good idea,” Angela sadly admitted. She reluctantly set him gently in the fresh smelling grass.</p> <p>She walked inside, took a deep breath, and began calling Buddy’s name.</p>
2	<p>“The other windows are closed. I can’t move them. Buddy could not open them,” Carlos said. He thought to himself. He said, “But I can still solve this mystery.”</p> <p>Angela pet Buddy. “How?” she asked. Carlos had good ideas.</p> <p>“Buddy likes you,” Carlos stated. “Call him. I’ll follow him”</p> <p>“That’s a good idea,” Angela said. She set Buddy down and began calling his name.</p>
1	<p>The windows are super closed. I can still find out what happens, Carlos said.</p> <p>Angela pet the cat. How? she asked.</p> <p>Carlos said for her to call Buddy and that he’d come to her.</p> <p>Angela put him down and said his name.</p>
0	Carlos and Angela found out where Buddy came from.

Item 10

Scoring Rubric

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> • Gives sufficient evidence of the ability to analyze and explain how the viewpoints in the two texts are similar • Includes specific examples/details that make clear reference to the texts • Adequately explains how the viewpoints in the two texts are similar with clearly relevant information based on the texts
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> • Gives limited evidence of the ability to analyze and explain how the viewpoints in the two texts are similar • Includes vague/limited examples/details that make reference to the texts • Explains how the viewpoints in the two texts are similar with vague/limited information based on the texts
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> • Gives no evidence of the ability to analyze and explain how the viewpoints in the two texts are similar

Exemplar Response

Points Awarded	Sample Response
2	<p>The writers of both passages show school spirit and a positive viewpoint about their schools. Both say their schools are friendly, fun, and helpful. In “The Center,” the writer says that the school is “clean, fun, and friendly.” In “School Pride Day,” the writer says that kids on the chess team are not only smart but also “kind.” Both say that there are a lot of fun things to do, such as sports. In “The Center,” the writer says that kids love to try out to be the mascot, Jaws, and in “School Pride Day,” the writer tells how kids all wear school T-shirts and jerseys to support their teams. Both writers tell why it is important to help out. In “The Center” the writer says that kids can volunteer to be on the cleanup crew. In “School Pride Day,” the writer says that the school has a garage sale to help families in need. Both say that there is a lot to be proud of at their schools.</p>
1	<p>Both passages talk about things that kids can do at their school, like sports. Both talk about how kids show school spirit. Both say the school has a lot to be proud of.</p>
0	<p>The authors of both passages say good things about their schools.</p>

Item 11

The following is an example of a seven-point response. See the seven-point, two-trait rubric for a text-based informational/explanatory response on pages 66 and 67 to see why this example would earn the maximum number of points.

The two passages describe the schools similarly, but there are also differences. The first text focuses more on introducing a student to things he or she should know about the school, while the second text focuses more on the accomplishments of the school.

The first passage prepares a student for life in the school. It describes a favorite after-school club that cleans up the campus. It also talks about how popular the sports teams are and things to remember when using the cafeteria. It also prepares the student for how “crazy” it can be in the halls.

The second passage is more focused on all the things the school has accomplished. It celebrates the chess team’s win and the orchestra’s recognitions. It describes the pride students and teachers have in the school, and it brags a bit about the community support and mini-libraries.

Both passages show the good things the schools have to offer. They also introduce students to the schools so that they will feel more comfortable.

While they focus on different things, the passages both represent the schools positively.

Item 16**Scoring Rubric**

Points	Description
1	The student correctly selects both drop-down menu options.
0	The student does not correctly select both drop-down menu options.

Exemplar Response

The correct response is shown below.

In order to become a member of the team, a player must agree to follow the rules attend daily practices.

In the first drop-down menu, the correct response is “not only.” In the second drop-down menu, the correct response is “but also.” This correlative conjunction pair correctly shows the relationship between ideas in the sentence by indicating that the player must complete both tasks in the sentence in order to become a member of the team.

Item 17

Scoring Rubric

Points	Description
2	The student correctly selects all three drop-down menu options.
1	The student correctly selects two drop-down menu options.
0	The student does not correctly select at least two drop-down menu options.

Exemplar Response

The correct response is shown below.

Wearing a helmet when riding a bike may not seem that it really can prevent injury if you fall. According to research from , wearing a bike helmet reduces the risk of head injury by 85 percent. Each year, thousands of people avoid injury because they wear a helmet. Helmets should be snug when the chin strap is buckled and not be able to move around loosely on the head. People should never ride a bike without the right safety .

In the first drop-down menu, the correct response is “important, but” because a comma and a coordinating conjunction (like “but”) is required to join the two independent clauses in this sentence. In the second drop-down menu, the correct response is “Cleveland Clinic Children’s Hospital” because all four words in the phrase are part of a proper noun and should thus be capitalized. The correct response in the third drop-down menu is “equipment” because the verb “equip” takes the suffix “-ment” to form the noun “equipment.”

Item 19**Scoring Rubric**

Points	Description
1	The student correctly selects both drop-down menu options.
0	The student does not correctly select both drop-down menu options.

Exemplar Response

The correct response is shown below.

Students should check the school website at least once a week to stay informed on all the important events at our school. Many afterschool activities are listed at the site. the website gives information about the locations and times for sports events. the website gives details about the academic calendar such as when report cards are sent home. Checking the website often is a great way to stay informed.

In the first drop-down menu, the correct response is “For example,” because the paragraph is transitioning into a sentence that gives an example to support the more general reference of “school activities” in the preceding sentence. In the second drop-down menu, the correct response is “Furthermore,” because the content requires a transition that implies additional support for the same topic.


Item 20

Scoring Rubric

Points	Description
2	The student correctly fills in both blanks.
1	The student correctly fills in one blank.
0	The student does not correctly fill in either blank.

Exemplar Response

The correct response is shown below.


?

The tropical grasslands of Africa provide a special habitat for many types of animals.
Some of these animals include elephants, zebras, giraffes, and gazelles.

Grasslands, also known as savannas, are large areas covered with many types of long grasses and few trees or bushes. Although the rich plant life of the savanna provides a plentiful food source for animals, the weather can be quite harsh.
The savanna can have days of pouring rain and months when rain is scarce.

The animals that live in the savanna have learned to adapt to these unique conditions.

Millions of people travel to Africa to see the plants and animals of the savanna.

The savannas of Africa have a rainforest on one side and a desert on the other side.

Many animals that thrive in the savanna are herbivores, which means they eat plants.

“Some of these animals include elephants, zebras, giraffes, and gazelles.” is the correct response for the first blank because it provides support for the general reference to “many types of animals” in the preceding sentence. “The savanna can have days of pouring rain and months when rain is scarce.” is the correct response for the second blank because it gives context to the “quite harsh” weather in the savanna mentioned in the preceding sentence. Additionally, it serves as a transition to the following sentence, which references the “unique conditions” in the savanna.

ENGLISH LANGUAGE ARTS (ELA) WRITING RUBRICS

Grade 5 items that are not machine-scored—i.e., constructed-response, extended constructed-response, and extended writing-response items—are manually scored using either a holistic rubric or a two-trait rubric.

Four-Point Holistic Rubric

Genre: Narrative

A holistic rubric essentially has one main trait. On the Georgia Milestones EOG assessment, a holistic rubric contains a single point scale ranging from zero to four. Each point value represents a qualitative description of the student's work. To score an item on a holistic rubric, a scorer or reader need only choose the criteria and associated point value that best represents the student's work. Increasing point values represent a greater understanding of the content and, thus, a higher score.

Seven-Point, Two-Trait Rubric

Genre: Opinion or Informational/Explanatory

A two-trait rubric, on the other hand, is an analytic rubric with two traits. On the Georgia Milestones EOG assessment, a two-trait rubric contains two point scales, one for each trait, ranging from zero to four on one scale (ideas) and zero to three on the other (conventions). A score is given for each of the two traits, for a total of seven possible points for the item. To score an item on a two-trait rubric, a scorer or reader must choose the criteria and associated point value for each trait that best represents the student's work. The two scores are added together. Increasing point values represent a greater understanding of the content and, thus, a higher score.

On the following pages are the rubrics that will be used to evaluate writing on the Georgia Milestones Grade 5 English Language Arts (ELA) EOG assessment.

Four-Point Holistic Rubric

Genre: Narrative

Writing Trait	Points	Criteria
<p><i>This trait examines the writer's ability to effectively develop real or imagined experiences or events using effective techniques, descriptive details, and clear event sequences based on a text that has been read.</i></p>	4	<p><i>The student's response is a well-developed narrative that fully develops a real or imagined experience based on text as a stimulus.</i></p> <ul style="list-style-type: none"> Effectively establishes a situation and introduces a narrator and/or characters Organizes an event sequence that unfolds naturally Effectively uses narrative techniques, such as dialogue, description, and pacing, to develop rich, interesting experiences and events or show the responses of characters to situations Uses a variety of words and phrases consistently to signal the sequence of events Uses concrete words, phrases, and sensory language consistently to convey experiences or events precisely Provides a conclusion that follows from the narrated experiences or events Integrates ideas and details from source material effectively Has very few or no errors in usage and/or conventions that interfere with meaning*
	3	<p><i>The student's response is a complete narrative that develops a real or imagined experience based on text as a stimulus.</i></p> <ul style="list-style-type: none"> Establishes a situation and introduces one or more characters Organizes events in a clear, logical order Uses narrative techniques, such as dialogue and description, to develop experiences and events or show the responses of characters to situations Uses words and/or phrases to indicate sequence Uses words, phrases, and details to convey experiences and events Provides an appropriate conclusion Integrates some ideas and/or details from source material Has a few minor errors in usage and/or conventions that interfere with meaning*

Four-Point Holistic Rubric

Genre: Narrative (continued)

Writing Trait	Points	Criteria
<p><i>This trait examines the writer's ability to effectively develop real or imagined experiences or events using effective techniques, descriptive details, and clear event sequences based on a text that has been read.</i></p>	2	<p><i>The student's response is an incomplete or oversimplified narrative based on text as a stimulus.</i></p> <ul style="list-style-type: none"> Introduces a vague situation and at least one character Organizes events in a sequence but with some gaps or ambiguity Attempts to use a narrative technique, such as dialogue or description, to develop experiences and events or show the responses of characters to situations Uses occasional signal words to indicate sequence Uses some words or phrases inconsistently to convey experiences and events Provides a weak or ambiguous conclusion Attempts to integrate ideas or details from source material Has frequent errors in usage and conventions that sometimes interfere with meaning*
	1	<p><i>The student's response provides evidence of an attempt to write a narrative based on text as a stimulus.</i></p> <ul style="list-style-type: none"> Response is a summary of the story Provides a weak or minimal introduction of a situation or a character May be too brief to demonstrate a complete sequence of events Shows little or no attempt to use dialogue or description to develop experiences and events or show the responses of characters to situations Uses words that are inappropriate, overly simple, or unclear Provides few, if any, words that convey experiences or events Provides a minimal or no conclusion May use few, if any, ideas or details from source material Has frequent major errors in usage and conventions that interfere with meaning*
	0	<p><i>The student will receive a condition code for various reasons:</i></p> <ul style="list-style-type: none"> Blank Copied Too Limited to Score/Illegible/Incomprehensible Non-English/Foreign Language Off Topic/Off Task/Offensive

*Students are responsible for language conventions learned in their current grade as well as in prior grades. Refer to the language skills for each grade to determine the grade-level expectations for grammar, syntax, capitalization, punctuation, and spelling. Also refer to the "Language Progressive Skills, by Grade" chart in the Appendix for those standards that need continued attention beyond the grade in which they were introduced.

Seven-Point, Two-Trait Rubric

Trait 1 for Informational/Explanatory Genre

Writing Trait	Points	Criteria
Idea Development, Organization, and Coherence <i>This trait examines the writer's ability to effectively establish a controlling idea, support the idea with evidence from the text(s) read, and elaborate on the idea with examples, illustrations, facts, and other details. The writer must integrate the information from the text(s) into his/her own words and arrange the ideas and supporting evidence (from the text[s] read) in order to create cohesion for an informative/explanatory essay.</i>	4	<i>The student's response is a well-developed informative/explanatory text that examines a topic in depth and conveys ideas and information clearly based on text as a stimulus.</i> <ul style="list-style-type: none"> Effectively introduces a topic Effectively develops the topic with multiple facts, definitions, concrete details, quotations, or other information and examples related to the topic Groups related ideas together logically to give some organization to the writing Effectively uses linking words and phrases to connect ideas within and across categories of information Uses precise language and domain-specific vocabulary to explain the topic Provides a strong concluding statement or section related to the information or explanation presented
	3	<i>The student's response is a complete informative/explanatory text that examines a topic and presents information based on text as a stimulus.</i> <ul style="list-style-type: none"> Introduces a topic Develops the topic with some facts, definitions, and details Groups some related ideas together to give partial organization to the writing Uses some linking words to connect ideas within and across categories of information, but relationships may not always be clear Uses some precise language and domain-specific vocabulary to explain the topic Provides a concluding statement or section
	2	<i>The student's response is an incomplete or oversimplified informative/explanatory text that cursorily examines a topic based on text as a stimulus.</i> <ul style="list-style-type: none"> Attempts to introduce a topic Attempts to develop a topic with too few details Attempts to group some related ideas together but organization is not clear Uses few linking words to connect ideas, but not all ideas are well connected to the topic Uses limited language and vocabulary that do not clearly explain the topic Provides a weak concluding statement or section
	1	<i>The student's response is a weak attempt to write an informative/explanatory text that examines a topic based on text as a stimulus.</i> <ul style="list-style-type: none"> May not introduce a topic or topic is unclear May not develop a topic May be too brief to group any related ideas together May not use any linking words to connect ideas Uses vague, ambiguous, or repetitive language Provides a minimal or no concluding statement or section
	0	<i>The student will receive a condition code for various reasons:</i> <ul style="list-style-type: none"> Blank Copied Too Limited to Score/Illegible/Incomprehensible Non-English/Foreign Language Off Topic/Off Task/Offensive

Seven-Point, Two-Trait Rubric

Trait 2 for Informational/Explanatory Genre

Writing Trait	Points	Criteria
Language Usage and Conventions <i>This trait examines the writer's ability to demonstrate control of sentence formation, usage, and mechanics as embodied in the grade-level expectations of the language standards.</i>	3	<i>The student's response demonstrates full command of language usage and conventions.</i> <ul style="list-style-type: none"> Has clear and complete sentence structure, with appropriate range and variety Shows command of language and its conventions when writing Any errors in usage and conventions do not interfere with meaning*
	2	<i>The student's response demonstrates partial command of language usage and conventions.</i> <ul style="list-style-type: none"> Has complete sentences, with some variety Shows some knowledge of language and its conventions when writing Has minor errors in usage and conventions with no significant effect on meaning*
	1	<i>The student's response demonstrates weak command of language usage and conventions.</i> <ul style="list-style-type: none"> Has fragments, run-ons, and/or other sentence structure errors Shows little knowledge of language and its conventions when writing Has frequent errors in usage and conventions that interfere with meaning*
	0	<i>The student will receive a condition code for various reasons:</i> <ul style="list-style-type: none"> Blank Copied Too Limited to Score/Illegible/Incomprehensible Non-English/Foreign Language Off Topic/Off Task/Offensive

*Students are responsible for language conventions learned in their current grade as well as in prior grades. Refer to the language skills for each grade to determine the grade-level expectations for grammar, syntax, capitalization, punctuation, and spelling. Also refer to the "Language Progressive Skills, by Grade" chart in the Appendix for those standards that need continued attention beyond the grade in which they were introduced.

Seven-Point, Two-Trait Rubric

Trait 1 for Opinion Genre

Writing Trait	Points	Criteria
Idea Development, Organization, and Coherence <i>This trait examines the writer's ability to effectively establish a point of view and to support the opinion with reasons from the text(s) read. The writer must form an opinion from the text(s) in his/her own words and organize reasons for the opinion (from text that they have read) in order to create cohesion for an opinion essay.</i>	4	<i>The student's response is a well-developed opinion piece that effectively examines a topic and supports a point of view, with reasons, clearly based on text as a stimulus.</i> <ul style="list-style-type: none"> Effectively introduces a topic and clearly states an opinion Creates an effective organizational structure that logically groups the ideas and reasons to support the writer's purpose Effectively develops the reasons that are supported by facts and details Uses words, phrases, and clauses effectively to link opinion and reasons Provides a strong concluding statement or section related to the opinion presented
	3	<i>The student's response is a complete opinion piece that examines a topic and supports a point of view based on text.</i> <ul style="list-style-type: none"> Introduces a topic and states an opinion Provides some organizational structure to group ideas and reasons Develops the topic and supports the opinion with facts and details Uses some words, phrases, and clauses to link opinion and reasons Provides a concluding statement or section related to the opinion presented
	2	<i>The student's response is an incomplete or oversimplified opinion piece that examines a topic and partially supports a point of view based on text.</i> <ul style="list-style-type: none"> Attempts to introduce a topic and state an opinion Attempts to provide an organizational structure to group reasons, but structure is inconsistent Attempts to develop the topic and support the opinion with facts and details Uses few words, phrases, or clauses to link opinion and reasons; connections are not always clear Provides a weak concluding statement or section that may not be related to the opinion
	1	<i>The student's response is a weak attempt to write an opinion piece that examines a topic and does not support a text-based point of view.</i> <ul style="list-style-type: none"> May not introduce a topic or state an opinion May not have any organizational structure evident May not develop the topic or support the opinion May not use words or phrases to link opinion and reasons Provides a minimal or no concluding statement or section
	0	<i>The student will receive a condition code for various reasons:</i> <ul style="list-style-type: none"> Blank Copied Too Limited to Score/Illegible/Incomprehensible Non-English/Foreign Language Off Topic/Off Task/Offensive

Seven-Point, Two-Trait Rubric

Trait 2 for Opinion Genre

Writing Trait	Points	Criteria
Language Usage and Conventions <i>This trait examines the writer's ability to demonstrate control of sentence formation, usage, and mechanics as embodied in the grade-level expectations of the language standards.</i>	3	<i>The student's response demonstrates full command of language usage and conventions.</i> <ul style="list-style-type: none"> Has clear and complete sentence structure, with appropriate range and variety Shows command of language and its conventions when writing Any errors in usage and conventions do not interfere with meaning*
	2	<i>The student's response demonstrates partial command of language usage and conventions.</i> <ul style="list-style-type: none"> Has complete sentences, with some variety Shows some knowledge of language and its conventions when writing Has minor errors in usage and conventions with no significant effect on meaning*
	1	<i>The student's response demonstrates weak command of language usage and conventions.</i> <ul style="list-style-type: none"> Has fragments, run-ons, and/or other sentence structure errors Shows little knowledge of language and its conventions when writing Has frequent errors in usage and conventions that interfere with meaning*
	0	<i>The student will receive a condition code for various reasons:</i> <ul style="list-style-type: none"> Blank Copied Too Limited to Score/Illegible/Incomprehensible Non-English/Foreign Language Off Topic/Off Task/Offensive

*Students are responsible for language conventions learned in their current grade as well as in prior grades. Refer to the language skills for each grade to determine the grade-level expectations for grammar, syntax, capitalization, punctuation, and spelling. Also refer to the "Language Progressive Skills, by Grade" chart in the Appendix for those standards that need continued attention beyond the grade in which they were introduced.

MATHEMATICS

DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Georgia Milestones Mathematics EOG assessment is a criterion-referenced test, designed to provide information about how well a student has mastered the grade-level state-adopted content standards in Mathematics. The assessment consists of both operational items and field test items (newly written items that are being tried out and do not contribute to the student’s score). Each student will receive one of four Achievement Level designations, depending on how well the student has mastered the content standards. The four Achievement Level designations are Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. In addition to criterion-referenced information, the Georgia Milestones measures will also produce an estimate of how Georgia students are achieving relative to their peers nationally. The norm-referenced information provided is supplementary to the criterion-referenced Achievement Level designation and will not be utilized in any manner other than to serve as a barometer of national comparison. Only the criterion-referenced scores and Achievement Level designations will be utilized in the accountability metrics associated with the assessment program (such as student growth measures, educator-effectiveness measures, or the CCRPI).

The table on the following page outlines the number and types of items included on the Grade 5 Mathematics EOG assessment.

Grade 5 Mathematics EOG Assessment Design

Description	Number of Items	Number of Points
1-point Selected-Response and Technology-Enhanced Items ^{1, 2}	42	42
2-point Technology-Enhanced Items ¹	8	16
Field Test Items ³	5	0
Total⁴	55	58

¹ **Technology-Enhanced:** Possible variants of the technology-enhanced item types used for Mathematics include multiple-part selected-response, multiple-select, drag-and-drop, drop-down, graphing, and keypad-input.

² **1-point Selected-Response and Technology-Enhanced Items:** The ratio of selected-response to technology-enhanced items may vary. The target range of 1-point technology-enhanced items is 0 to 5.

³ **Field Test Items:** Field test items may include 1-point selected-response, 1-point technology-enhanced, and 2-point technology-enhanced items.

⁴ **Total:** Of the total 55 items, 50 contribute to the student's Mathematics score.

The test will be given in two sections. Students may have up to 65 minutes per section to complete Sections 1 and 2. The total estimated testing time for the Grade 5 Mathematics EOG assessment ranges from approximately 60 to 130 minutes. Total testing time describes the amount of time students have to complete the assessment. It does not take into account the time required for the test examiner to complete pre-administration and post-administration activities (such as reading the standardized directions to students). Sections 1 and 2 must be scheduled such that both will be completed in a single day or over the course of two consecutive days (one section each day) and should be completed within the same week following the district's testing protocols for the EOG measures (in keeping with state guidance).

CONTENT MEASURED

The Grade 5 Mathematics assessment will measure the Grade 5 standards that are described at www.georgiastandards.org.

The content of the assessment is organized into five groupings, or domains, of standards for the purposes of providing feedback on student performance. A content domain is a reporting category that *broadly* describes and defines the content of the course, as measured by the EOG assessment. The standards for Grade 5 Mathematics are grouped into five domains: Operations and Algebraic Thinking, Number and Operations in Base 10, Number and Operations—Fractions, Measurement and Data, and Geometry. Each domain was created by organizing standards that share similar content characteristics. The content standards describe the level of expertise that Grade 5 Mathematics educators should strive to develop in their students. Educators should refer to the content standards for a full understanding of the knowledge, concepts, and skills subject to be assessed on the EOG assessment.

The approximate proportional number of points associated with each domain is shown in the following table. A range of cognitive levels will be represented on the Grade 5 Mathematics EOG assessment. Educators should always use the content standards when planning instruction.

GRADE 5 MATHEMATICS: DOMAIN STRUCTURES AND CONTENT WEIGHTS

Reporting Categories and Content Standards

Reporting Category/Domain	Content Standards Assessed	Approximate # of Points	Approximate % of Test
Operations and Algebraic Thinking	MGSE5.OA (1, 2, 3)	6	10%
Number and Operations in Base 10	MGSE5.NBT (1, 2, 3, 4, 5, 6, 7)	14	25%
Number and Operations—Fractions	MGSE5.NF (1, 2, 3, 4, 5, 6, 7)	17	30%
Measurement and Data	MGSE5.MD (1, 2, 3, 4, 5)	12	20%
Geometry	MGSE5.G (1, 2, 3, 4)	9	15%
Total		58	100%


The Standards for Mathematical Practice (1–8) will be embedded within items aligned to the mathematical content standards.

ITEM TYPES

The Mathematics portion of the Grade 5 EOG assessment consists of selected-response and technology-enhanced items.

A selected-response item, sometimes called a multiple-choice item, is defined as a question, problem, or statement that is followed by several answer choices, sometimes called options or response choices. The incorrect choices, called distractors, usually reflect common errors. The student's task is to choose, from the choices provided, the best answer to the question (the stem). The Mathematics selected-response items will have four answer choices.

A technology-enhanced item is an innovative way to measure student skills and knowledge by using scaffolding within a multi-step process. Technology-enhanced items are worth one or two points. If the item is worth two points, partial credit is awarded for special combinations of responses that do not include all the correct answers. For Mathematics, there are a number of specific technology-enhanced item types being used:

- In multi-select items, the student is asked to pick two or three correct responses from five or six answer options.
- In multi-part items, the student responds to a question, statement, or prompt that has two or more parts.
- In drag-and-drop items, the student uses a mouse, touchpad, or touchscreen to move responses to designated areas on the screen.
- In drop-down menu items, the student uses a mouse, touchpad, or touchscreen to open a drop-down menu and select an option from the menu. A drop-down menu item may have multiple drop-down menus.
- In keypad-input items, the student uses the physical keyboard or the pop-up keyboard on a touchscreen to type a number, expression, or equation into an answer box.
- In coordinate-graph items, the student uses a mouse, touchpad, or touchscreen to draw lines and/or plot points on a coordinate grid on the screen.
- In line-plot items, the student uses a mouse, touchpad, or touchscreen to place Xs above a number line to create a line plot.
- In bar-graph items, the student uses a mouse, touchpad, or touchscreen to select the height of each bar to create a bar graph.
- In number-line items, the student uses a mouse, touchpad, or touchscreen to plot a point and/or represent inequalities.
- Since some technology-enhanced items in this guide were designed to be used only in an online, interactive-delivery format, some of the item-level directions will not appear to be applicable when working within the format presented in this document (for example, "Move the clocks into the graph" or "Create a scatter plot").
- This icon  identifies special directions that will help the student answer technology-enhanced items as shown in the format presented within this guide. These directions do not appear in the online version of the test but explain information about how the item works that would be easily identifiable if the student were completing the item in an online environment.

To give students practice using technology-enhanced items in an online environment very similar to how they will appear on the online test, visit “Experience Online Testing Georgia.”

1. Go to the website “Welcome to Experience Online Testing Georgia” (<http://gaexperienceonline.com/>).
2. Select “Test Practice.”
3. On the right side of the page, you will see “End-of-Grade (EOG) Spring Main.” Select “Online Tools Training” which appears underneath it.
4. Select “EOG Test Practice.”
5. Select “Technology Enhanced Items.”
6. Select “All Grades.”
7. You will be taken to a login screen. Use the username and password provided on the screen to log in and practice navigating technology-enhanced items online.

Please note that Google Chrome is the only supported browser for this public version of the online testing environment.

MATHEMATICS DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent the applicable DOK levels across various Grade 5 Mathematics content domains are provided.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Example Item 1

Selected-Response: 1 point

DOK Level: 1

Mathematics Grade 5 Content Domain: Measurement and Data

Standard: MGSE5.MD.3a. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

- a. 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.

Which statement about a unit cube is true?

- A. It is a cube with a base perimeter of 1 unit.
- B. It is a cube with a side length of 1 square unit.
- C. It can be used to measure the volume of a rectangle.
- D. It can be used to measure the volume of a rectangular prism.

Correct Answer: D

Explanation of Correct Answer: The correct answer is choice (D) It can be used to measure the volume of a rectangular prism. A unit cube has a volume of 1 cubic unit, and the volume of a right rectangular prism can be found by counting the number of unit cubes it contains. Choices (A) and (B) are incorrect because they use an incorrect definition of a unit cube. Choice (C) is incorrect because volume cannot be measured on two-dimensional figures.

Example Item 2**Selected-Response:** 1 point**DOK Level:** 2**Mathematics Grade 5 Content Domain:** Number and Operations in Base Ten

Standard: MGSE5.NBT.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.

Look at the table.

$1.973 \times 10^1 = 19.73$
$1.973 \times 10^2 = 197.3$
$1.973 \times 10^3 = 1,973.0$
$1.973 \times 10^4 = 19,730.0$

Based on the pattern, what must 1.973 be multiplied by to get 19,730,000.0?

- A. 10^5
- B. 10^6
- C. 10^7
- D. 10^8

Correct Answer: C

Explanation of Correct Answer: The correct answer is choice (C) 10^7 . The pattern shows that the number becomes 10 times greater when the exponent increases by 1. Compared to the last row of the table, the number must become 1,000 times greater to equal 19,730,000.0, so the exponent needs to be increased by 3. Choices (A), (B), and (D) are incorrect because the number is multiplied by 10 an incorrect number of times.

Example Item 3**Selected-Response:** 1 point**DOK Level:** 3**Mathematics Grade 5 Content Domain:** Numbers and Operations–Fractions

Standard: MGSE5.NF.2. Solve word problems involving addition and subtraction of fractions, 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.

At Wildlife Junction Petting Zoo, $\frac{2}{3}$ **of the zoo is used for animal exhibits,** $\frac{1}{4}$ **of the zoo is used for the children’s play area, and the remaining space is used for the ticket counter and the food court.**

Does it make sense to say that $\frac{3}{7}$ **of the zoo is used for the animal exhibits and the children’s play area combined?**

- A. It makes sense because $\frac{3}{7}$ is greater than $\frac{1}{4}$.
- B. It does not make sense because $\frac{3}{7}$ is less than $\frac{2}{3}$.
- C. It does not make sense because $\frac{2}{3}$ is close to 1 and $\frac{1}{4}$ is close to $\frac{1}{2}$, so the sum should be close to $1\frac{1}{2}$.
- D. It makes sense because $\frac{2}{3}$ is close to $\frac{1}{2}$ and $\frac{1}{4}$ is close to $\frac{1}{2}$, so the sum should be close to $\frac{1}{2}$.

Correct Answer: B

Explanation of Correct Answer: The correct answer is choice (B) It does not make sense because $\frac{3}{7}$ is less than $\frac{2}{3}$. Since $\frac{2}{3}$ of the zoo is used for animal exhibits, the part of the zoo used for animal exhibits and the children’s play area must be greater than $\frac{2}{3}$. Choice (A) is incorrect because it does not consider the part of the zoo used for animal exhibits. Choice (C) is incorrect because it makes incorrect comparisons of the addends to benchmark fractions. Choice (D) is incorrect because it incorrectly makes comparisons of the addends to the benchmark fractions and incorrectly adds.

MATHEMATICS ADDITIONAL SAMPLE ITEMS

This section has two parts. The first part is a set of 18 sample items for the Mathematics portion of the EOG assessment. The second part contains a table that shows for each item the standard assessed, the DOK level, the correct answer (key), and a rationale/explanation about the key and distractors. The sample items can be utilized as a mini-test to familiarize students with the item formats found on the assessment.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Item 1**Selected-Response:** 1 point

Look at the combined input-output table.

Input	Output A	Output B
1	2	4
2	4	8
3	6	12
4	8	16

Which set of rules was used to create this combined input-output table?

A.	Output A	Output B
	Output = Input + 1	Output = (Input + 1) + 2

B.	Output A	Output B
	Output = Input + 1	Output = (Input + 2) × 2

C.	Output A	Output B
	Output = Input × 2	Output = (Input × 2) + 2

D.	Output A	Output B
	Output = Input × 2	Output = (Input × 2) × 2

Item 2**Selected-Response:** 1 point

Look at the inequality.

$$4.506 < \square$$

Which number belongs in the box to make this inequality true?

- A. 4.5
- B. 4.6
- C. 4.05
- D. 4.46

Item 3**Selected-Response:** 1 point

Sasha measured 0.2467 decimeter of rain in one month. She correctly rounded that number to the nearest hundredth.

Which number is her answer?

- A. 0.24
- B. 0.246
- C. 0.247
- D. 0.25

Item 4**Selected-Response:** 1 point

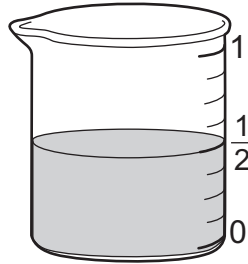
At a farm, $\frac{3}{5}$ of the total area is covered by a pumpkin patch and $\frac{1}{4}$ of the total area is covered by a cornfield.

What fraction of the total area of the farm is covered by the pumpkin patch and the cornfield combined?

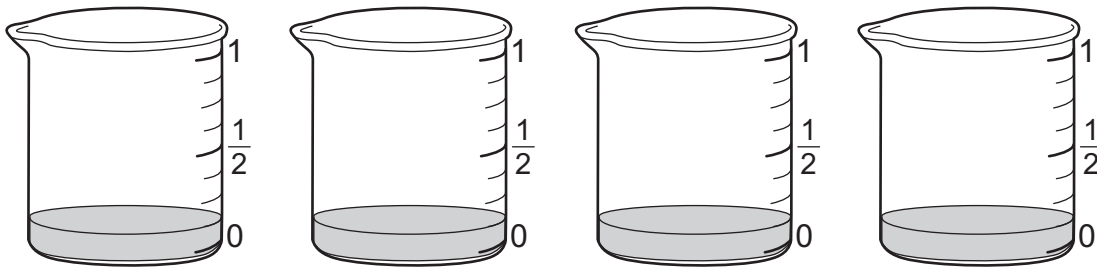
- A. $\frac{4}{9}$
- B. $\frac{5}{20}$
- C. $\frac{12}{20}$
- D. $\frac{17}{20}$

Item 5**Selected-Response:** 1 point

The picture shows the amount, in liters, of a sugar solution that Adam prepared.



He poured equal amounts of the solution into 4 beakers as shown.



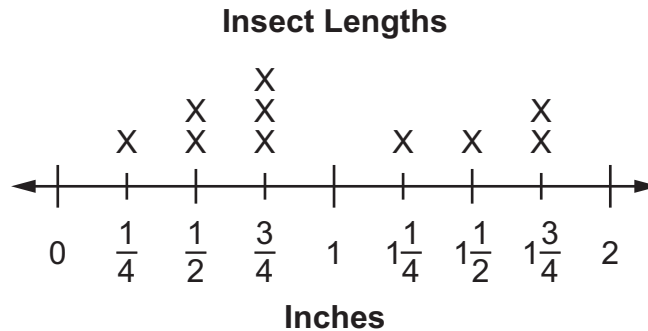
Which expression is equal to the amount, in liters, of sugar solution in each beaker?

- A. $4 \div \frac{1}{8}$
- B. $\frac{1}{2} \div 4$
- C. $4 \times \frac{1}{2}$
- D. $\frac{1}{8} \times 4$

Item 6

Selected-Response: 1 point

Tina measures the lengths, in inches, of 10 insects. She records the lengths of the insects on this line plot. She adds the lengths of the 3 longest insects.



What is the total length, in inches, of the 3 longest insects?

- A. $2\frac{1}{4}$ in.
- B. 3 in.
- C. $4\frac{1}{2}$ in.
- D. 5 in.

Item 7

Selected-Response: 1 point

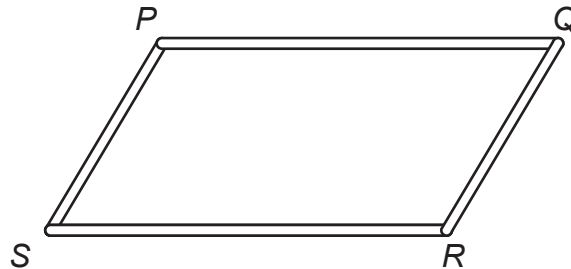
Edwin built a tower that is a rectangular prism with a height of 24 inches and a square base with side lengths of 4 inches each.

What is the volume, in cubic inches, of the tower? ($V = l \times w \times h$)

- A. 6
- B. 32
- C. 96
- D. 384

Item 8**Selected-Response:** 1 point

Tony uses two short straws of the same length and two long straws of the same length to form the figure shown.



Replacing the straw from *P* to *Q* with a shorter straw, Tony creates a new polygon. Which of these could be Tony's new figure?

- A. square
- B. rhombus
- C. trapezoid
- D. rectangle

Item 9**Multi-Part Technology-Enhanced:** 2 points**Part A**

Which expression represents the calculation “subtract 1 from 7, then divide by 3”?

- A. $7 - 1 \div 3$
- B. $3 \div (7 - 1)$
- C. $(7 - 1) \div 3$
- D. $7 - (1 \div 3)$

Part B

Which description is equivalent to $5 + (4 \times 2)$?

- A. add 5 and 4, then multiply by 2
- B. multiply 4 by 2, then add 5
- C. multiply 5 by 2, then add 4
- D. add 4 and 2, then multiply by 5

Item 10

Multi-Part Multi-Select Technology-Enhanced: 2 points

The mass of a quarter is 5.67 grams, and the mass of a half dollar coin is 11.34 grams.

Part A

Select TWO numbers that, when rounded to the hundredths place, will each make the inequality shown true.

$$5.67 < \underline{\hspace{1cm}}$$

- A. 5.609
- B. 5.762
- C. 5.665
- D. 5.098
- E. 5.677

Part B

Which number rounded to the nearest tenth is less than 11.34 rounded to the nearest tenth?

- A. 11.361
- B. 11.283
- C. 11.347
- D. 11.249

Item 11

Multi-Select Technology-Enhanced: 2 points

Greg wants to build a shed to hold his gardening tools. The shed must have a volume of at least 500 cubic feet but no more than 600 cubic feet.

Select **THREE** sets of dimensions that meet Greg's requirements for the volume of a shed.

$$(V = l \times w \times h)$$

- A. 6 feet wide, 9 feet long, 10 feet high
- B. 7 feet wide, 8 feet long, 9 feet high
- C. 10 feet wide, 6 feet long, 8 feet high
- D. 9 feet wide, 9 feet long, 8 feet high
- E. 8 feet wide, 8 feet long, 8 feet high
- F. 9 feet wide, 8 feet long, 6 feet high

Item 12

Drag-and-Drop Technology-Enhanced: 2 points

Move each number representation into the column that BEST describes it.

?

Less Than 12.032	Equal to 12.032	Greater Than 12.032

12.129

$(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{1000}\right)$

twelve and thirty-two thousandths

12.001

$(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{10}\right) + \left(2 \times \frac{1}{100}\right)$


twelve and thirty-eight hundredths

Use a mouse, touchpad, or touchscreen to move the number representations into the columns. Each number representation may be used once.

Item 13

Drag-and-Drop Technology-Enhanced: 2 points

Move a number into each box to make the two statements true.

 ?

When 60 is multiplied by 10 to the power of , the product is equal to 6,000.

When 8.1 is multiplied by 10 to the power of , the product is equal to 810,000.

1 2 3 4 5 6 7 8 9 10

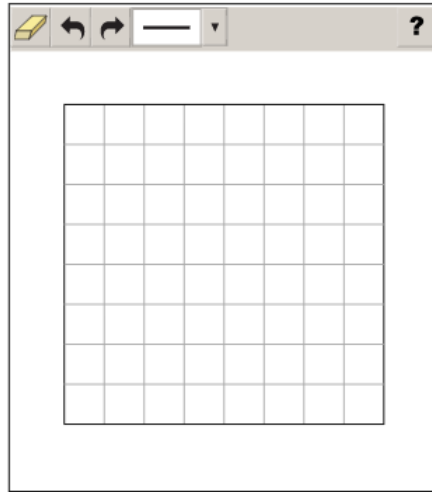


Use a mouse, touchpad, or touchscreen to move a number into each box. Each number may be used twice.

Item 14**Coordinate-Graph Technology-Enhanced:** 2 points

Jonah draws a shape that has four right angles, two sides with lengths of 3 units, and two sides with lengths of 5 units.

Place line segments on the grid to create a shape that could be Jonah's shape.



Use a mouse, touchpad, or touchscreen to draw line segments on the grid. At most 4 line segments can be placed.

Item 15

Drag-and-Drop Technology-Enhanced: 2 points

Brooke will completely fill a rectangular prism with unit cubes. The diagram shows the number of unit cubes she has already put inside the rectangular prism.

Move a number into each box to show the dimensions, in units, and the volume, in cubic units, of the rectangular prism when completely filled.

6 units

Volume = cubic units

1 2 3 4 5 6 7 8 9
10 13 18 24 36 38 72



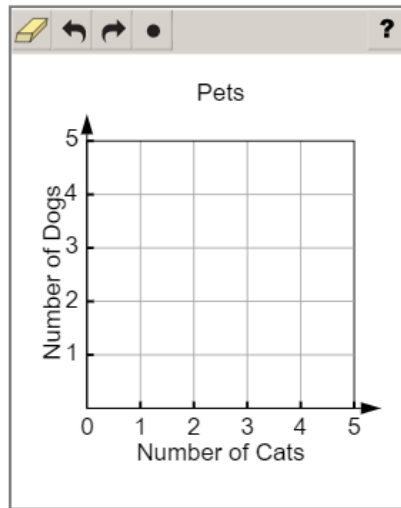
Use a mouse, touchpad, or touchscreen to move a number into each box. Each number may be used 3 times.

Item 16

Coordinate-Graph Technology-Enhanced: 1 point

Morgan has a total of 5 cats and dogs as pets. The number of cats Morgan has is 1 more than the number of dogs she has.

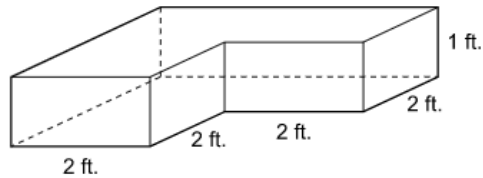
Plot a point on the coordinate grid to represent the number of cats and the number of dogs that Morgan has as pets.



Use a mouse, touchpad, or touchscreen to plot a point on the coordinate grid. At most 1 point can be plotted.

Item 17**Keypad-Input Multi-Part Technology-Enhanced:** 2 points**Part A**


Ms. Mailee has a fish tank made up of rectangular prisms as shown.

**Part A**

What is the volume, in cubic feet, of the fish tank?

(Volume = Length \times Width \times Height)

1	2	3	
4	5	6	
7	8	9	
0	.	$\frac{\Box}{\Box}$	

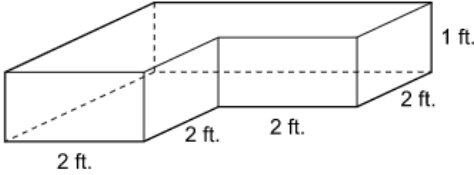
 Use a mouse, touchpad, or touchscreen to enter a response.

Go on to the next page to finish item 17.

Item 17. *Continued.*

Part B

Ms. Mailee has a fish tank made up of rectangular prisms as shown.



Part B

Ms. Diaz has a taller fish tank with the same base as Ms. Mailee's fish tank. The height of Ms. Diaz's fish tank is 2 feet.

What is the volume, in cubic feet, of Ms. Diaz's fish tank?

(Volume = Length × Width × Height)

←

→

↶

↷

✖

?

1	2	3
4	5	6
7	8	9
0	.	$\frac{\Box}{\Box}$

➡ Use a mouse, touchpad, or touchscreen to enter a response.

Item 18**Drop-Down Technology-Enhanced:** 1 point

Two expressions are shown.

“subtract 2 from 8”

“subtract 2 from 8, then divide by 3”

Use the drop-down menus to compare the values of the two expressions.

The value of the expression “subtract 2 from 8” is times the value of the expression “subtract 2 from 8, then divide by 3.”



Use a mouse, touchpad, or touchscreen to click the arrow beside each of the two blank boxes. When you click the arrow, a drop-down menu will appear, showing you all the possible options for that blank. Each drop-down menu with its options is shown below.

The value of the expression “subtract 2 from 8” is times the value of the expression “subtract 2 from 8, then divide by 3.”

1/2
1/3
2
3

as great as
less than

MATHEMATICS ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
1	MGSE5.OA.3	2	D	The correct answer is choice (D). For each input, Output A is twice that value, and Output B is twice the value of Output A. Choices (A) and (B) are incorrect because Output A and Output B are not computed correctly. Choice (C) is incorrect because Output B is true for Input 1 only.
2	MGSE5.NBT.3b	1	B	The correct answer is choice (B) 4.6. The ones digits are equal. The tenths digit in 4.6 is 6. The tenths digit in 4.506 is 5. Since $5 < 6$, $4.506 < 4.6$. Choices (A) and (D) are incorrect because they do not consider all the digits. Choice (C) is incorrect because it does not consider that the inequality indicates less than.
3	MGSE5.NBT.4	1	D	The correct answer is choice (D) 0.25. The digit in the thousandths place is greater than 5, so round up to the next hundredth by increasing the digit in the hundredths place by 1. Choice (A) is incorrect because it rounds the hundredths place down instead of up. Choices (B) and (C) are incorrect because they write the decimal to the thousandths place.
4	MGSE5.NF.2	2	D	The correct answer is choice (D) $\frac{17}{20}$. The common denominator of 5 and 4 is 20. Write each fraction with the common denominator and add the numerators: $\frac{12}{20} + \frac{5}{20} = \frac{17}{20}$. Choice (A) is incorrect because it incorrectly added across the numerators and denominators without getting a common denominator. Choice (B) is incorrect because it is the fraction of the farm covered by the cornfield. Choice (C) is incorrect because it is the fraction of the farm covered by the pumpkin patch.
5	MGSE5.NF.7a	2	B	The correct answer is choice (B) $\frac{1}{2} \div 4$. Choice (A) is incorrect because it divides the number of beakers by the amount of solution in each beaker. Choice (C) is incorrect because it multiplies the number of beakers by the total amount of solution. Choice (D) is incorrect because it multiplies the amount of solution in each beaker by the number of beakers.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
6	MGSE5.MD.2	2	D	The correct answer is choice (D) 5 in. The three longest insects are $1\frac{1}{2}$, $1\frac{3}{4}$, and $1\frac{3}{4}$, so add those together to get the total length. Choice (A) is incorrect because it is the sum of only the insects that are $\frac{3}{4}$ in. Choice (B) is incorrect because there are not just three 1-inch insects. Choice (C) is incorrect because it adds only the top three lengths, not accounting for how many there are in each length.
7	MGSE5.MD.5	2	D	The correct answer is choice (D) 384. The volume is found by multiplying length times width times height, which is 4 times 4 times 24. Choice (A) is incorrect because it is 24 divided by 4. Choice (B) is incorrect because it is the sides added together. Choice (C) is incorrect because it is the result of multiplying 24 by 4.
8	MGSE5.G.4	2	C	The correct answer is choice (C) trapezoid. Choices (A) and (B) are incorrect because the four straws are not the same length. Choice (D) is incorrect because only two of the straws are the same length.
9	MGSE5.OA.2	2	Part A: C Part B: B	Part A: The correct answer is choice (C) $(7 - 1) \div 1$. Choices (A) and (D) are incorrect because they show the division as happening first. Choice (B) is incorrect because it shows the 3 divided by the difference. Part B: The correct answer is choice (B) multiply 4 by 2, then add 5. As the product is inside parentheses, it will happen before the addition. Choice (A) is incorrect because the addition does not happen first. Choice (C) is incorrect because 5 is not multiplied by 2. Choice (D) is incorrect because 4 is multiplied by 2, not added to 2.
10	MGSE5.NBT.4	2	Part A: B/E Part B: D	Part A: The correct answers are choice (B) 5.762 and choice (E) 5.677. Choice (A) is incorrect because it rounds to 5.61 which is less than 5.67. Choice (C) is incorrect because it rounds to 5.67, which is equal to 5.67, not greater than it. Choice (D) is incorrect because it rounds to 5.10, which is less than 5.67. Part B: The correct answer is choice (D) 11.249. When 11.34 is rounded to the nearest tenth, it is 11.3, and when 11.249 is rounded to the nearest tenth, it is 11.2, which is less than 11.3. Choice (A) is incorrect because it rounds to 11.4, which is greater than 11.3. Choices (B) and (C) are incorrect because they round to 11.3, which is equal to 11.3.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
11	MGSE5.MD.5b	2	A/B/E	The correct answers are choices (A), (B), and (E). Choice (A) has a volume of 540, choice (B) has a volume of 504, and choice (E) has a volume of 512. Choice (C) is incorrect because the volume is 480, which is less than 500 and too small for Greg's shed. Choice (D) is incorrect because the volume is 648, which is greater than 600 and too big for Greg's shed. Choice (F) is incorrect because the volume is 432, which is less than 500 and too small for Greg's shed.
12	MGSE5.NBT.3	2	N/A	See scoring rubric and exemplar response on page 97.
13	MGSE5.NBT.2	3	N/A	See scoring rubric and exemplar response on page 98.
14	MGSE5.G.3	2	N/A	See scoring rubric and exemplar response on page 99.
15	MGSE5.MD.4	3	N/A	See scoring rubric and exemplar response on page 100.
16	MGSE5.G.2	2	N/A	See scoring rubric and exemplar response on page 101.
17	MGSE5.MD.5	3	N/A	See scoring rubric and exemplar response beginning on page 102.
18	MGSE5.OA.2	2	N/A	See scoring rubric and exemplar response on page 104.

MATHEMATICS EXAMPLE SCORING RUBRICS AND EXEMPLAR RESPONSES

Item 12

Scoring Rubric

Points	Description
2	The student correctly places all number representations.
1	The student correctly places three, four, or five number representations.
0	The student does not correctly place at least three number representations.

Exemplar Response

The correct response is shown below.

Less Than 12.032	Equal to 12.032	Greater Than 12.032
12.001	$(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{1000}\right)$ twelve and thirty-two thousandths	12.129 $(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{10}\right) + \left(2 \times \frac{1}{100}\right)$ twelve and thirty-eight hundredths

In the first column, “12.001” is less than 12.032 because the hundredths place is the first place value that is different between the two numbers and 0 is less than 3, so 12.001 is less than 12.032. In the second column, “ $(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{100}\right) + \left(2 \times \frac{1}{1000}\right)$ ” is 12.032 in expanded form and “twelve and thirty-two thousandths” is the written equivalent of 12.032. In the third column, “12.129” is greater than 12.032 because the tenths place is the first place value that is different between the two numbers and 1 is greater than 0, so 12.129 is greater than 12.032. Also in the third column, “ $(1 \times 10) + (2 \times 1) + \left(3 \times \frac{1}{10}\right) + \left(2 \times \frac{1}{100}\right)$ ” is 12.32 in expanded form. The value of 12.32 is greater than 12.032 because the tenths place is the first place value that is different between the two numbers and 3 is greater than 0, so 12.32 is greater than 12.032. And finally, “twelve and thirty-eight hundredths” is the written equivalent of 12.38. And 12.38 is greater than 12.032 because the tenths place is the first place value that is different between the two numbers and 3 is greater than 0, so 12.38 is greater than 12.032.


Item 13

Scoring Rubric

Points	Description
2	The student correctly completes both statements.
1	The student correctly completes one of the statements.
0	The student does not correctly complete either statement.

Exemplar Response

The correct response is shown below.

 ?

When 60 is multiplied by 10 to the power of , the product is equal to 6,000.

When 8.1 is multiplied by 10 to the power of , the product is equal to 810,000.

1 2 3 4 5 6 7 8 9 10

In the first statement, to get a product of 6,000, 60 needs to be multiplied by a value equal to 100. Since $100 = 10^2$, the number “2” is the power for the first box. In the second statement, 8.1 needs to be multiplied by a value equal to 100,000 to get a product of 810,000. Since $100,000 = 10^5$, the number “5” is the power for the second box.

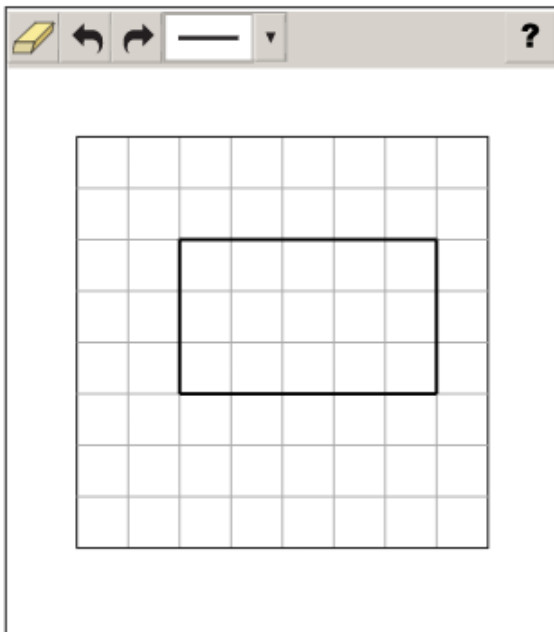
Item 14

Scoring Rubric

Points	Description
2	The student correctly places line segments to make a rectangle that has dimensions of 3 units and 5 units.
1	The student correctly places line segments to make a rectangle that either has dimensions of 3 units or 5 units but not both.
0	The student does not correctly place line segments to make a rectangle or makes a rectangle that has dimensions other than 3 units or 5 units.

Exemplar Response

A correct response is shown below. There is more than one way to answer correctly. The rectangle must be the same size and shape but can be located anywhere on the grid and oriented horizontally or vertically.



A shape that has 4 right angles and opposite sides that are congruent must be a rectangle, and the sides will have lengths of 3 units, 5 units, 3 units, and 5 units.

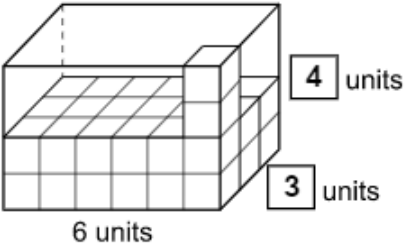
Item 15

Scoring Rubric

Points	Description
2	The student correctly labels both of the dimensions and the volume.
1	The student correctly labels either both of the dimensions or the volume.
0	The student does not correctly label both of the dimensions or the volume.

Exemplar Response

The correct response is shown below.



6 units

4 units

3 units

Volume = 72 cubic units

1 2 3 4 5 6 7 8 9

10 13 18 24 36 38 72

The height of the prism can be found in the front right of the diagram, where four blocks are stacked. This makes the height of the prism “4” units. The width of the prism is three blocks from front to back, which makes the width of the prism “3” units. Since the volume of a prism is the length times the width times the height, or $6 \times 3 \times 4 = 72$, that makes the volume “72” cubic units.

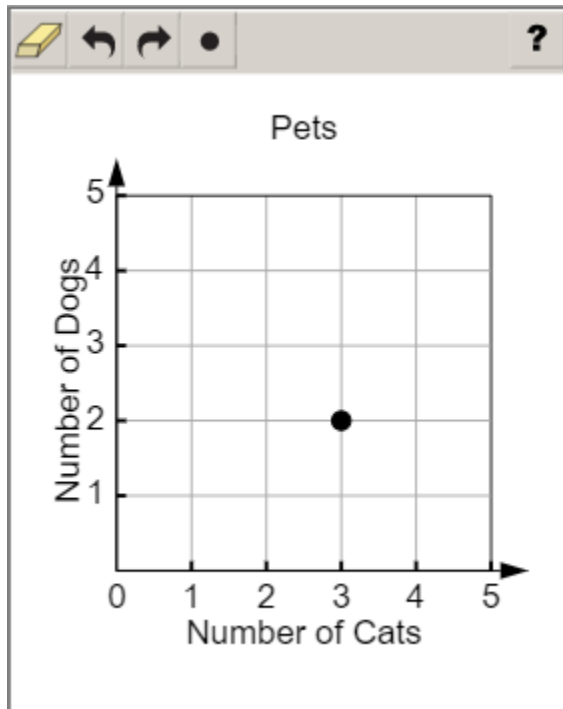
Item 16

Scoring Rubric

Points	Description
1	The student correctly plots the point.
0	The student does not correctly plot the point.

Exemplar Response

The correct response is shown below.



This is the correct response because the number of cats and the number of dogs Morgan has must sum to 5 and the number of cats must be more 1 more than the number of dogs. The only values that make both of these conditions true are 3 cats and 2 dogs. To plot the point, consider that the x-axis represents the number of cats Morgan has as pets, which is 3, and the y-axis represents the number of dogs Morgan has as pets, which is 2. Therefore, the point must be plotted 3 units right of the y-axis and 2 units above the x-axis.

Item 17

Scoring Rubric

Points	Description
2	The student correctly answers both Part A and Part B.
1	The student correctly answers either Part A OR Part B.
0	The student does not correctly answer either part.

Exemplar Response

Part A

The correct response is shown below.

12

1	2	3
4	5	6
7	8	9
0	.	$\frac{\square}{\square}$

This is the correct response because the fish tank is composed of two rectangular prisms, one with dimensions 2 feet by 2 feet by 1 foot and the other with dimensions of 2 feet by 4 feet by 1 foot. The volume of a rectangular prism is found by multiplying its length times its width times its height, so the volumes of the prisms are $2 \times 2 \times 1 = 4$ cubic feet and $2 \times 4 \times 1 = 8$ cubic feet. These volumes are added to find the total volume of the fish tank, 12 cubic feet. Another strategy for finding the volume of the fish tank is to find the volume of a rectangular prism with dimensions of 4 feet by 4 feet by 1 foot and then subtract the volume of a rectangular prism with dimensions of 2 feet by 2 feet by 1 foot.

Go on to the next page to finish item 17.

Item 17**Part B**

The correct response is shown below.

						
24						
1	2	3				
4	5	6				
7	8	9				
0	.	$\frac{\Box}{\Box}$				

This is the correct response because the volume of a rectangular prism is found by multiplying its length times its width times its height. Both fish tanks are composed of rectangular prisms with the same length and width. The height of Ms. Diaz's fish tank is 2 times the height of Ms. Mailee's fish tank, so the volume of Ms. Diaz's fish tank is 2 times the volume of Ms. Mailee's fish tank, or 24 cubic feet. The volume of Ms. Diaz's fish tank can also be found by using the same strategy from Part A and simply replacing the height of 1 foot with a height of 2 feet.

Item 18**Scoring Rubric**

Points	Description
1	The student correctly selects both of the drop-down menu options.
0	The student does not correctly select both of the drop-down menu options.

Exemplar Response

The correct response is shown below.

The value of the expression “subtract 2 from 8” is times the value of the expression “subtract 2 from 8, then divide by 3.”

Both expressions contain the same expression “subtract 2 from 8.” Therefore, the expressions can be compared without completely evaluating them. Using the relationship between multiplication and division, the expression “subtract 2 from 8” must have a value that is 3 times as great as the expression “subtract 2 from 8, then divide by 3.”

SCIENCE

DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Georgia Milestones Science EOG assessment is a criterion-referenced test, designed to provide information about how well a student has mastered the grade-level state-adopted content standards in Science. The assessment consists of both operational items and field test items (newly written items that are being tried out and do not contribute to the student's score). Each student will receive one of four Achievement Level designations, depending on how well the student has mastered the content standards. The four Achievement Level designations are Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. In addition to criterion-referenced information, the Georgia Milestones measures will also produce an estimate of how Georgia students are achieving relative to their peers nationally. The norm-referenced information provided is supplementary to the criterion-referenced Achievement Level designation and will not be utilized in any manner other than to serve as a barometer of national comparison. Only the criterion-referenced scores and Achievement Level designations will be utilized in the accountability metrics associated with the assessment program (such as student growth measures, educator-effectiveness measures, or the CCRPI).

The table on the following page outlines the number and types of items included on the Grade 5 Science EOG assessment.

Grade 5 Science EOG Assessment Design

Description	Number of Items	Number of Points
1-point Selected-Response and Technology-Enhanced Items ^{1, 2}	30	30
2-point Technology-Enhanced Items ¹	8	16
Field Test Items ³	4	0
Total⁴	42	46

¹ **Technology-Enhanced:** Possible variants of the technology-enhanced item types used for science include multiple-part selected-response, multiple-select, drag-and-drop, and drop-down.

² **1-point Selected-Response and Technology-Enhanced Items:** The ratio of selected-response to technology-enhanced items may vary. The target range of 1-point technology-enhanced items is 0 to 5.

³ **Field Test Items:** Field test items may include 1-point selected-response, 1-point technology-enhanced, and 2-point technology-enhanced items.

⁴ **Total:** Of the total 42 items, 38 contribute to the student's science score.

The test will be given in two sections. Students may have up to 40 minutes per section to complete Sections 1 and 2. The total estimated testing time for the Grade 5 Science EOG assessment ranges from approximately 40 to 80 minutes. Total testing time describes the amount of time students have to complete the assessment. It does not take into account the time required for the test examiner to complete pre-administration and post-administration activities (such as reading the standardized directions to students). Sections 1 and 2 must be scheduled such that both will be completed in a single day or over the course of two consecutive days (one section each day) and should be completed within the same week following the district's testing protocols for the EOG measures (in keeping with state guidance).

CONTENT MEASURED

The Grade 5 Science assessment will measure the Grade 5 standards that are described at www.georgiastandards.org.

The content of the assessment is organized into three groupings, or domains, of standards for the purposes of providing feedback on student performance. A content domain is a reporting category that *broadly* describes and defines the content of the course, as measured by the EOG assessment. The standards for Grade 5 Science are grouped into three domains: Earth Science, Physical Science, and Life Science. Each domain was created by organizing standards that share similar content characteristics. The content standards describe the level of expertise that Grade 5 Science educators should strive to develop in their students. Educators should refer to the content standards for a full understanding of the knowledge, concepts, and skills subject to be assessed on the EOG assessment.

The approximate proportional number of points associated with each domain is shown in the following table. A range of cognitive levels will be represented on the Grade 5 Science EOG assessment. Educators should always use the content standards when planning instruction.

GRADE 5 SCIENCE: DOMAIN STRUCTURES AND CONTENT WEIGHTS

Reporting Categories and Content Standards

Reporting Category/Domain	Content Standards Assessed	Approximate # of Points	Approximate % of Test
Earth Science	S5E1 (a, b, c)	11	23%
Physical Science	S5P1 (a, b, c)	16	35%
	S5P2 (a, b, c)		
	S5P3 (a, b)		
Life Science	S5L1 (a, b)	19	42%
	S5L2 (a, b)		
	S5L3 (a, b, c)		
	S5L4 (a, b)		
Total		46	100%


ITEM TYPES

Operational items in the Science portion of the Grade 5 EOG assessment consist of selected-response and technology-enhanced items.

A selected-response item, sometimes called a multiple-choice item, is defined as a question, problem, or statement that is followed by several answer choices, sometimes called options or response choices. The incorrect choices, called distractors, usually reflect common errors. The student's task is to choose, from the choices provided, the best answer to the question (the stem). The Science selected-response items will have four answer choices.

A technology-enhanced item is an innovative way to measure student skills and knowledge by using scaffolding within a multi-step process. Technology-enhanced items are worth one or two points. If the item is worth two points, partial credit is awarded for special combinations of responses that do not include all the correct answers. For Science, there are a number of specific technology-enhanced item types being used:

- In multi-select items, the student is asked to pick two correct responses from six answer options.
- In multi-part items, the student responds to a two-part item that combines multiple-choice items. For these item types, the student selects the responses from the choices provided.

- In drag-and-drop items, the student uses a mouse, touchpad, or touchscreen to move responses to designated areas on the screen.
- In drop-down menu items, the student uses a mouse, touchpad, or touchscreen to open a drop-down menu and select an option from the menu. A drop-down menu item may have multiple drop-down menus.
- Since some technology-enhanced items in this guide were designed to be used in an online, interactive-delivery format, some of the item-level directions will not appear to be applicable when working within the format presented in this document (for example, “Move the characteristics into boxes” or “Click To Respond”).
- This icon  identifies special directions that will help the student answer technology-enhanced items as shown in the format presented within this guide. These directions do not appear in the online version of the test but explain information about how the item works that would be easily identifiable if the student was completing the item in an online environment.

To give students practice using technology-enhanced items in an online environment very similar to how they will appear on the online test, visit “Experience Online Testing Georgia.”

1. Go to the website “Welcome to Experience Online Testing Georgia” (<http://gaexperienceonline.com/>).
2. Select “Test Practice.”
3. On the right side of the page, you will see “End-of-Grade (EOG) Spring Main.” Select “Online Tools Training” which appears underneath it.
4. Select “EOG Test Practice.”
5. Select “Technology Enhanced Items.”
6. Select “All Grades.”
7. You will be taken to a login screen. Use the username and password provided on the screen to log in and practice navigating technology-enhanced items online.

Please note that Google Chrome is the only supported browser for this public version of the online testing environment.

SCIENCE DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent the applicable DOK levels across various Grade 5 Science content domains are provided.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Example Item 1

Selected-Response: 1 point

DOK Level: 1

Science Grade 5 Content Domain: Physical Science

Standard: S5P2. Obtain, evaluate, and communicate information to investigate electricity.

b. Design a complete, simple electric circuit, and explain all necessary components.

A student wants to design a complete, simple circuit for a class project. The student has more materials available than are needed for the project.

What does a complete, simple circuit require to work?

- A. wire and a switch
- B. wire and a light bulb
- C. wire, a battery, and a switch
- D. wire, a battery, and a light bulb

Correct Answer: D

Explanation of Correct Answer: The correct answer is choice (D) wire, a battery, and a light bulb. The necessary components of a simple electric circuit are a source of power, a path for the current, and something to provide power. Choice (A) is incorrect because a switch is not needed, but a power source is a necessary component. Choice (B) is incorrect because a power source is a necessary component. Choice (C) is incorrect because a switch is not a necessary component.

Example Item 2

Selected-Response: 1 point

DOK Level: 2

Science Grade 5 Content Domain: Earth Science

Standard: S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

- b. Develop simple interactive models to collect data that illustrate how changes in surface features are/were caused by constructive and/or destructive processes.

Deposition of sediments can change the depth of a lake over time. A student wants to make a model that shows how this process takes place.

Which model would provide data about changes in the depth of a lake caused by deposition?

- A. Fill a beaker with water. Slowly allow the water to evaporate from the beaker. Measure the change in the depth of the water.
- B. Fill a beaker with water. Slowly drop sand, gravel, and dead plant material into the beaker. Measure the change in the depth of the water.
- C. Fill a plastic box with water. Put a hose in the water on one end of the box and turn the water on to a slow flow. Measure the depth of the water when the box is full.
- D. Fill a plastic box with sand, gravel, and dead plant material. Put a hose in the middle of the box and turn the water on to a slow flow. Measure the depth of the water when the box is full.

Correct Answer: B

Explanation of Correct Answer: The correct answer is choice (B) Fill a beaker with water. Slowly drop sand, gravel, and dead plant material into the beaker. Measure the change in the depth of the water. Choice (A) is incorrect because there are no sediments being added to the water; the change in water level is due to evaporation. Choice (C) is incorrect because this would demonstrate increased water from runoff, not deposition. Choice (D) is incorrect because this would demonstrate increased rainfall and erosion as the sediments are redistributed by the water flow.

Example Item 3**Selected-Response:** 1 point**DOK Level:** 2**Science Grade 5 Content Domain:** Life Science**Standard:** S5L2. Obtain, evaluate, and communicate information showing that some characteristics of organisms are inherited and other characteristics are acquired.

- b. Ask questions to compare and contrast inherited and acquired physical traits.

The eastern box turtle lives in Georgia. The list shows some characteristics of the eastern box turtle.

Characteristics of an Eastern Box Turtle

- can live 50 years or more
- will hide in its shell when frightened
- has a dark shell with many yellow or orange spots
- eats mushrooms, berries, fruits, worms, and insects

Which question can be asked to find out which characteristic is a learned behavior?

- A. Do all eastern box turtles like the same food?
- B. Do eastern box turtles in other states live for 50 years?
- C. Do eastern box turtles in other states have the same color of spots?
- D. Do all eastern box turtles hide in their shells when they are frightened?

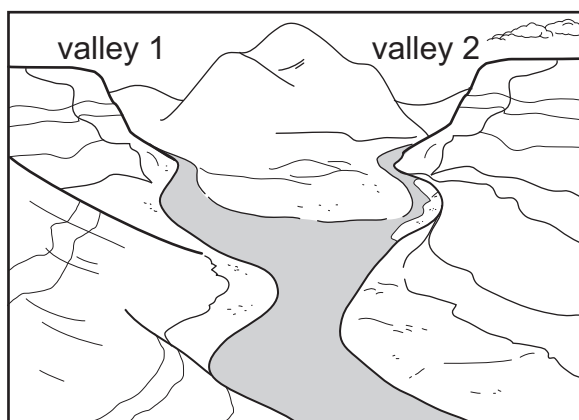
Correct Answer: A

Explanation of Correct Answer: The correct answer is choice (A) Do all eastern box turtles like the same food? Choice (B) is incorrect because length of lifespan is not a learned behavior. Choice (C) is incorrect because physical characteristics are not learned behaviors. Choice (D) is incorrect because this is an instinctive behavior.

Example Item 4**Selected-Response:** 1 point**DOK Level:** 3**Science Grade 5 Content Domain:** Earth Science**Standard:** S5E1. Obtain, evaluate, and communicate information to identify surface features on the Earth caused by constructive and/or destructive processes.

- a. Construct an argument supported by scientific evidence to identify surface features (examples could include deltas, sand dunes, mountains, volcanoes) as being caused by constructive and/or destructive processes (examples could include deposition, weathering, erosion, and impact of organisms).

The picture shows two steep valleys and two rivers that join together and become one larger river in a wider valley.



A student claims that both valleys have been formed by the same process over a long period of time.

Which argument BEST explains why the student's claim is correct or incorrect?

- A.** The student's claim is correct; the evidence in the picture shows that both valleys were formed by the constructive force of deposition because flowing water carries large rocks from far away and drops them along a river, making the banks taller.
- B.** The student's claim is correct; the evidence in the picture shows that both valleys were formed by the destructive forces of weathering and erosion because flowing water breaks down rock and carries the small pieces downstream.
- C.** The student's claim is not correct; the evidence in the picture shows that valley 1 was formed by the destructive forces of weathering and erosion because flowing water breaks down rock and carries the small pieces downstream, but valley 2 was formed by the constructive force of deposition because flowing water carries large rocks from far away and drops them along a river, making the banks taller.
- D.** The student's claim is not correct; the evidence in the picture shows that valley 1 was formed by the constructive force of deposition because flowing water carries large rocks from far away and drops them along a river, making the banks taller, but valley 2 was formed by the destructive forces of weathering and erosion because flowing water breaks down rock and carries the small pieces downstream.

Example Item 4. Continued.**Correct Answer:** B

Explanation of Correct Answer: The correct answer is choice (B) The student's claim is correct; the evidence in the picture shows that both valleys were formed by the destructive forces of weathering and erosion because flowing water breaks down rock and carries the small pieces downstream. Choice (A) is incorrect because water depositing rocks in the river did not form the valleys. Choice (C) is incorrect because the student's claim is correct, and the same evidence of weathering and erosion is found in both valleys. Choice (D) is incorrect because the student's claim is correct, and the same evidence of weathering and erosion is found in both valleys.

Example Item 5

Selected-Response: 1 point

DOK Level: 3

Science Grade 5 Content Domain: Physical Science

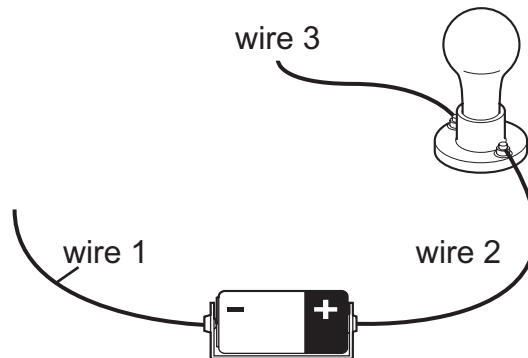
Standard: S5P2. Obtain, evaluate, and communicate information to investigate electricity.

c. Plan and carry out investigations on common materials to determine if they are insulators or conductors of electricity.

A student wants to test some materials to find out whether they conduct electricity or insulate electricity. The student uses the following steps to get started.

step 1: Attach wire 1 to the negative end of a battery.
step 2: Attach wire 2 to the positive end of the battery.
step 3: Attach the open end of wire 2 to a light bulb.
step 4: Attach wire 3 to the light bulb.
step 5: ?
step 6: ?

The diagram shows the result of steps 1 through 4.



Go on to the next page to finish example item 5.

Example Item 5. Continued.

The student has a variety of materials to test. Which steps would BEST complete the procedure and which conclusion should the student make?

- A. **step 5:** Connect a test material to the open ends of wire 1 and wire 3.
step 6: Make observations, and repeat step 5 with a different test material.
conclusion: If the bulb lights up, the material is a conductor. If the bulb does not light up, the material is an insulator.
- B. **step 5:** Connect a test material to the open ends of wire 1 and wire 3.
step 6: Make observations, and repeat step 5 with a different test material.
conclusion: If the bulb lights up, the material is an insulator. If the bulb does not light up, the material is a conductor.
- C. **step 5:** Connect the open ends of wire 1 and wire 3 to each other to complete the circuit.
step 6: Touch a test material to the completed circuit, and record observations.
conclusion: If the bulb lights up, the material is an insulator. If the bulb does not light up, the material is a conductor.
- D. **step 5:** Connect the open ends of wire 1 and wire 3 to each other to complete the circuit.
step 6: Touch a test material to the completed circuit, and record observations.
conclusion: If the bulb lights up, the material is a conductor. If the bulb does not light up, the material is an insulator.

Correct Answer: A

Explanation of Correct Answer: The correct answer is choice (A)

step 5: Connect a test material to the open ends of wire 1 and wire 3.

step 6: Make observations, and repeat step 5 with a different test material.

conclusion: If the bulb lights up, the material is a conductor. If the bulb does not light up, the material is an insulator.

Choice (B) is incorrect because the student has reversed the definition of insulator and conductor.

Choice (C) is incorrect because the circuit is already complete without the test material; this is not an effective way to test each material. Also, the student has reversed the definition of insulator and conductor. Choice (D) is incorrect because the circuit is already complete without the test material; this is not an effective way to test each material.

SCIENCE ADDITIONAL SAMPLE ITEMS

This section has two parts. The first part is a set of 23 sample items for the Science portion of the EOG assessment. The second part contains a table that shows for each item the standard assessed, the DOK level, the correct answer (key), and a rationale/explanation about the key and distractors. The sample items can be utilized as a mini-test to familiarize students with the item formats found on the assessment.

All example and sample items contained in this guide are the property of the Georgia Department of Education.

Item 1**Selected-Response:** 1 point

Two students listed some traits of their favorite football player.

Traits of a Football Player

- is the youngest of four children
- has brown hair and brown eyes
- is taller than the other teammates
- is good at throwing and catching a football

Which question would help the student determine which trait on the list is an acquired physical trait of the football player?

- A. How tall is the football player?
- B. Does the football player have any siblings?
- C. Why does the football player have brown eyes and hair?
- D. Has the football player always been good at catching a football?

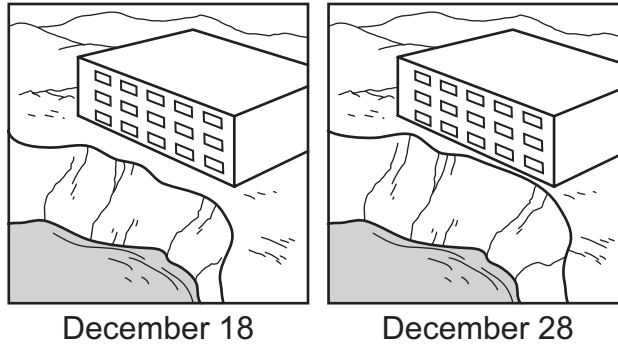
Item 2**Selected-Response:** 1 point

Which investigation would provide evidence of a chemical change?

- A. Spray perfume into the air, and when the air and perfume mix, observe the change in odor that happens as they mix.
- B. Put an antacid tablet in water, and when the antacid and water mix, observe the bubbles that form as a new substance is created.
- C. Heat water in a pan on a stove, and observe the steam that forms as the state of matter of the water changes.
- D. Blow air through a wand filled with soap solution, and observe the bubbles that form as the air becomes trapped.

Item 3**Selected-Response:** 1 point

Some people who live in coastal areas along cliffs are using drones to take pictures of their neighborhoods. A drone is a flying vehicle without a pilot on board. The two pictures show changes in the cliff near a building on two days in December.



Which question can be studied by using a drone to observe recent changes in Earth's surface along coastal areas?

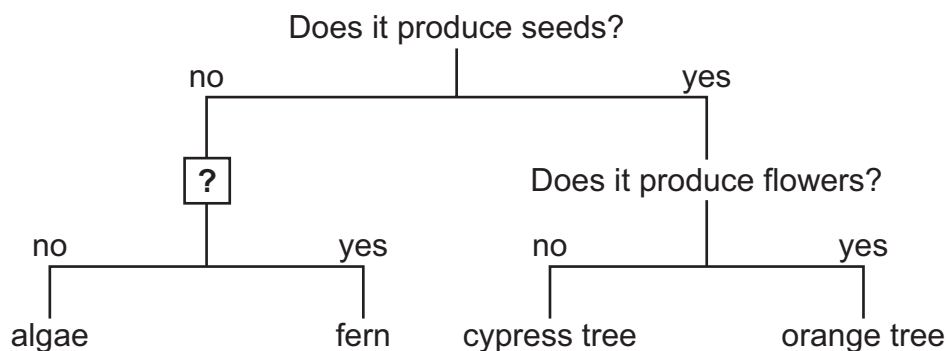
- A. How fast are the cliffs eroding?
- B. How many people live near cliffs?
- C. How old are rock layers at the bottom of the cliff?
- D. How can people stop the erosion of cliffs near the coast?

Item 4**Selected-Response:** 1 point

A student makes a model to sort plants using the information in the table.

Plant	Characteristics
algae	<ul style="list-style-type: none">• does not produce seeds• has no roots, stems, or leaves
fern	<ul style="list-style-type: none">• does not produce seeds• has roots, stems, and leaves
cypress tree	<ul style="list-style-type: none">• produces seeds from cones• has roots, stems, and leaves
orange tree	<ul style="list-style-type: none">• produces seeds from flowers• has roots, stems, and leaves

The student's model is not complete.



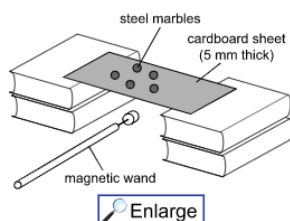
Which question should the student put in the box with a question mark to correctly complete the model?

- A. Does it produce cones?
- B. Does it grow into a tree?
- C. Does it produce flowers?
- D. Does it have roots, stems, or leaves?

Item 5

Drop-Down Technology-Enhanced: 1 point

A student creates the setup and procedure shown below to investigate the interaction between a magnetic wand and steel marbles through a piece of cardboard that is 5 millimeters (mm) thick. A magnetic wand is a wooden stick with a small magnet attached to the end.



The student has additional materials available to use during the investigation.

- cardboard sheet (10 mm thick)
- iron sheet (5 mm thick)

The student uses the following step to get started.

step 1: Slowly move the magnetic wand to different locations under the cardboard to see whether the marbles move with the wand.

Use the drop-down menus to describe which procedure would BEST demonstrate whether different materials affect the magnetic field of a magnetic wand and to predict the result the student should expect.

step 2: Replace the 5 mm thick cardboard sheet with the and repeat step 1. The marbles follow the magnetic wand because the magnetic field .



Use a mouse, touchpad, or touchscreen to click the arrow beside each of the three blank boxes. When you click the arrow, a drop-down menu will appear showing you all the possible options for that blank. Each drop-down menu with its options is shown on the next page.

Go on to the next page to finish item 5.

Item 5. Continued.

step 2: Replace the 5 mm thick cardboard sheet with the and repeat step 1. The magnetic wand because the .

5 mm thick iron sheet

10 mm thick cardboard sheet

step 2: Replace the 5 mm thick cardboard sheet with the and repeat step 1. The marbles follow the magnetic wand because the magnetic .

will

will not

step 2: Replace the 5 mm thick cardboard sheet with the and repeat step 1. The marbles follow the magnetic wand because the magnetic field .

will pass through all materials

will be blocked by magnetic materials

Item 6

Drop-Down Technology-Enhanced: 1 point

A student wants to model how arches form in a desert. The student finds a diagram on a website.

Arch Formation

1. The top layers of sandstone rock crack from earth movements.

2. Cracks in rock layers grow wider and deeper due to erosion, and eventually fins form.

3. Rain and freezing cause exposed rock to crumble and fall, leaving an opening in the fin.

4. Holes grow larger as more rock is weathered and eroded from the fin.

Enlarge

The student designs a procedure to model the formation of an arch.

Procedure

step 1: Mix sand, clay, and water in a shoebox and let it harden into a block.

step 2: Drop the block on the ground to form cracks in the surface.

step 3: Use a watering can to sprinkle 15 liters of water over the block every day until fins form from the cracks.

step 4: ?

step 5: ?

Use the drop-down menus to select the actions that should be used in steps 4 and 5 to BEST model the formation of a desert arch.

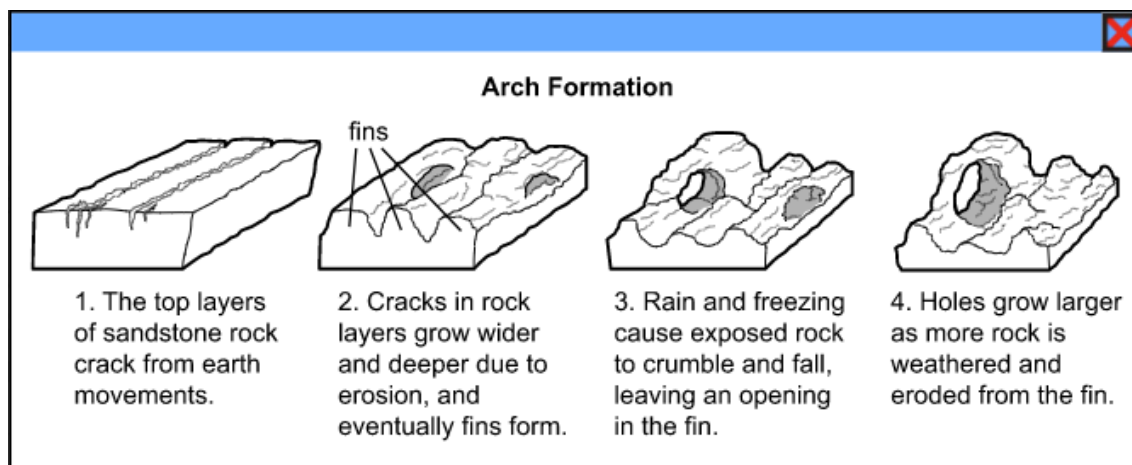
step 4:

In the morning, place the block on a table and

step 5: Repeat step 4 every day until

➡ Due to the size of the graphic on the left side of the screen, the graphic has an “Enlarge” button. Clicking this button will bring up the graphic at full size. After you have studied the graphic, use a mouse, touchpad, or touchscreen to click the arrow beside each of the three blank boxes. When you click the arrow, a drop-down menu will appear showing you all the possible options for that blank. Each drop-down menu with its options is shown on the next page.

Go on to the next page to finish item 6.

Item 6. *Continued.*

➡ Click on the red X at the top right to reduce the graphic again.

step 4:

Place the block in an oven on low heat overnight
Sprinkle water over the block and place it in the freezer overnight

step 4:

In the morning, place the block on a table and

use a fan to blow air over the block during the day
let the sun shine on the block to thaw and dry the block

step 5: Repeat step 4 every day until

an arch is formed
a hole forms and grows larger, forming an arch

Item 7

Selected-Response: 1 point

A student observed a label found on raw chicken meat sold at the grocery store.

Warning:

Cook thoroughly to kill bacteria.

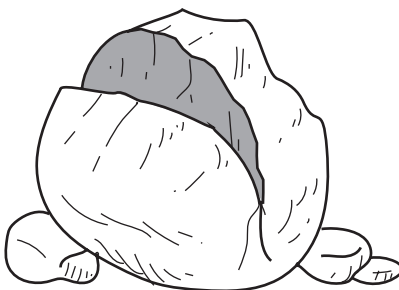
Which argument should the student use to support a claim that some bacteria are harmful to humans?

- A. Some bacteria can harm humans because bacteria reproduce faster when they are cooked at high temperatures.
- B. Some bacteria can harm humans because bacteria become toxic when cooked at high temperatures.
- C. Some bacteria can harm humans because bacteria make food taste bad when it is not cooked properly.
- D. Some bacteria can harm humans because bacteria can cause food poisoning when contaminated food is not cooked properly.

Item 8

Selected-Response: 1 point

A student observes a large rock at the base of a volcano in a river valley that gets a lot of snow in the winter and floods in the spring. The student claims that the large crack in the rock was caused by a destructive process called weathering.



Which argument BEST describes the student's claim?

- A. The student's claim is correct because water fills small cracks in rocks, freezes, and expands, making the cracks larger over time.
- B. The student's claim is correct because the rock was carried from the top of the volcano to its base by a glacier, creating many cracks over time.
- C. The student's claim is not correct because the rock was picked up by moving water and rolled against other rocks, smoothing its surface and causing cracks in a short period of time.
- D. The student's claim is not correct because large cracks in rocks are caused when lava from a volcano covers the rock so its temperature rises and falls in a short period of time, causing it to break.

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Item 9

Drop-Down Technology-Enhanced: 1 point

A student fills a tray with water and places the tray in the freezer. Three hours later, the student removes the tray from the freezer and makes observations.

Student Observations

- The water is solid.
- The water does not flow.
- The water keeps its shape in any container.
- The color of the water has changed to white.

The student claims that changing the temperature of water causes a physical change that turns water into ice.

Use the drop-down menus to construct the argument that BEST supports the student's claim about a physical change.

Ice forms because heat is , causing the particles that make up the ice to move . This .



Use a mouse, touchpad, or touchscreen to click the arrow beside each of the three blank boxes. When you click the arrow, a drop-down menu will appear showing you all the possible options for that blank. Each drop-down menu with its options is shown on the next page.

Go on to the next page to finish item 9.

Item 9. Continued.

Ice forms because heat is , causing the particles that make up the ice to move . This .

added
removed

Ice forms because heat is , causing the particles that make up the ice to move . This .

faster
slower

Ice forms because heat is , causing the particles that make up the ice to move . This .

makes the ice change shape
changes the water from a liquid to a solid
changes the color of the water from clear to white

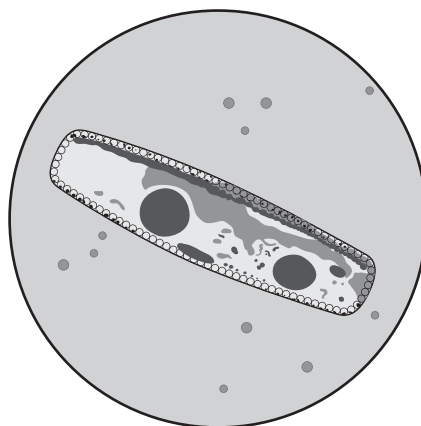
Item 10**Selected-Response:** 1 point

A student collects a sample of pond water in a jar to observe the microscopic algae that live in the water. The student then places a drop of the pond water on a microscope slide and observes it under a microscope. The drawings show what the student observed in the jar and on the slide.

Pond Water Observations

in jar

- cloudy water
- no visible algae in water



on slide

- sediments floating in water
- algae swimming in water

Which claim is supported by evidence in the drawings?

- A.** The student observed microscopic algae only on the slide because algae grow larger when placed on a microscope slide.
- B.** The student observed microscopic algae only on the slide because all of the algae cells were removed from the pond water on the microscope slide.
- C.** The student observed microscopic algae only on the slide because algae cells are too small to be seen without magnification by a microscope.
- D.** The student observed microscopic algae only on the slide because the water in the jar was too cloudy to see the algae.

Item 11**Multi-Select Technology-Enhanced:** 2 points

Students are investigating chemical changes that occur in different materials.

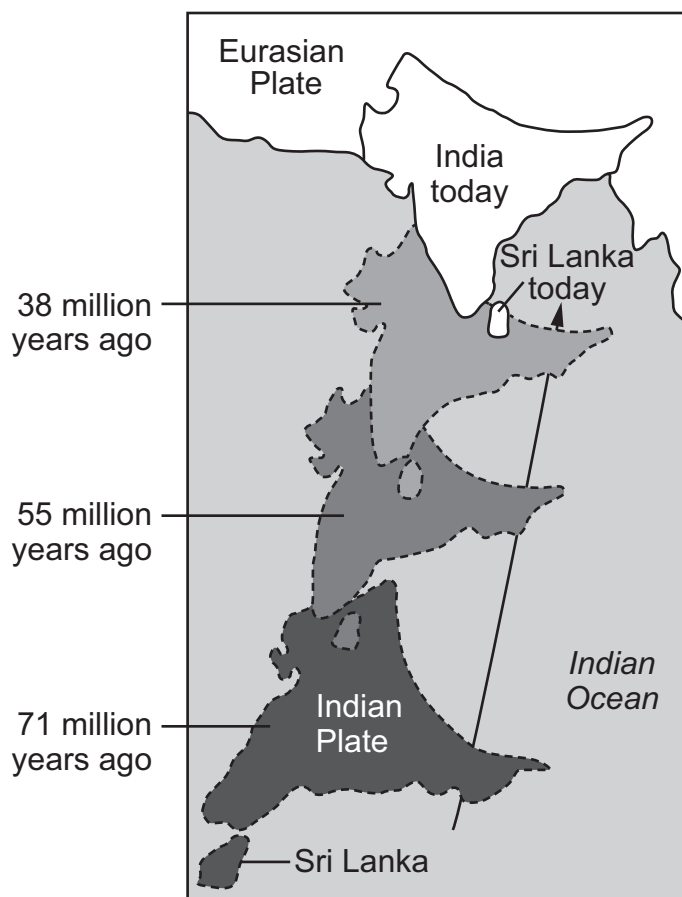
Which TWO investigations would provide evidence of a chemical change?

- A. Placing a liquid in a freezer until the liquid becomes a solid would provide evidence of a chemical change because the state of matter changes.
- B. Using a saw to cut a solid into two different pieces would provide evidence of a chemical change because the pieces cannot be put back together.
- C. Using a hot plate to heat a solid until it changes color and releases an odor would provide evidence of a chemical change because the particles cannot be changed back.
- D. Placing two different liquids together in a beaker and observing that a solid forms when they mix would provide evidence of a chemical change because a new material is formed.
- E. Placing a mixture containing a solid and a liquid on a windowsill and letting the liquid evaporate would provide evidence of a chemical change because the evaporated material is lost.
- F. Using a magnet to remove a magnetic solid from a mixture that also contains nonmagnetic solids would provide evidence of a chemical change because the mixture cannot be mixed together again.

Item 12

Multi-Part Technology-Enhanced: 2 points

A student is studying the formation of the Himalayas. The student finds a picture and learns that the mountain range formed when the Indian Plate collided with the Eurasian Plate. The student uses the picture to design a model that will show classmates how the Himalayas formed.



Go on to the next page to finish item 12.

Item 12. Continued.**Part A**

Based on the picture, which steps would produce the BEST model of how the Himalayas formed over time?

- A. step 1:** Label one cardboard box as the Eurasian Plate.
step 2: Label another cardboard box as the Indian Plate.
step 3: Slowly push both plates toward each other.
step 4: Observe and record how the sizes of both plates change when the edges push against each other.
- B. step 1:** Label one cardboard box as the Eurasian Plate.
step 2: Label another cardboard box as the Indian Plate.
step 3: Slowly push the Indian Plate toward the Eurasian Plate.
step 4: Observe and record how the size of the Indian Plate changes when it touches the edge of the Eurasian Plate.
- C. step 1:** Use light-colored clay to make the shape of the Eurasian Plate.
step 2: Use dark-colored clay to make the shape of the Indian Plate.
step 3: Slowly push the dark-colored plate toward the light-colored plate.
step 4: Observe and record how the shapes of both plates change when the edges push against each other.
- D. step 1:** Use light-colored clay to make the shape of the Eurasian Plate.
step 2: Use dark-colored clay to make the shape of the Indian Plate.
step 3: Slowly push the light-colored plate toward the dark-colored plate.
step 4: Observe and record how the shape of the Eurasian Plate changes when it touches the edge of the Indian Plate.

Part B

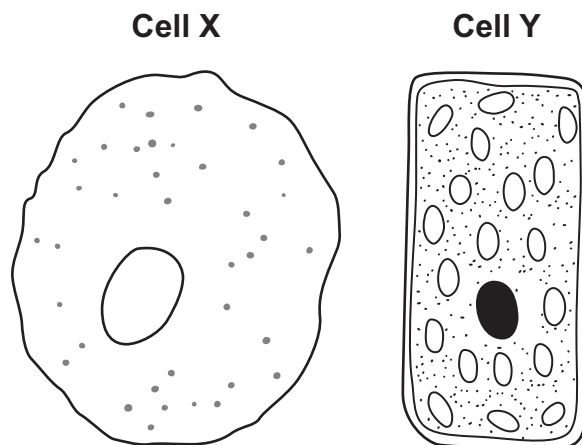
Which data could the student collect using the BEST model from part A?

- A.** the changing distance between the two plates
- B.** the time it takes for the two plates to collide
- C.** the mass of the materials used to make the two plates
- D.** the changing height of the edge where the two plates collide

Item 13

Multi-Part Technology-Enhanced: 2 points

The pictures show the structure of two cells.



Part A

Which sentence explains why the shape and structure of the two cells are different?

- A. Cell X is shaped like a circle because it is an animal cell, which means it does not have a cell wall, and cell Y is shaped like a rectangle because it is a plant cell, which means it has a cell wall.
- B. Cell X is shaped like a circle because it is a plant cell, which means it does not have a cell wall, and cell Y is shaped like a rectangle because it is an animal cell, which means it has a cell wall.
- C. Cell X is shaped like a circle because it is an animal cell, which means it has a cell membrane, and cell Y is shaped like a rectangle because it is a plant cell, which means it does not have a cell membrane.
- D. Cell X is shaped like a circle because it is a plant cell, which means it has a cell membrane, and cell Y is shaped like a rectangle because it is an animal cell, which means it does not have a cell membrane.

Part B

Which sentence describes how the differences between a plant cell and an animal cell can be determined by looking at the parts inside the cell?

- A. Plant cells have a nucleus, but animal cells do not.
- B. Plant cells have chloroplasts, but animal cells do not.
- C. Plant cells do not have a nucleus, but animal cells do.
- D. Plant cells do not have chloroplasts, but animal cells do.

Item 14**Multi-Select Technology-Enhanced:** 2 points

A student is comparing two types of magnets. The student asks five questions, and then finds the answers to the questions by experimenting with the magnets. The results are shown in the table.

Student Results

Question	Magnet 1	Magnet 2
Can it be turned on and off?	yes	no
Does it require an energy source?	yes	no
Can its strength be changed?	yes	no
Does it attract iron and steel objects?	yes	yes
Can it lift 50 paper clips?	no	yes

Based on the evidence, which TWO arguments correctly match a magnet to its best use?

- A. Magnet 1 should be used to pick up many small magnetic objects at once because the temporary magnet can pick up as many objects as the permanent magnet can.
- B. Magnet 1 should be used to pick up magnetic objects in one location and dropping them off in another location because temporary magnets can be turned on and off.
- C. Magnet 1 can be used in all the ways magnet 2 is used because temporary magnets can be made stronger or weaker and permanent magnets cannot.
- D. Magnet 2 should be used to pick up magnetic objects in places where there is no power supply because permanent magnets do not run out of energy.
- E. Magnet 2 should be used to pick up large magnetic objects because permanent magnets are stronger than temporary magnets.
- F. Magnet 2 can be used in all the ways magnet 1 is used because permanent and temporary magnets can both pick up the same magnetic objects.

Item 15

Drag-and-Drop Technology-Enhanced: 2 points

A student is investigating animals and their characteristics. The student uses the information in the table.

Animal	Characteristics
Amphibian	<ul style="list-style-type: none">lives in and out of waterhas moist skin
Bird	<ul style="list-style-type: none">has featherslives on land
Fish	<ul style="list-style-type: none">has scaleslives in water
Mammal	<ul style="list-style-type: none">has hairlives on land
Reptile	<ul style="list-style-type: none">has scaleslives on land

A student makes a model to sort some animals by their characteristics.

Move characteristics and types of animals into boxes to BEST complete the student's model. Not all characteristics need to be used.

Click To Respond

Due to the size of the response area, this item has a “Click To Respond” button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish item 15.

Item 15. *Continued.*

?

Animals

lives in water

lives in water and land

lives on land

has scales

has hair

birds

Characteristics

- has feathers
- has moist skin

- does not have feathers
- does not have moist skin

Animals

- fish
- reptile

- mammal
- amphibian



Use a mouse, touchpad, or touchscreen to move the words or phrases below the model into the boxes. Each word or phrase can be used once. Some words or phrases will not be used.

Item 16

Drag-and-Drop Technology-Enhanced: 2 points

The diagram shows a circuit with missing components.

Move a component into each “component” box in the diagram to complete the electrical circuit. Then, move the matching function into the box below each component.

Electrical Circuit

component component

function function

component wire

function

Components

light bulb switch bar magnet

compass pencil battery

Functions

conducts electricity powers the circuit

turns circuit on and off powered by the circuit

Click To Respond

Due to the size of the response area, this item has a “Click To Respond” button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish item 16.

Item 16. *Continued.*

Electrical Circuit

component

function

component

function

component

function

wire

Components

light bulb

switch

bar magnet

compass

pencil

battery

Functions

conducts electricity

powers the circuit

turns circuit on and off

powered by the circuit

- ➡ Use a mouse, touchpad, or touchscreen to move the components and functions next to the circuit diagram into the boxes in the diagram. Each component or function can be used once. Some components and functions will not be used.

Item 17

Drag-and-Drop Multi-Part Technology-Enhanced: 2 points

Part A

A student is investigating whether the magnetic field of magnets is affected by different materials.

Part A

Move a statement into each blank space in the table to show the CORRECT order of steps for the investigation.

?

Procedure

step 1	Place 10 iron thumbtacks close together on a table.
step 2	
step 3	Tie a string around the magnet.
step 4	
step 5	
step 6	Repeat steps 1-5 using cotton fabric, notebook paper, and aluminum foil.

Wrap a piece of clear plastic wrap around the magnet and hold it in place with a rubber band.
Count the number of iron thumbtacks attracted by the magnet and record the data.
Slowly lower the magnet toward the thumbtacks until they start being picked up by the magnet.

Click To Respond

Due to the size of the response area, this item has a “Click To Respond” button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish item 17.

Item 17. *Continued.*

Procedure	
step 1	Place 10 iron thumbtacks close together on a table.
step 2	
step 3	Tie a string around the magnet.
step 4	
step 5	
step 6	Repeat steps 1–5 using cotton fabric, notebook paper, and aluminum foil.

Wrap a piece of clear plastic wrap around the magnet and hold it in place with a rubber band.

Count the number of iron thumbtacks attracted by the magnet and record the data.

Slowly lower the magnet toward the thumbtacks until they start being picked up by the magnet.

➡ Use a mouse, touchpad, or touchscreen to move the steps below the table into the boxes in the table. Each step can be used once. After the response is entered and the OK button is clicked, Part B will appear on the screen.

Go on to the next page to finish item 17.


Item 17. *Continued.*

Part B

A student is investigating whether the magnetic field of magnets is affected by different materials.

Part B

Move the comparison word(s) into the table to compare the amount of thumbtacks that were MOST LIKELY picked up with the magnet wrapped in those materials to the amount of thumbtacks picked up when the magnet was wrapped in plastic wrap. Words might be used more than once or not used at all.



?

Material	Amount of Thumbtacks Picked Up Compared to Plastic Wrap
cotton fabric	
notebook paper	
aluminum foil	

more fewer no change


➡ Use a mouse, touchpad, or touchscreen to move the result word(s) below the table into the boxes in the table. Each result can be used more than once. Some results may not be used.

Item 18

Drag-and-Drop Technology-Enhanced: 2 points

A student wants to investigate chemical changes by using different materials. The student creates the table of different experiments shown.

For each experiment that demonstrates a chemical change, move the evidence that shows that a chemical change has occurred into the second column of the table. Some evidence may be used more than once or not used at all.



?

Chemical Change Experiments

Experiment	Evidence
An antacid tablet is put into water, and bubbles form.	
A solid and a liquid are mixed, and a sour smell is detected.	
A pink liquid is heated, and the substance turns colorless.	
Two different cold liquids are poured into a container, and the container then feels warm to the touch.	

A temperature change happens.

A new substance is produced.

A color change happens.

An odor is given off.

A gas is produced.



Use a mouse, touchpad, or touchscreen to move the evidence sentences below the table into the boxes in the table. The evidence sentences may be used more than once or not at all.

Item 19

Drag-and-Drop Multi-Part Technology-Enhanced: 2 points

Part A

An oxbow lake is a lake that is usually located near a river. An oxbow lake is often shaped like the letter C. An oxbow lake forms when a curve of a river gets cut off from the main river channel.

Creation of an Oxbow Lake

before after

Part A

A student decides to make a model of an oxbow lake in some sand in the yard. Move a statement into each blank space in the table to show the CORRECT order of steps to make the model.

Oxbow Lake Formation Procedure	
step 1	Make a curved path in the sand that water can flow through to represent a river channel.
step 2	
step 3	
step 4	

Put a water hose at one end of the curved path.
Turn the water from low to high to represent a flooded river.
Turn the water hose on low and let the water flow slowly to fill the curved river.

[Click To Respond](#)

➡ Due to the size of the response area, this item has a “Click To Respond” button on the screen. Clicking this button will bring up the response area at full size.

Go on to the next page to finish item 19.

Item 19. *Continued.*

Oxbow Lake Formation Procedure	
step 1	Make a curved path in the sand that water can flow through to represent a river channel.
step 2	
step 3	
step 4	

Put a water hose at one end of the curved path.

Turn the water from low to high to represent a flooded river.

Turn the water hose on low and let the water flow slowly to fill the curved river.

- ➡ Use a mouse, touchpad, or touchscreen to move the steps below the table into the boxes in the table. Each step can be used once. After the response is entered and the OK button is clicked, Part B will appear on the screen.

Go on to the next page to finish item 19.

Item 19. *Continued.*

Part B

An oxbow lake is a lake that is usually located near a river. An oxbow lake is often shaped like the letter C. An oxbow lake forms when a curve of a river gets cut off from the main river channel.

Creation of an Oxbow Lake

before after

Part B

Move the words into the table that BEST describe the processes that form an oxbow lake. Some words may be used more than once or not used at all.

Part of River	Process	Process Type
channel		
bank		

Process

erosion

deposition

Process Type

constructive

destructive

[Click To Respond](#)

➡ Due to the size of the response area, this item has a “Click To Respond” button on the screen. Clicking this button will bring up the response area at full size.

?

Part of River	Process	Process Type
channel		
bank		

Process

erosion

deposition

Process Type

constructive

destructive

➡ Use a mouse, touchpad, or touchscreen to move the words below the table into the boxes in the table. The words may be used more than once or may not be used at all.

Item 20

Drag-and-Drop Technology-Enhanced: 1 point

A student uses a table showing characteristics of different animals to create a classification model.

Animal Classification Facts	
Animal	Characteristics
eagle	<ul style="list-style-type: none"> • is a warm-blooded vertebrate • has wings and feathers, lives on land
shark	<ul style="list-style-type: none"> • is a cold-blooded vertebrate • has gills and fins, lives in water
beetle	<ul style="list-style-type: none"> • is a cold-blooded invertebrate • has wings and six legs, lives on land
cougar	<ul style="list-style-type: none"> • is a warm-blooded vertebrate • has hair and four legs, lives on land
snake	<ul style="list-style-type: none"> • is a cold-blooded vertebrate • has scales and no legs, lives on land

Using the information in the table, move a set of steps for 2a and 2b into the box to BEST complete the classification model.

?

Classification Model

1a has a backbone.....go to 2

1b does not have a backbone..... Insect

.....go to 3

.....go to 4

3a has feathers.....Bird

3b has hair.....Mammal

4a lives in water.....Fish

4b lives on land.....Reptile

2a has gills

2b has scales

2a is warm blooded

2b is cold blooded

2a has wings

2b does not have wings

2a has six legs

2b does not have six legs



Use a mouse, touchpad, or touchscreen to move the correct set of steps below the model into the box in the model.

Item 21

Drop-Down Technology-Enhanced: 2 points

A teacher gives a student the materials listed in the box.

- glass marbles
- sand
- sugar
- water

The student creates a mixture by placing all the materials in a glass jar and stirring. The student then leaves the glass jar on a desktop for one hour. After one hour, the jar and contents look like the picture.

Student's Mixture

glass jar

sugar and water mixture

glass marbles

sand

The teacher asks the student to carry out a procedure to separate all the materials in the mixture.

Use the drop-down menus to BEST complete the steps in the procedure to separate the parts of the mixture back into the original materials.

Procedure

step 1. Separate the glass marbles from the mixture by removing them with a fork.

step 2. Separate the from the mixture by .

step 3. Separate the from the mixture by .

➡ Use a mouse, touchpad, or touchscreen to click the arrow beside each of the four blank boxes. When you click the arrow, a drop-down menu will appear showing you all the possible options for that blank. Each drop-down menu with its options is shown on the next page.

Go on to the next page to finish item 21.

Item 21. Continued.

step 2. Separate the from the mixture by .

sand
sugar

step 3. Separate the from the mixture by .

step 2. Separate the from the mixture by .

using a magnet to lift it out
setting the jar in sunlight and letting the water evaporate
pouring the mixture through filter paper into a different container

step 3. Separate the from the mixture by .

sand
sugar

step 3. Separate the from the mixture by .

using a magnet to lift it out
setting the jar in sunlight and letting the water evaporate
pouring the mixture through filter paper into a different container

Item 22

Selected-Response: 1 point

A student is investigating whether certain materials are conductors or insulators. The student puts each material to be tested into a circuit to see whether a light bulb will light. The observations from the investigation are shown in the table.

Observations from Material Testing

Material	Does the Light Bulb Light?
glass	no
plastic	no
rubber	no
steel	yes

Which Investigation Results table correctly explains the observations from the student’s investigation?

Go on to the next page to finish item 22.

Item 22. *Continued.*

Investigation Results

A.	Does the Bulb Light?	Is Electricity Flowing?	Conductor or Insulator?
	yes	yes	conductor
	no	no	insulator

Investigation Results

B.	Does the Bulb Light?	Is Electricity Flowing?	Conductor or Insulator?
	yes	no	conductor
	no	yes	insulator

Investigation Results

C.	Does the Bulb Light?	Is Electricity Flowing?	Conductor or Insulator?
	yes	yes	insulator
	no	no	conductor

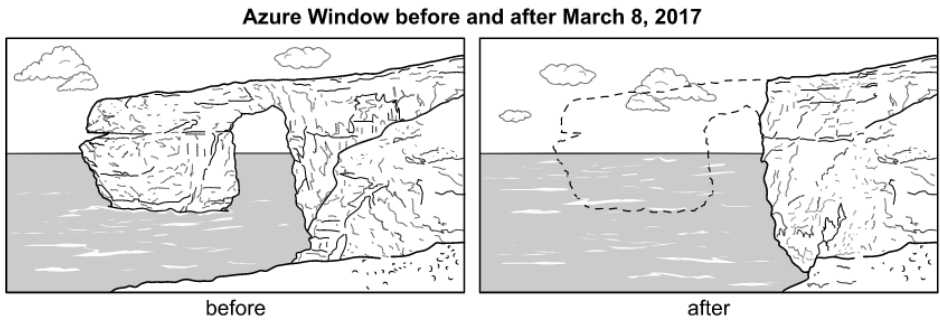
Investigation Results

D.	Does the Bulb Light?	Is Electricity Flowing?	Conductor or Insulator?
	yes	no	insulator
	no	yes	conductor

Item 23

Drop-Down Technology-Enhanced: 1 point

The picture shows the surface feature named the Azure Window as it looked before and after March 8, 2017.



Use the drop-down menus to complete the sentence that explains the changes in the Azure Window.

The changes in the Azure Window were caused by the process of .

➡ Use a mouse, touchpad, or touchscreen to click the arrow beside each of the two blank boxes. When you click the arrow, a drop-down menu will appear showing you all the possible options for that blank. Each drop-down menu with its options is shown below.

The changes in the Azure Window were caused by the process of .

destructive
constructive

erosion
deposition

SCIENCE ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
1	S5L2b	2	D	The correct answer is choice (D) Has the football player always been good at catching a football? Choice (A) is incorrect because body height is an inherited trait. Choice (B) is incorrect because having siblings is not a physical trait of an individual. Choice (C) is incorrect because this is an inherited trait from parents, not an acquired trait.
2	S5P1c	2	B	The correct answer is choice (B) Put an antacid tablet in water, and when the antacid and water mix, observe the bubbles that form as a new substance is created. Choice (A) is incorrect because no chemical reaction takes place, and state of matter is a physical change. Choice (C) is incorrect because no chemical reaction takes place. Choice (D) is incorrect because no chemical reaction takes place.
3	S5E1c	2	A	The correct answer is choice (A) How fast are the cliffs eroding? Choice (B) is incorrect because drones cannot see into the houses to count people. Choice (C) is incorrect because knowing the age of the rocks does not address the recent change in Earth's surface. Choice (D) is incorrect because drones can be used to document erosion but not to prevent it.
4	S5L1b	2	D	The correct answer is choice (D) Does it have roots, stems, or leaves? Choice (A) is incorrect because neither algae nor ferns produce seeds. Choice (B) is incorrect because neither algae nor ferns grow into trees. Choice (C) is incorrect because neither algae nor ferns produce flowers.
5	S5P3b	2	N/A	See scoring rubric and exemplar response on page 155.
6	S5E1b	3	N/A	See scoring rubric and exemplar response on page 156.
7	S5L4b	2	D	The correct answer is choice (D) Some bacteria can harm humans because bacteria can cause food poisoning when contaminated food is not cooked properly. Choice (A) is incorrect because bacteria die when they are cooked. Choice (B) is incorrect because cooking bacteria kills them. Choice (C) is incorrect because bad taste is not harmful.
8	S5E1a	2	A	The correct answer is choice (A) The student's claim is correct because water fills small cracks in rocks, freezes, and expands, making the cracks larger over time. Choice (B) is incorrect because movement of rock to another location is erosion not weathering. Choice (C) is incorrect because erosion in a river tends to smooth the surface of rocks not crack them as shown. Choice (D) is incorrect because the heating and cooling of rocks by lava is not an example of weathering.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
9	S5P1b	2	N/A	See scoring rubric and exemplar response on page 157.
10	S5L3a	2	C	The correct answer is choice (C) The student observed microscopic algae only on the slide because algae cells are too small to be seen without magnification by a microscope. Choice (A) is incorrect because the algae do not change size. Choice (B) is incorrect because the algae and water are both on the slide. Choice (D) is incorrect because even if the water were clear, the algae would be too small to see in the jar.
11	S5P1c	3	C, D	The correct answers are choice (C) Using a hot plate to heat a solid until it changes color and releases an odor would provide evidence of a chemical change because the particles cannot be changed back, and choice (D) Placing two different liquids together in a beaker and observing that a solid forms when they mix would provide evidence of a chemical change because a new material is formed. Choices (A) and (E) are incorrect because a change in the state of matter is a physical change. Choices (B) and (F) are incorrect because no chemical reaction takes place.
12	S5E1b	3	C, D	<p>Part A: The correct answer is choice (C)</p> <p>step 1: Use light-colored clay to make the shape of the Eurasian Plate.</p> <p>step 2: Use dark-colored clay to make the shape of the Indian Plate.</p> <p>step 3: Slowly push the dark-colored plate toward the light-colored plate.</p> <p>step 4: Observe and record how the shapes of both plates change when the edges push against each other.</p> <p>Choices (A) and (B) are incorrect because cardboard boxes are not going to change size when they are pushed together. Choice (D) is incorrect because the Indian Plate should move toward the Eurasian Plate.</p> <p>Part B: The correct answer is choice (D) the changing height of the edge where the two plates collide. Choice (A) is incorrect because measuring the distance between the two plates does not help the student understand how the Himalayas formed. Choice (B) is incorrect because the time it took to form the Himalayas is not being demonstrated by this model. Choice (C) is incorrect because the mass of the materials does not help the student to understand how the Himalayas formed.</p>

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
13	S5L3c	3	A, B	<p>Part A: The correct answer is choice (A) Cell X is shaped like a circle because it is an animal cell, which means it does not have a cell wall, and cell Y is shaped like a rectangle because it is a plant cell, which means it has a cell wall. Choice (B) is incorrect because cell X is an animal cell without a cell wall and cell Y is a plant cell with a cell wall. Choices (C) and (D) are incorrect because both cells have a cell membrane.</p> <p>Part B: The correct answer is choice (B) Plant cells have chloroplasts, but animal cells do not. Choices (A) and (C) are incorrect because both cells have a nucleus. Choice (D) is incorrect because plant cells have chloroplasts and animal cells do not have chloroplasts.</p>
14	S5P3a	3	B, D	<p>The correct answers are choice (B) Magnet 1 should be used to pick up magnetic objects in one location and drop them off in another location because temporary magnets can be turned on and off, and choice (D) Magnet 2 should be used to pick up magnetic objects in places where there is no power supply because permanent magnets do not run out of energy. Choice (A) is incorrect because magnet 1 is the temporary magnet and the permanent magnet can pick up more small magnetic objects. Choice (C) is incorrect because magnet 1 cannot pick up 50 paper clips like magnet 2 can, so magnet 1 cannot be used in all the same ways. Choice (E) is incorrect because permanent magnets are not always stronger than temporary magnets. Choice (F) is incorrect because magnet 2 cannot be turned on and off or made stronger like magnet 1 can, so magnet 2 cannot be used in all the same ways.</p>
15	S5L1a	3	N/A	See scoring rubric and exemplar response on page 158.
16	S5P2b	3	N/A	See scoring rubric and exemplar response on page 159.
17	S5P3b	3	N/A	See scoring rubric and exemplar response beginning on page 160.
18	S5P1c	3	N/A	See scoring rubric and exemplar response on page 162.
19	S5E1b	3	N/A	See scoring rubric and exemplar response beginning on page 164.
20	S5L1a	3	N/A	See scoring rubric and exemplar response on page 166.
21	S5P1a	3	N/A	See scoring rubric and exemplar response on page 167.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
22	S5P2c	1	A	The correct answer is choice (A) the table showing “yes” for “Does the bulb light?” and “Is electricity flowing?” and the material is a conductor, and “no” for “Does the bulb light?” and “Is electricity flowing?” and the material is an insulator. The other options are incorrect because electricity must flow for the bulb to light and must not flow for the bulb to not light, and flowing electricity means the material is a conductor.
23	S5E1b	1	N/A	See scoring rubric and exemplar response on page 168.

SCIENCE EXAMPLE SCORING RUBRICS AND EXEMPLAR RESPONSES

Item 5

Scoring Rubric

Points	Description
1	The student correctly selects all three drop-down menu options.
0	The student does not correctly select all three drop-down menu options.

Exemplar Response

The correct response is shown below.

step 2: Replace the 5 mm thick cardboard sheet with the 5 mm thick iron sheet and repeat step 1. The marbles will not follow the magnetic wand because the magnetic field will be blocked by magnetic materials.

The option “5 mm thick iron sheet” is the correct response for the first drop-down menu because iron is a different material, not a different thickness of the same material. “Will not” is the correct response for the second drop-down menu, and “will be blocked by magnetic materials” is the correct response for the third drop-down menu. The magnetic field of the magnetic wand will not penetrate an iron sheet because the iron is a magnetic material, so the marbles will no longer follow the magnetic wand.

Item 6

Scoring Rubric

Points	Description
1	The student correctly selects all three drop-down menu options.
0	The student does not correctly select all three drop-down menu options.

Exemplar Response

The correct response is shown below.

step 4:

Sprinkle water over the block and place it in the freezer overnight ▾.

In the morning, place the block on a table and

let the sun shine on the block to thaw and dry the block ▾.

step 5: Repeat step 4 every day until

a hole forms and grows larger, forming an arch ▾.

“Sprinkle water over the block and place it in the freezer overnight” and “let the sun shine on the block to thaw and dry the block” are the correct responses for the first two drop-down menus because these steps will model frost wedging in nature. “A hole forms and grows larger, forming an arch” is the correct response for the third drop-down menu because it is a better description of the process.

Item 9**Scoring Rubric**

Points	Description
1	The student correctly selects all three drop-down menu options.
0	The student does not correctly select all three drop-down menu options.

Exemplar Response

The correct response is shown below.

Ice forms because heat is , causing the particles that make up the ice to move . This .

“Removed” is the correct response for the first drop-down menu because removing heat causes ice to form. “Slower” is the correct response for the second drop-down menu because when heat is removed from a substance, the small particles that make up the substance move more slowly. “Changes the water from a liquid to a solid” is the correct response for the third drop-down menu because the change of state of water from liquid to solid is the important characteristic of the formation of water ice.

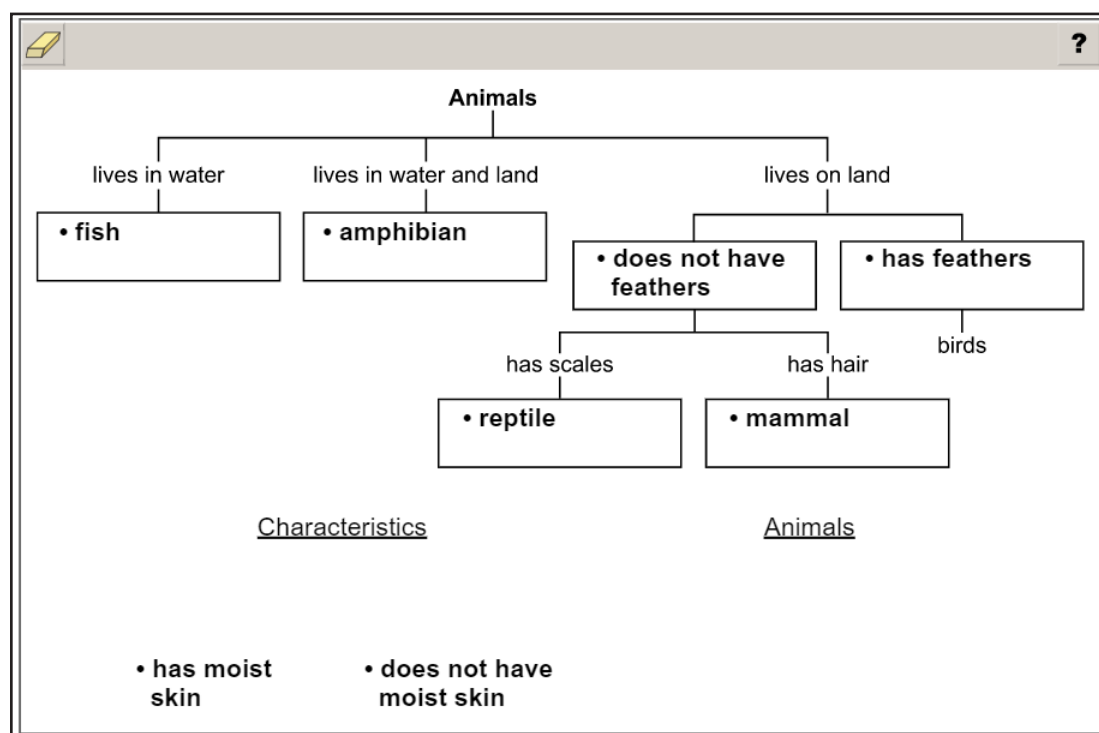
Item 15

Scoring Rubric

Points	Description
2	The student correctly fills in all six boxes.
1	The student correctly fills in any three boxes, OR correctly fills in “does not have feathers” AND either “mammal” or “reptile.”
0	The student gives a response that does not meet the criteria to receive 1 or 2 points.

Exemplar Response

The correct response is shown below.



Because the purpose of the chart is to explain how animals are sorted into groups, the bottom row of each branch should be an animal name, and this is confirmed by the rightmost branch ending in “birds.”

The student can place the animal names in the boxes based on their characteristics and then decide which set of sorting characteristics is the most important to fill in after the “lives on land” branch. “Has moist skin” applies to amphibians, which live on both water and land, so the sorting characteristics “has moist skin” and “does not have moist skin” do not fit into this branch. Therefore, the sorting characteristics must be “has feathers” and “does not have feathers.” “Has feathers” helps sort birds from the other types of land animals, and “does not have feathers” applies to the other types of animals that live on land.

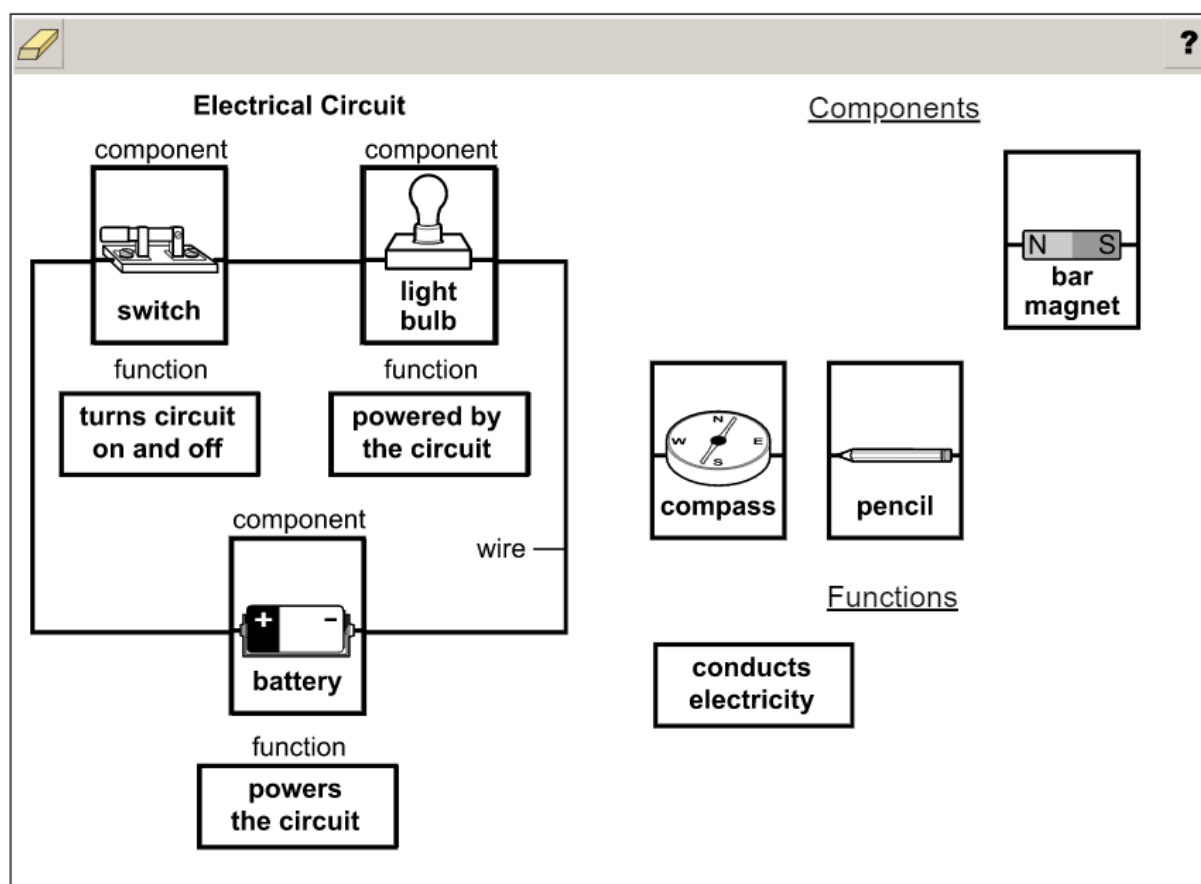
Item 16

Scoring Rubric

Points	Description
2	The student correct fills in all three components in any order, with the correct function also filled in with each component.
1	The student fills in all three correct components in any order, but with one or more errors in associated functions, OR the student correctly fills in two components in any order and with their correct function filled in.
0	The student gives a response that does not meet the criteria to receive 1 or 2 points.

Exemplar Response

A correct response is shown below.



The correct components are shown. They can be placed in any order, but to achieve full credit for the item, each must be accompanied by the correct function. These are correct because a battery, light bulb, and switch will make a complete circuit. The function of the battery is powering the circuit, the function of the light bulb is that it is powered by the circuit, and the function of the switch is turning the circuit on and off. The other components shown will not make a functioning circuit.

Item 17

Scoring Rubric

Points	Description
2	The student correctly answers both Part A and Part B.
1	The student correctly answers either Part A OR Part B.
0	The student does not correctly answer either part.

Exemplar Response

Part A

The correct response is shown below.

Procedure	
step 1	Place 10 iron thumbtacks close together on a table.
step 2	Wrap a piece of clear plastic wrap around the magnet and hold it in place with a rubber band.
step 3	Tie a string around the magnet.
step 4	Slowly lower the magnet toward the thumbtacks until they start being picked up by the magnet.
step 5	Count the number of iron thumbtacks attracted by the magnet and record the data.
step 6	Repeat steps 1–5 using cotton fabric, notebook paper, and aluminum foil.

This is the correct response because any other order will not successfully complete the experiment. Any other order in Part A will receive 0 points.

Go on to the next page to finish item 17.

Item 17**Part B**

The correct response is shown below.

Expected Results	
Material	Amount of Thumbtacks Picked Up Compared to Plastic Wrap
cotton fabric	no change
notebook paper	no change
aluminum foil	no change

more fewer no change

This is the correct response because these materials will not affect the function of the magnet that they are wrapped around, because they do not block a magnetic field. Any other selection in Part B will receive 0 points.

Item 18

Scoring Rubric

Points	Description
2	The student correctly fills in all boxes.
1	The student correctly fills in two or three boxes.
0	The student does not correctly fill in at least two boxes.

Exemplar Response

The correct response is shown below.

Chemical Change Experiments	
Experiment	Evidence
An antacid tablet is put into water, and bubbles form.	A gas is produced.
A solid and a liquid are mixed, and a sour smell is detected.	An odor is given off.
A pink liquid is heated, and the substance turns colorless.	A color change happens.
Two different cold liquids are poured into a container, and the container then feels warm to the touch.	A temperature change happens.

A temperature change happens.
A new substance is produced.
A color change happens.
An odor is given off.
A gas is produced.

In addition, the option “A new substance is produced.” could be used as evidence in place of any other box where the experiment is a chemical change.

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Item 19


Scoring Rubric

Points	Description
2	The student correctly answers both Part A and Part B.
1	The student correctly answers either Part A OR Part B.
0	The student does not correctly answer either part.

Exemplar Response

Part A

The correct response is shown below.

 ?

Oxbow Lake Formation Procedure	
step 1	Make a curved path in the sand that water can flow through to represent a river channel.
step 2	Put a water hose at one end of the curved path.
step 3	Turn the water hose on low and let the water flow slowly to fill the curved river.
step 4	Turn the water from low to high to represent a flooded river.

This is the correct response because any other order will not successfully complete the experiment. Any other order in Part A will receive 0 points.

Go on to the next page to finish item 19.

Item 19

Part B

The correct response is shown below.

Part of River	Process	Process Type
channel	erosion	destructive
bank	deposition	constructive

<u>Process</u>	<u>Process Type</u>
erosion	constructive
deposition	destructive

This is the correct response because the channel is formed by erosion, which is a destructive process, and the bank is formed by deposition, which is a constructive process. Any other placement in Part B will receive 0 points.


Item 20

Scoring Rubric

Points	Description
1	The student correctly fills in the box.
0	The student does not correctly fill in the box.

Exemplar Response

The correct response is shown below.

 ?

Classification Model

1a has a backbone.....go to 2

1b does not have a backbone..... Insect

2a is warm blooded

2b is cold blooded

.....go to 3

.....go to 4

3a has feathers..... Bird

3b has hair..... Mammal

4a lives in water..... Fish

4b lives on land..... Reptile

2a has gills

2b has scales

2a has wings

2b does not have wings

2a has six legs

2b does not have six legs

This is the correct choice because the animals at step 3 are warm blooded and the animals in step 4 are cold blooded.

Item 21

Scoring Rubric

Points	Description
2	The student correctly selects both drop-down menu options for both steps 2 and 3.
1	The student correctly selects both drop-down menu options for step 2 OR step 3.
0	The student does not correctly select both drop-down menu options for either step.

Exemplar Response

The correct response is shown below.

Procedure

step 1. Separate the glass marbles from the mixture by removing them with a fork.

step 2. Separate the from the mixture by .

step 3. Separate the from the mixture by .

For step 2, “sand” is the correct response for the first drop-down menu and “pouring the mixture into a different container through filter paper” is the correct response for the second drop-down menu. These are the correct responses because filter paper will trap the sand while the sugar and water mixture will pass through the filter paper, so the sand will be separated.

For step 3, “sugar” is the correct response for the third drop-down menu and “setting the container in sunlight and letting the water evaporate” is the correct response for the fourth drop-down menu. These are the correct responses because the sugar will be left behind when the water evaporates.

The two steps must be done in the correct order, sand first and then sugar, because letting water evaporate from the mixture in step 2 will leave the sugar mixed with the sand, and separating the sugar from the sand would have to be done by mixing the sugar/sand mixture with water again and doing the steps in the correct order.

Item 23**Scoring Rubric**

Points	Description
1	The student correctly selects both drop-down menu options.
0	The student does not correctly select both drop-down menu options.

Exemplar Response

The correct response is shown below.

The changes in the Azure Window were caused by the process of .

“Destructive” Is the correct response for the first drop-down menu because part of the formation was removed. “Erosion” is the correct response for the second drop-down menu because erosion is a destructive process.

APPENDIX: LANGUAGE PROGRESSIVE SKILLS, BY GRADE

The following skills, marked with an asterisk (*) in Language standards 1–3, are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking.

Standard	Grade(s)									
	3	4	5	6	7	8	9–10	11–12		
L.3.1f. Ensure subject-verb and pronoun-antecedent agreement.										
L.3.3a. Choose words and phrases for effect.										
L.4.1f. Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.										
L.4.1g. Correctly use frequently confused words (e.g., <i>to/too/two</i> ; <i>there/their</i>).										
L.4.3a. Choose words and phrases to convey ideas precisely.*										
L.4.3b. Choose punctuation for effect.										
L.5.1d. Recognize and correct inappropriate shifts in verb tense.										
L.5.2a. Use punctuation to separate items in a series.†										
L.6.1c. Recognize and correct inappropriate shifts in pronoun number and person.										
L.6.1d. Recognize and correct vague pronouns (i.e., ones with unclear or ambiguous antecedents).										
L.6.1e. Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language.										
L.6.2a. Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.										
L.6.3a. Vary sentence patterns for meaning, reader/listener interest, and style.†										
L.6.3b. Maintain consistency in style and tone.										
L.7.1c. Places phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers.										
L.7.3a. Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy.										
L.8.1d. Recognize and correct inappropriate shifts in verb voice and mood.										
L.9-10.1a. Use parallel structure.										

* Subsumed by L.7.3a

† Subsumed by L.9-10.1a

* Subsumed by L.11-12.3a

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