

# Georgia Milestones

Assessment System



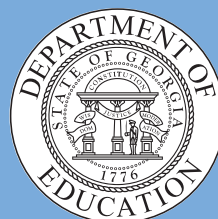
## Study/Resource Guide for Students and Parents Grade 6



The Study/Resource Guides are intended to serve as a resource for parents and students. They contain practice questions and learning activities for each content area. The standards identified in the Study/Resource Guides address a sampling of the state-mandated content standards.

For the purposes of day-to-day classroom instruction, teachers should consult the wide array of resources that can be found at [www.georgiastandards.org](http://www.georgiastandards.org).

**Study/Resource Guide**



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## THE GEORGIA MILESTONES ASSESSMENT SYSTEM



### Dear Student,

This **Georgia Milestones Grade 6 Study/Resource Guide for Students and Parents** is intended as a resource for parents and students. It contains sample questions and helpful activities to give you an idea of what test questions look like on Georgia Milestones and what the Grade 6 End-of-Grade (EOG) assessment covers.

These sample questions are fully explained and will tell you why each answer is either correct or incorrect.

**Get ready—open this guide—and get started!**

## HOW TO USE THIS GUIDE

### *Let's get started!*

#### \* **Get it together!**

- This guide
- Pen or pencil
- Highlighter
- Paper

#### \* **Gather materials**

- Classroom notebooks
- Textbooks

#### \* **Study space**

- Find a comfortable place to sit.
- Use good lighting.
- Time to focus—no TV, games, or phones!

#### \* **Study time**

- Set aside some time after school.
- Set a goal—how long are you going to study?
- Remember—you cannot do this all at one time.
- Study a little at a time, every day.

#### \* **Study buddy**

- Work with a friend, sister, brother, parent—anyone who can help!
- Ask questions—it is better to ask now and get answers.
- Make sure you know what you need to do—read the directions before you start.
- Ask your teacher if you need help.

#### \* **Test-taking help**

- Read each question and all of the answer choices carefully.
- Be neat—use scratch paper.
- Check your work!



## PREPARING FOR TAKING TESTS

### Getting ready!



### Here are some ideas to think about before you take a test.

- Get plenty of rest and eat right. Take care of your body and your mind will do the rest.
- If you are worried about a test, don't be. Talk with a teacher, parent, or friend about what is expected of you.
- Review the things you have learned all year long. Feel good about it.
- Remember that a test is just one look at what you know. Your class work, projects, and other tests will also show your teachers how much you have learned throughout the year.

### Try your best!

## OVERVIEW OF THE END-OF-GRADE ASSESSMENT

### *What is on the End-of-Grade Assessment?*

- \* English Language Arts (ELA)
- \* Mathematics
- \* Science
- \* Social Studies

### TYPES OF ITEMS

- \* **Selected-response items**—also called multiple-choice
  - English Language Arts (ELA), Mathematics, Science, and Social Studies
  - There is a question, problem, or statement that is followed by four answer choices.
  - There is only ONE right answer, so read EACH answer choice carefully.
  - Start by eliminating the answers that you know are wrong.
  - Then look for the answer that is the BEST choice.
  
- \* **Constructed-response items**
  - English Language Arts (ELA) and Mathematics only
  - There is a question, problem, or statement but no answer choices.
  - You have to write your answer or work out a problem.
  - Read the question carefully and think about what you are asked to do.
  - In English Language Arts (ELA), go back to the passage to look for details and information.
  - You will be scored on accuracy and how well you support your answer with evidence.
  
- \* **Extended constructed-response items**
  - English Language Arts (ELA) and Mathematics only
  - These are similar to the constructed-response items.
  - Sometimes they have more than one part, or they require a longer answer.
  - Check that you have answered all parts of the question.
  
- \* **Extended writing prompt**
  - English Language Arts (ELA) only
  - There is a question, problem, or statement.
  - You may be asked to do more than one thing.
  - In English Language Arts (ELA), you will be asked to read two passages and then write an essay.
  - You will be scored on how well you answer the question and the quality of your writing.
  - Organize your ideas clearly.
  - Use correct grammar, punctuation, and spelling.
  - Support your answer with evidence from the text.

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## DEPTH OF KNOWLEDGE

Test questions are designed with a Depth of Knowledge (DOK) level in mind. As you go from Level 1 to Level 4, the questions get more and more challenging. They take more thinking and reasoning to answer. You may have experienced these types of questions in your classroom as your teachers find ways to challenge you each day.

A Level 1 item may not require as much thinking as a Level 4 item—but that does not mean it’s easy.

A Level 4 item may have more than one part or ask you to write something.

Here is some information to help you understand just what a DOK level really is.

### **Level 1 (Recall of Information)**

- \* Identify, list, or define something.
- \* Questions may start with *who*, *what*, *when*, and *where*.
- \* Recall facts, terms, or identify information.

### **Level 2 (Basic Reasoning)**

- \* Think about things—it is more than just remembering something.
- \* Describe or explain something.
- \* Answer the questions “how” or “why.”

### **Level 3 (Complex Reasoning)**

- \* Go beyond explaining or describing “how and why.”
- \* Explain or justify your answers.
- \* Give reasons and evidence for your response.
- \* Make connections and explain a concept or a “big idea.”

### **Level 4 (Extended Reasoning)**

- \* Complex thinking required!
- \* Plan, investigate, or apply a deeper understanding.
- \* These items will take more time to write.
- \* Connect and relate ideas.
- \* Show evidence by doing a task, creating a product, or writing a response.

**Depth of Knowledge**

**Level 1—Recall of Information**

Level 1 asks you to identify, list, or define. You may be asked to recall *who, what, when, and where*. You may also be asked to recall facts and terms or identify information in documents, quotations, maps, charts, tables, graphs, or illustrations. Items that ask you to “describe” and/or “explain” could be Level 1 or Level 2. A Level 1 item requires that you just recall, recite, or repeat information.

Skills Demonstrated	Question Cues
<ul style="list-style-type: none"> <li>• Make observations</li> <li>• Recall information</li> <li>• Recognize formulas, properties, patterns, processes</li> <li>• Know vocabulary, definitions</li> <li>• Know basic concepts</li> <li>• Perform one-step processes</li> <li>• Translate from one representation to another</li> <li>• Identify relationships</li> </ul>	<ul style="list-style-type: none"> <li>• Tell who, what, when, or where</li> <li>• Find</li> <li>• List</li> <li>• Define</li> <li>• Identify; label; name</li> <li>• Choose; select</li> <li>• Compute; estimate</li> <li>• Express as</li> <li>• Read from data displays</li> <li>• Order</li> </ul>

**Level 2—Basic Reasoning**

Level 2 includes some thinking that goes beyond recalling or repeating a response. A Level 2 “describe” and/or “explain” item would require that you go beyond a description or explanation of information to describe and/or explain a result or “how” or “why.”

Skills Demonstrated	Question Cues
<ul style="list-style-type: none"> <li>• Apply learned information to abstract and real-life situations</li> <li>• Use methods, concepts, and theories in abstract and real-life situations</li> <li>• Perform multi-step processes</li> <li>• Solve problems using required skills or knowledge (requires more than habitual response)</li> <li>• Make a decision about how to proceed</li> <li>• Identify and organize components of a whole</li> <li>• Extend patterns</li> <li>• Identify/describe cause and effect</li> <li>• Recognize unstated assumptions; make inferences</li> <li>• Interpret facts</li> <li>• Compare or contrast simple concepts/ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Apply</li> <li>• Calculate; solve</li> <li>• Complete</li> <li>• Describe</li> <li>• Explain how; demonstrate</li> <li>• Construct data displays</li> <li>• Construct; draw</li> <li>• Analyze</li> <li>• Extend</li> <li>• Connect</li> <li>• Classify</li> <li>• Arrange</li> <li>• Compare; contrast</li> </ul>



**Level 3—Complex Reasoning**

Level 3 requires reasoning, using evidence, and thinking on a higher level than Level 1 and Level 2. You will go beyond explaining or describing “how and why” to justifying the “how and why” through reasons and evidence. Level 3 items often involve making connections across time and place to explain a concept or a “big idea.”

Skills Demonstrated	Question Cues
<ul style="list-style-type: none"> <li>• Solve an open-ended problem with more than one correct answer</li> <li>• Create a pattern</li> <li>• Generalize from given facts</li> <li>• Relate knowledge from several sources</li> <li>• Draw conclusions</li> <li>• Make predictions</li> <li>• Translate knowledge into new contexts</li> <li>• Compare and discriminate between ideas</li> <li>• Assess value of methods, concepts, theories, processes, and formulas</li> <li>• Make choices based on a reasoned argument</li> <li>• Verify the value of evidence, information, numbers, and data</li> </ul>	<ul style="list-style-type: none"> <li>• Plan; prepare</li> <li>• Predict</li> <li>• Create; design</li> <li>• Ask “what if?” questions</li> <li>• Generalize</li> <li>• Justify; explain why; support; convince</li> <li>• Assess</li> <li>• Rank; grade</li> <li>• Test; judge</li> <li>• Recommend</li> <li>• Select</li> <li>• Conclude</li> </ul>

**Level 4—Extended Reasoning**

Level 4 requires the complex reasoning of Level 3 with the addition of planning, investigating, applying deeper understanding, and/or developing that will require a longer period of time. You may be asked to connect and relate ideas and concepts *within* the content area or *among* content areas in order to be at this highest level. The Level 4 items would be a show of evidence—through a task, a product, or an extended response—that the higher level demands have been met.

Skills Demonstrated	Question Cues
<ul style="list-style-type: none"> <li>• Analyze and synthesize information from multiple sources</li> <li>• Examine and explain alternative perspectives across a variety of sources</li> <li>• Describe and illustrate how common themes are found across texts from different cultures</li> <li>• Apply mathematical models to illuminate a problem or situation</li> <li>• Design a mathematical model to inform and solve a practical or abstract situation</li> <li>• Combine and synthesize ideas into new concepts</li> </ul>	<ul style="list-style-type: none"> <li>• Design</li> <li>• Connect</li> <li>• Synthesize</li> <li>• Apply concepts</li> <li>• Critique</li> <li>• Analyze</li> <li>• Create</li> <li>• Prove</li> </ul>

## ENGLISH LANGUAGE ARTS (ELA)

### DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Grade 6 English Language Arts (ELA) EOG assessment has a total of 60 items.

You will answer a variety of item types on the test. Some of the items are selected-response (multiple-choice), which means you choose the correct answer from four choices. Some items will ask you to write your response using details from the text. There will also be a writing prompt that will ask you to write an essay.

The test will be given in three sections.

- Sections 1 and 2 will be given on Day 1. You may have up to 75 minutes to complete each section.
- Section 3 will be given on Day 2. You will be given a maximum of 90 minutes to complete this section.

### CONTENT

The Grade 6 English Language Arts (ELA) EOG assessment will measure the Grade 6 standards that are described at [www.georgiastandards.org](http://www.georgiastandards.org).

The content of the assessment covers standards that are reported under these domains:

- Reading and Vocabulary
- Writing and Language

There are two kinds of texts—fiction (including stories and poems) and informational text.

There are two kinds of essays—an argumentative essay and an informational/explanatory essay.

Students will also write extended constructed responses that use narrative techniques such as completing a story, writing a new beginning, or adding dialogue. (Item 4 on page 28 gives an example of a prompt that requires a narrative response.)

### ITEM TYPES

The English Language Arts (ELA) portion of the Grade 6 EOG assessment consists of selected-response (multiple-choice), constructed-response, extended constructed-response, and extended writing response items.

## ENGLISH LANGUAGE ARTS (ELA) DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent applicable DOK levels are provided for you on the following pages. The items and explanations of what is expected of you to answer them will help you prepare for the test.

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

### Example Item 1

**DOK Level 1:** This is a DOK level 1 item because it requires students to recognize the correct spelling of grade-level words.

**English Language Arts (ELA) Grade 6 Content Domain II:** Writing and Language

**Standard:** ELAGSE6L2b. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. b. Spell correctly.

**The sentence below contains a spelling error.**

I did not mock the candidate's reason for his absense because he seemed so honorable.

**Which underlined word is NOT spelled correctly?**

- A. mock
- B. candidate's
- C. absense
- D. honorable

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer is choice (C) absense. The correct spelling is "absence." Choices (A), (B), and (D) are all spelled correctly.

Read the poem “The Moon” and answer example items 2 and 3.

**The Moon**  
**by Emily Dickinson**

The moon was but a chin of gold  
A night or two ago,  
And now she turns her perfect face  
Upon the world below.

Her forehead is of amplest blond;  
Her cheek like beryl stone;  
Her eye unto the summer dew  
The likest I have known.

Her lips of amber never part;  
But what must be the smile  
Upon her friend she could bestow  
Were such her silver will!

And what a privilege to be  
But the remotest star!  
For certainly her way might pass  
Beside your twinkling door.

Her bonnet is the firmament,  
The universe her shoe,  
The stars the trinkets at her belt,  
Her dimities of blue.

## Example Item 2

**DOK Level 2:** This is a DOK level 2 item because the student is asked to apply knowledge of the text in order to answer the question. The student must interpret ideas as presented in the text.

**English Language Arts (ELA) Grade 6 Content Domain I:** Reading and Vocabulary

**Genre:** Literary

**Standard:** ELAGSERL1. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.

**Which line from the poem BEST expresses the poet’s opinion of the moon?**

- A. Upon the world below.
- B. Her lips of amber never part;
- C. And what a privilege to be
- D. Her dimities of blue

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer is choice (C) And what a privilege to be. The word *privilege* demonstrates that the poet is appreciative of her location and would be even if she were the remotest star hoping to see the moon. Choice (A) is incorrect. The line expresses that the moon is above the poet but that does not help to express the poet’s opinion of the moon. Choice (B) is incorrect. The line expresses a description of the moon, but that description does not provide the best evidence of the poet’s opinion of the moon. Choice (D) is incorrect. The line expresses a concluding thought about the poet’s visual comparison of the moon but does not support the poet’s opinion of the moon.



**Scoring Rubric**

<b>Points</b>	<b>Description</b>
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to analyze word choice and how it creates tone</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains the tone or gives an explanation of its development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to analyze word choice and how it creates tone</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains the tone or gives an explanation of its development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to analyze word choice and how it creates tone</li> </ul>

**Exemplar Response**

<b>Points Awarded</b>	<b>Sample Response</b>
2	The author's word choice creates a tone of admiration. The author uses words like gold, perfect, amplest, and privilege to show positive feelings about the subject of the poem—the moon. In the last stanza, the imagery clearly shows the author's admiration of the moon's beauty. "The stars the trinkets at her belt" reveals that even the lovely stars are minor and unimpressive next to the moon.
1	The author's word choice includes gold and perfect as descriptions of the moon. This shows a positive feeling about the moon.
0	The poem says, "The moon was but a chin of gold."

### Example Item 4

**DOK Level 4:** This is a DOK level 4 item because it goes beyond explaining to analyzing and synthesizing information from different sources. The student must combine ideas from the two passages and write an essay in response to an extended writing prompt.

**English Language Arts (ELA) Grade 6 Content Domain II:** Writing and Language

**Genre:** Informational

**Standard:** ELAGSE6W1. Write arguments to support claims with clear reasons and relevant evidence.

**In this section, you will read two passages about the ongoing debate over the use of pesticides. What are the benefits and dangers of using pesticides? You will write an argumentative essay supporting either side of the debate in which you argue for or against the use of pesticides.**

**Before you begin planning and writing, read these two passages:**

1. The World Needs Honeybees
2. A Farmer's Letter to the Editor

**As you read the passages, think about what details from the passages you might use in your argumentative essay.**



## The World Needs Honeybees

Governments should make strict rules about the use of harmful chemicals, or pesticides, on commercial crops. Farmers should volunteer to cut their use of pesticides and make safer choices, but governments should also step in if needed. These harmful chemicals may kill weeds and unwanted insects, but they also kill honeybees. We need honeybees to grow crops in the first place.

### What is the purpose of honeybees?

For years, honeybees have been disappearing. Many people think the only purpose for bees is to make honey. However, bees do so much more. The scent of pollen draws them to plants and flowers. Bees then pollinate those crops. Without bees, the world's entire food supply would be in danger.

### What is threatening honeybees?

Bees have many enemies. Some, like diseases, are found in nature. Others, such as pesticides, are made by people. When farmers spray their crops with chemicals, bees eat the chemicals during pollination. The chemicals can injure or even kill the bees. Without bees, there is nothing to pollinate the crops. This leaves farmers with fewer crops to sell.

Different pesticides affect bees in different ways. Some kill bees instantly. Others cause bees to die after they deposit the chemicals in their hives. Still other pesticides kill only young bees. Some pesticides, called neonicotinoids, are especially harmful. These chemicals confuse bees so that they forget what they are supposed to do. They are no longer drawn to the scent of pollen, so they can't pollinate plants. Studies show that bees affected by neonicotinoids also have fewer offspring. As it turns out, neonicotinoids are the most popular pesticides in the United States.

### How can the world save its honeybees?

Farmers can help honeybees survive by changing their farming habits. Bees prefer to work during the day, so limiting the use of pesticides to evenings will help. Also, farmers can use liquid pesticides, which are less toxic than other forms. Farmers should use chemicals only when absolutely necessary, and never while crops are blooming.

Other citizens can help, too. They can encourage farmers to limit their chemical use. They can share their thoughts about pesticides with their government representatives. If everyone works together, we can save honeybees—and our food supply.

### **A Farmer's Letter to the Editor**

**To Whom It May Concern:**

Lately, I've been hearing about a drop in the world's bee population and how farmers are likely to blame. After all, we use chemicals to protect our crops from disease and destruction.

It might surprise you to know that nobody is more committed to saving bees than farmers. But there is no guarantee that eliminating pesticides will save the bees. If farmers do stop using certain chemicals, their crops could be destroyed by insects and disease, and then it won't matter if there are bees or not. No one will have a food supply.

Furthermore, it is unfair to force farmers to make decisions that would hurt their businesses. Farmers should enjoy the freedom to choose how they grow their own crops, just like individuals enjoy the freedom to purchase their own food. If the government is allowed to tell us which chemicals we can use, what's next? Will they start forcing us to grow certain crops? I don't want to find out.

Sincerely,  
Edward Malloy

Now that you have read “The World Needs Honeybees” and “A Farmer’s Letter to the Editor,” create a plan for and write your argumentative essay.

## WRITING TASK

Think about both sides of the issue. Choose a side, and then write an argumentative essay supporting either side. In your essay, argue for or against the use of pesticides and their effect on the bee population.

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

**Write your answer on the lines provided.**

### Before you write, be sure to:

- Think about ideas, facts, definitions, details, and other information and examples you want to use.
- Think about how you will introduce your topic and what the main topic will be for each paragraph.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Be sure to identify the passages by title or number when using details or facts directly from the passages.

### Now write your argumentative essay. Be sure to:

- Introduce your claim.
- Support your claim with logical reasoning and relevant evidence from the passages.
- Organize the reasons and evidence logically.
- Use words, phrases, and clauses to connect your ideas and to clarify the relationships among claims, reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.

A large rectangular box with a black border, containing 25 horizontal lines for writing. The lines are evenly spaced and extend across most of the width of the box.

The following are examples of a seven-point response. See the seven-point, two-trait rubric for a text-based argumentative response on pages 73 and 74 to see why these examples would earn the maximum number of points.

**Examples of a Seven-Point Response:**

*Farmers should stop using pesticides until more studies can be done. If they don't, the impact on our food supply will be scary. Edward Malloy claims in his letter that he will use pesticides responsibly and that "nobody is more committed to saving bees than farmers." However, it still seems that pesticides are unsafe in any amount.*

*One effect of pesticides is the disappearance of bees. When farmers spray chemicals on their fields, they are putting poison on their crops that honeybees can eat. According to "The World Needs Honeybees," different chemicals have different effects on bees, from instant death to confusion about how to do their jobs. If we cut pesticide use, we could save our bees.*

*If the chemicals can harm the bees, then they probably aren't safe for humans to eat either. In addition, nobody wants pesticides in the food supply.*

*Our health and safety should come first. We can't just trust farmers to do what's right. It's time to make laws that keep farmers from using pesticides.*

OR

*Pesticides are a necessary part of agriculture. It is unfortunate that some honeybees are affected by these chemicals, but pesticides are necessary to protect crops. Farmers should not be forced to make choices that will destroy their crops and put them out of business.*

*In his letter to the editor, farmer Edward Malloy states, "If farmers do stop using certain chemicals, their crops could be destroyed by insects and disease, and then it won't matter if there are bees or not." This logical point shows that farmers aren't using pesticides for fun. They use pesticides because they are necessary to protect crops and to make a living. The fact is that pesticides prevent pests from feeding on crops.*

*The first article argues, "Governments should make strict rules about the use of harmful chemicals, or pesticides, on commercial crops." This is unnecessary. Nobody needs honeybees to survive more than farmers do. Without bees, their crops won't produce high yields, so the farmers won't make money. We should trust that farmers will use pesticides responsibly.*

*Farmers will do what is best for the food supply. If we trust farmers enough to eat the foods they produce, we should be willing to trust their methods for growing the crops. Bees are important to farmers as well. They will voluntarily do what they should to protect bees.*

## **ENGLISH LANGUAGE ARTS (ELA) CONTENT DESCRIPTION AND ADDITIONAL SAMPLE ITEMS**

In this section, you will find information about what to study in order to prepare for the Grade 6 English Language Arts EOG assessment. This includes key terms and important vocabulary words. This section also contains practice questions, with an explanation of the correct answers, and activities that you can do on your own or with your classmates or family to prepare for the test.

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

### **Unit 1: Reading Literary Text**

#### **READING PASSAGES: LITERARY TEXT**

##### **CONTENT DESCRIPTION**

The literary passages in the English Language Arts (ELA) test are used to identify main ideas and details, cite evidence, make inferences, determine themes, and understand vocabulary.

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

- Ideas and details tell you what the story or poem is about.
- Use these ideas and details when writing or speaking about the story or poem.
- Look for central ideas or themes as you read. Ask yourself—what is this about?
- Think about the characters, setting, and events in the story.
- Summarize the important details and ideas after you read.

##### **Structure of the Text**

- Make sure you understand the words and phrases as you read.
- Think about how specific words can help you understand the meaning or tone.
- Look at the structure of stories. Pay attention to how the parts of the text (e.g., a section, chapter, scene, or stanza) work with each other and the story or poem as a whole.
- Think about the point of view or purpose of a text.

##### **Understanding What You Read**

- Think about the story and visualize, or make a mental picture, as you read.
- Think about the message or what the writer is trying to say.

## KEY TERMS

**Inference:** To infer means to come to a reasonable conclusion based on evidence found in the text. By contrast, an **explicit** idea or message is fully stated or revealed by the writer. The author tells the reader exactly what they need to know. (RL1)

**Theme:** The theme of a literary text is its lesson or message. For example, a story could be about two friends who like to do things together, and the theme might be the importance of friendship. (RL2)

**Plot:** The series of events that form a story in a specific order. (RL3)

**Resolution:** In most stories there is a conflict or problem. The resolution is the solution to the problem or the end of the main dramatic conflict. (RL3)

**Figurative Language:** To understand figurative language, you need to distinguish between literal and figurative meanings of words and phrases. Literal refers to the actual meaning of a word or phrase. For example, if someone tells you to open the door, you can open a physical door. If someone tells you to “open the door to your heart,” you are not expected to find a door in your chest. Instead, you open up your feelings and emotions.

Examples of figurative language are similes and metaphors. **Similes** make comparisons using a linking word such as *like*, *as*, or *than* (her eyes shone like the stars). A **metaphor** makes a comparison without a linking word; instead of one thing being *like* another, one thing *is* another (her eyes were shining stars). If someone says the “sea was glass,” they are using a metaphor. The sea was calm, smooth, and clear; it was not literally glass. (RL4)

**Point of View:** The perspective from which a story is told. The point of view depends upon who the narrator is and how much he or she knows. The point of view could be first person (*I* went to the store), second person (*You* went to the store), or third person (*He* went to the store). (RL6)

**Compare vs. Contrast:** Though similar, comparing is analyzing two things such as characters or stories in relation to each other, while contrasting is specifically analyzing the *differences* between two things such as two different characters or stories. (RL7/RL9)

**Genre:** A genre is a category of passages, such as fiction and nonfiction. Each genre has a particular style, form, and content. (RL9)

### Important Tips

- ✍ Use details to support ideas and to answer *what* you know and *how* you know it.
- ✍ When responding to an item, try to answer the question being asked before you read the answer choices.
- ✍ Try to read the questions about a literary text before you read.
- ✍ Re-read a literary text as you answer the questions to gain a better understanding.

## Sample Items 1–4

Read the story “The Finish Line” and answer questions 1 through 4.

### The Finish Line

Mother came into my bedroom. With her hands on her hips, she studied the cluttered floor and a wall of built-in bookshelves littered with art projects at every stage except *finished*. “What a mess,” she said. “You have projects here that you started in first grade, Maura. Maybe it’s time you finished them.”

She sat on the bed across from me and said, “Your baseball coach called. I know that you quit the team, but what I don’t get is why you didn’t come to your dad and me. We’re not the enemy, Maura, but we can’t help you unless you talk to us.”

I nodded and said, “I know.”

“All right, I better get you to your grandparents or I’m going to be late for my meeting. Downstairs in two, okay?”

I grabbed my sketchbook and headed downstairs, where I discovered that Mother was already outside. After I got in the car, minutes of awkward silence crawled. I wanted to explain why I’d quit the team without telling her, and I wanted her to know what it felt like to ride the bench because you weren’t as good as your teammates. But Mother didn’t understand this, because she had been born good at everything and didn’t realize that most people just weren’t like that. Some people were only talented at drawing.

When I arrived at my grandparents’ farm, Grandpa met me on the porch and said, “How would you like to go on a treasure hunt?”

I was excited for a moment but quickly realized that it was a trick. “You’re not *still* looking for Grandma’s ring, are you?” I asked suspiciously.

“Just until I find it,” he said, “and you’re part of my search team.”

Suddenly, my summer was not looking so good. I had heard the story a million times: when Grandma was young, her brothers had taken her ring and buried it somewhere on the property. To complicate matters, her parents and grandparents had frequently buried things they wanted to dig up later in fun family treasure hunts—old kitchen items, bottles, and anything else that might be fun to “discover” again—and Grandma’s brothers had followed their example. How were we going to find one ring in all those acres?

I followed Grandpa into the double garage that was his workshop. Tidy shelving, cupboards, and tool benches lined the perimeter. It did not resemble our garage, which was like a huge junk drawer with just enough space carved out for one car.

As I admired Grandpa’s organization, he retrieved his new metal detector, which looked like a cross between a vacuum cleaner and a weed trimmer. “You finally bought one!” I said.

“We have work to do,” he said, nodding.



We took the metal detector to the edge of the pasture, and Grandpa held the contraption out in front of him. Soon it began to hum and shake, indicating that it had found something.

I took the shovel and dug while Grandpa searched the upturned soil and fished out a penny. Not quite the payout we were looking for, but it was only our first attempt.

In the first few hours, we only managed to find coins, rusty nails, and an old fork. When I was about to give up, the machine jumped and rattled. “Maura, get the shovel!” Grandpa commanded.

I dug where he indicated, and my shovel immediately hit something—something a lot bigger than a ring. Grandpa reached into the dirt and retrieved a tin box. Some dirt had gotten through a crack in the lid, but the contents—a handful of tiny metal cars and toy soldiers, a few marbles, and a tarnished hair clip—appeared intact. There was no ring. “Failed again,” I said.

“What a beautiful clip for Grandma’s hair,” Grandpa marveled.

“Beautiful?!” I exclaimed. “Grandpa, it’s disastrously tarnished—it’s not even supposed to be that color!”

“A little elbow grease will fix that,” he retorted.

We headed back to Grandpa’s workshop, where he produced a soft rag and told me to buff the clip back to its original shine.

I didn’t have much hope until a cluster of tiny crystals emerged. Then we applied some silver polish and buffed it again. When I pulled the cloth away, the clip shone like a new mirror. Grandpa admired it and said, “Let’s show your grandma.”

We went inside, where we found Grandma reading, and Grandpa slid the hair clip onto a page of her book.

“Goodness!” she said. “Did you find this with that absurd metal detector?”

“Courtesy of your backyard,” I confirmed.

As we admired Grandma’s new accessory, someone knocked at the door. I knew it would be my mother. As I headed for the door, I considered the bevy of art projects covering my shelves. They all looked better than that hair clip had, so maybe there was potential for them after all. When we got home, I opened the door to my room. I knew which piece I would work on first.

**Item 1**

**Based on this sentence from the story, what can the reader conclude about Grandpa?**

“Just until I find it,” he said, “and you’re part of my search team.”

- A. He is strict.
- B. He is sensitive.
- C. He is organized.
- D. He is determined.

**Item 2**

**What is the MAIN purpose of this paragraph from the story?**

I followed Grandpa into the double garage that was his workshop. Tidy shelving, cupboards, and tool benches lined the perimeter. It did not resemble our garage, which was like a huge junk drawer with just enough space carved out for one car.

- A. It teaches Maura the importance of being orderly.
- B. It identifies Grandpa’s workshop as the main setting of the story.
- C. It contrasts the organizational styles of Grandpa and Maura’s parents.
- D. It suggests that Maura’s mother inherited her habits from her father.

**Item 3**

**How does Maura change throughout the story?**

**Include details from the story to support your answer. Write your answer on the lines provided.**

A large rectangular box containing 20 horizontal lines for writing an answer.



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## Unit 2: Reading Informational Text

### READING PASSAGES: INFORMATIONAL TEXT

#### CONTENT DESCRIPTION

The informational and explanatory passages in the English Language Arts test can be used to determine central ideas, write an objective summary, analyze ideas, and provide supporting text evidence.

#### Key Ideas and Details

- Read closely to know exactly what the text says.
- Look for details that tell what the text is about.
- Use those details when writing or speaking about the text.
- Look for the central ideas in the text.
- Summarize the important details and ideas.
- Think about how ideas develop and work together in the text.

#### Structure

- Make sure you understand the words in the text.
- Use a dictionary, thesaurus, or glossary to help you with words that are new.
- Look at how the parts of the text work with each other.
- Think about the author's point of view or purpose in the text.

#### Understanding the Text

- Think about the story and visualize, or make a mental picture, as you read.
- Think about the text and its message.
- Look for details or evidence in the text.

## KEY TERMS

**Summary:** A summary is an overview of a text that captures the main points but does not give all of the details and does not include opinions. (RI2)

**Connotative meaning:** A meaning beyond the explicit meaning of a word. For example, the word *childlike* connotes innocence as well. Connotations are meanings inferred from certain words. (RI4)

**Organization:** The way in which a piece of writing is structured. Each sentence, paragraph, or chapter fits into the overall structure of a text and contributes to the development of ideas. (RI5)

**Author’s purpose:** The author’s intention for his or her piece. All passages have a purpose, whether it is to persuade, inform, explain, or entertain. (RI6)

**Author’s point of view:** The opinion of the author. Your opinion may differ from the opinion of the author writing a passage. (RI6)




**Evidence:** Something that proves or demonstrates the truth of something else. Informational texts may contain evidence to prove that the information they are providing is correct. (RI8)

**Fact and opinion:** A **fact** is a statement that can be proven. An **opinion** is a statement that cannot be proven because it states a writer’s belief or judgment about something. Deciding whether or not a statement is a fact or an opinion often comes down to a single question: “Can you prove it?” If you can prove a statement, then it is a fact. If not, it’s an opinion. (RI2)

**Chronological order:** The order in which a series of events happened. A text that is arranged in order of time from the beginning to the end is in chronological order. (RI5)

**Cause and effect:** This is a relationship where one thing causes another thing to happen. A passage may also be organized by stating the **problem and solution** as well. (RI3)

### Important Tips

-  Try to read the questions about an informational text before you read the text so that you know what to look out for.
-  Use evidence from a passage to help explain what is being said.
-  Use facts and details to support ideas and to answer *what* you know and *how* you know it.

**Sample Items 5–8**

Read the passage “Daylight Saving Time” and answer questions 5 through 8.

**Daylight Saving Time****History**

In the eighteenth century, Benjamin Franklin had an idea that became what we know today as daylight saving time (DST). Franklin realized that in some seasons, people wasted several hours of daylight while they slept. Then, in the evenings, they had to rely on candles. Candles were very expensive, and Franklin wanted to save money. He did not suggest a change in the clock. Instead, he urged people to get up earlier and go to bed earlier. However, this idea eventually led to DST.

**How It Works**

The concept of DST is fairly simple. Every fall, we “fall back,” or set our clocks back by one hour. This helps us maximize winter’s minimal hours of daylight. Every spring, we “spring forward,” or set our clocks ahead by one hour. In essence, we gain an hour in the fall and lose an hour in the spring. In the United States, all states except Hawaii and most of Arizona participate in DST.

**Public Opinion**

Supporters of DST like having plenty of time to be active outside. When people are outside, they are not using electricity at home. Therefore, they may save money on energy costs. But critics claim that DST does not actually save energy. Some research suggests that increased electricity use in the morning cancels out lower evening electricity use. For example, increased air-conditioning costs cancel out a lower light bill.

Some people argue that an extra hour of evening daylight actually encourages people to spend money. For example, they leave the house to shop. If saving money is the goal of DST, it likely fails.

**Health Concerns**

Many people have trouble adjusting to the DST changes, especially in the spring. Some people are groggy for several days as their bodies adapt. Some researchers suggest that this adjustment period may damage the heart due to interrupted sleep cycles. Reduced sleep decreases productivity. It also increases tiredness and harms overall health.

**Making the Adjustment Easier**

Experts suggest that people ease into a DST shift. A few days before the change, in the spring, for example, people can start going to bed fifteen minutes earlier. Then they can gradually increase the change until they reach an hour. Experts also recommend taking a daily nap, as long as it is not too close to bedtime. Finally, moderate exercise several times per week helps people get higher-quality sleep.

### Item 5

**How does the section “Public Opinion” contribute to the passage?**

- A. It shows that DST is no longer controversial.
- B. It suggests that DST does not meet its goals.
- C. It provides a balanced report of both perspectives.
- D. It helps readers adjust to losing an hour each spring.

### Item 6

**Which conclusion about daylight saving time can the reader draw based on this detail from the passage?**

In the United States, all states except Hawaii and most of Arizona participate in DST.

- A. Each state has the option of participating in DST.
- B. In the South, DST has proven to be less effective.
- C. The government is considering changing DST rules.
- D. DST is only controversial in the western United States.



**Item 7**

Why does the author **MOST LIKELY** include the section “Health Concerns”?

Be sure to include details from the passage to support your answer. Write your answer on the lines provided.

A large rectangular box containing 20 horizontal lines for writing an answer.

**Item 8**

Based on the sections “Public Opinion” and “Health Concerns,” what is the author’s point of view about daylight saving time?

Be sure to include details that clearly show how the author reveals his or her viewpoint. Write your answer on the lines provided.

A large rectangular box containing 20 horizontal lines for writing an answer.

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## Unit 3: Writing Argumentative Texts

### CONTENT DESCRIPTION

The argumentative passages in the English Language Arts test help you develop arguments and claims and support a point of view on a topic. In your writing, use evidence, examples, quotations, and reasons to develop and support your claims and arguments.

#### Purpose

- An argumentative piece takes a stand or agrees or disagrees with a point of view.
- Some common words are “agree” or “disagree” or “for” or “against.”
- When you state your argument, you need to support it with claims, reasons, examples, and evidence.

#### Editing Your Writing

- Check your writing for good organization.
- Make sure your writing fits the task, purpose, and audience.
- Strengthen your writing by planning, revising, editing, rewriting, or trying a new approach.
- Use technology, including the Internet, to do research.

#### Scoring Rubrics

- Scoring rubrics can be found beginning on page 68. You may find it helpful to read and discuss these with a parent or another adult.
- The rubrics show you what is needed to produce a strong piece of writing.
- Rubrics are important to understand. They tell you what to add to your writing.
- Writing on the EOG assessment will be scored using these rubrics.

## KEY TERMS

**Claims:** Ideas and opinions set forth by the author. For example, a writer could make the claim that the school cafeteria is too expensive. (W1a)

**Reasons:** The evidence given to support a writer's claims. For example, a writer could include information on the price of school lunch or the number of students who don't want to buy it as reasons to support the claim that the school cafeteria is too expensive. (W1b)

**Relationships:** The ways in which ideas are connected. Writing should use words, phrases, and clauses to clarify the relationships among claims and reasons. (W1c)

**Purpose:** The writer's intention for his or her piece. All writing has a purpose, whether it is to persuade, inform, explain, or entertain. (W4)

**Audience:** The people who will be reading the piece of writing. Writers should keep their audience in mind and adjust their ideas and vocabulary so that they can be best understood. (W4)

**Organization:** In writing, the organization helps explain ideas and information more clearly. Writers use transitions to organize information. Also, an entire piece of writing has an organizational structure to it. Writers structure their texts to match their purpose and audience. For example, if you were writing an argumentative text in which you wanted to show the negative effects of something, you might choose cause and effect as an organizational structure. (W1a/W4)

**Revision:** The process of editing and rewriting a piece of writing. All good writing requires a lot of revision in order to catch mistakes and clarify ideas. (W5)

### Important Tips

- ✍ Make sure that the arguments you make in your essay have clear reasons and relevant evidence. The evidence must strongly support your claims.
- ✍ Organize your writing by using chronological order, cause and effect, compare and contrast, or asking and answering questions.
- ✍ Make sure your writing has a concluding statement that supports the information or explanation presented.
- ✍ Always read over your writing several times to check your work and catch errors.

## Sample Items 9–12

[**NOTE:** The structure of the practice items for this unit and Unit 4 that follows is as it appears on the Georgia Milestones End-of-Grade assessment: 1) multiple-choice questions (three on the actual test); 2) a constructed-response item; and 3) an extended writing prompt. Additionally, the instructions for the extended writing prompt are in a format that is similar to the one on the End-of-Grade assessment. There is no extended writing prompt for Unit 4.]

**In this section, you will read two passages and answer questions 9 through 12.**

### WRITING TASK

There is a controversy surrounding genetically modified organisms, or GMOs. What are the benefits and risks of consuming foods that have been genetically modified?

Think about both sides of the discussion, and then write an argumentative essay supporting either side. In your essay, you will argue for or against the use of GMOs.

Be sure to use information from BOTH passages. **Write your answer on the lines provided.**

**Before you begin planning and writing, you will read two passages and answer three questions about what you have read. As you read the passages, think about what details from the passages you might use in your argumentative essay. These are the titles of the texts you will read:**

- 1. GMOs Can Feed the World**
- 2. Are GMOs Really Safe?**

## **GMOs Can Feed the World**

Genetically modified foods, or GMOs, are changing the way nations feed their people. In the past, farmers had to worry about droughts, disease, and other hardships. Now, crops can be bred to withstand these forces. The result is an abundance of food that will feed the world.

One benefit of GMOs is that crops can be strengthened. That way no disease or weed can mess with those crops! For example, wild sunflowers are found all over the United States. Each one contains a trait that could help human-grown sunflowers. For instance, a wild sunflower that grows in the desert has traits that allow it to survive on little water. Scientists can isolate this gene and transfer it to the DNA, or genetic material, of a commercial sunflower. This allows farmers to grow sunflowers even in regions that get little water. It also helps farmers in climates with four distinct seasons protect crops from dry spells.

GMOs have many health-related benefits. Scientists can create foods that taste better. If healthy fruits and vegetables taste better, people are more likely to eat them, which will in turn improve their health. In addition, some GMO crops actually have greater nutritional value than their commercial counterparts. Foods can also be bred to last longer. This allows people to store their fresh produce longer and prevent a lot of waste. All of these benefits can be created in a laboratory.

Some critics caution that GMOs pose health risks. For instance, they blame GMOs for food allergies. Allergies are not a new phenomenon, however. Many studies have been done on GMOs, and there has never been any proof linking GMOs to health risks.

Finally, GMOs provide financial benefits. With more crops available, prices decline. This saves consumers money, which allows them to buy more healthful foods. It also gives farmers more money because they have more crops to sell.

Research continues every day. Soon, there will be GMO versions of other common crops. Tomatoes and potatoes, for instance, may soon be able to withstand disease and drought. Then other crops will follow. The possibilities are as endless as the benefits GMOs bring to your health.

## Are GMOs Really Safe?

Genetically modified organisms (GMOs) are plants or other organisms whose genetic structure has been changed by scientists. Scientists make these changes by taking desirable genes from other organisms. Then they add these genes to the DNA of plants. Corn and soy are often changed this way.

The purpose of this swap is to make crops stronger and more resistant to disease and parasites. Supporters believe that GMOs can also be used to produce crops that have a bigger yield. This would feed more people. Some crops can even be developed to survive droughts and hardships that would otherwise destroy them.

While all of these benefits sound good, some people have a bleaker outlook. Skeptics worry about the effects of GMOs on humans. Although the U.S. government has declared that GMOs are safe, some experts suspect that they cause food allergies in children and adults. The only way to find out for sure is to conduct long-term testing.

In addition to possibly causing food allergies, GMOs may also have a lower nutritional value than non-modified crops do. Until more studies are done, the public cannot know for sure.

Finally, people are concerned about the increased use of pesticides on GMO crops. It is true that these crops are engineered to survive pesticides. However, this has resulted in the growth of superbugs that require even greater amounts of pesticides. GMO crops are doused with extra chemicals. Later, they line the shelves of your local supermarket or become part of processed foods.

As of now, testing has not confirmed the risks associated with GMOs. Some consumers opt to purchase only non-GMO foods just to be safe. However, it is hard to tell which foods have GMOs. The United States does not require companies to label products that contain GMOs. However, any item labeled as organic and verified by the USDA does not have GMO ingredients.

The field is divided on GMOs for now. Producers proclaim the benefits. Meanwhile, some scientists ask for more testing to confirm the safety of these crops.

**Item 9**

**Read this sentence from the second paragraph of “GMOs Can Feed the World.”**

That way no disease or weed can mess with those crops!

**Which revision of the sentence BEST maintains the formal style of the paragraph without changing the meaning of the sentence?**

- A. Crops will pick fights with weeds and disease.
- B. Weeds and disease don’t stand a chance against GMO crops.
- C. It is quite clear that weeds and disease need not bother attacking crops.
- D. In this way, scientists can protect crops from harmful weeds and diseases.

**Item 10**

**Based on the information in “Are GMOs Really Safe?” choose the sentence that would BEST conclude the last paragraph and the argument.**

The field is divided on GMOs for now. Producers proclaim the benefits. Meanwhile, some scientists ask for more testing to confirm the safety of these crops.

- A. Until then, consumers will have to educate themselves about the foods they buy.
- B. Until then, mandatory labeling will help consumers make informed dietary choices.
- C. Until then, most consumers will have to rely on the government for tighter restrictions.
- D. Until then, consumers have no choice but to accept the foods that are currently available.



**Item 11**

Explain how the author of “GMOs Can Feed the World” illustrates the importance of using GMOs to strengthen crops.

Be sure to include details from the text to support your answer. Write your answer on the lines provided.

A large rectangular box containing ten horizontal lines for writing an answer.

## Item 12

Now that you have read “GMOs Can Feed the World” and “Are GMOs Really Safe?” and answered some questions about what you have read, create a plan for and write your argumentative essay.

### WRITING TASK

There is a controversy surrounding genetically modified organisms, or GMOs. What are the benefits and risks of consuming foods that have been genetically modified?

Think about both sides of the discussion, and then write an argumentative essay supporting either side. In your essay, you will argue for or against the use of GMOs.

Be sure to use information from BOTH passages. **Write your answer on the lines provided.**

#### Before you write, be sure to:

- Think about ideas, facts, definitions, details, and other information and examples you want to use.
- Think about how you will introduce your topic and what the main topic will be for each paragraph.
- Develop your ideas clearly and use your own words, except when quoting directly from the passages.
- Be sure to identify the passages by title or number when using details or facts directly from the passages.

#### Now write your argumentative essay. Be sure to:

- Introduce your claim.
- Support your claim with logical reasoning and relevant evidence from the passages.
- Organize the reasons and evidence logically.
- Use words, phrases, and clauses to connect your ideas and to clarify the relationships among claims, reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.
- Check your work for correct usage, grammar, spelling, capitalization, and punctuation.



## Unit 4: Writing Informational/Explanatory Texts

### CONTENT DESCRIPTION

The informational/explanatory passages in the English Language Arts test help develop your writing. Informational writing states ideas, summarizes research, and uses information from more than one source.

### Text Types and Purposes

- Write informational/explanatory texts to state ideas and information clearly and accurately.
- Use the best details, organize them, and explain them when necessary.

### Production and Distribution of Writing

- Produce writing with organization and style that fits the task, purpose, and audience.
- Develop and strengthen writing by planning, revising, editing, rewriting, or trying a new approach.
- Use technology, including the Internet, to produce and share writing.

### Audience, Purpose, and Voice

- As you write, remember who your audience will be.
- Make sure your writing is appropriate. Watch your tone, style, and voice.
- Remember, you are writing for a purpose—think about *what* you are writing and *why*.

### Range of Writing

- Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

### Scoring Rubrics

- Scoring rubrics can be found beginning on page 68. You may find it helpful to read and discuss these with a parent or another adult.
- The rubrics show you what is needed to produce a strong piece of writing.
- Rubrics are important to understand. They tell you what to add to your writing.
- Writing on the EOG assessment will be scored using these rubrics.

## KEY TERMS

**Informational/explanatory texts** are forms of writing that inform the reader or explain something. (W2d)

**Introduction:** The beginning of a piece of writing. The introduction should let readers know what they will be reading about and set up the main idea of the writing. (W2a)

**Organization:** The way in which a piece of writing is structured. Similar ideas and illustrations should be grouped together and the order of the information should make sense. (W2a/W4)

**Transition:** A word, phrase, or clause that links one idea to the next. Writing should not jump from one idea to the next without transitions that guide the reader to the next idea. Examples include words such as *another*, *for example*, *also*, and *because*. (W2c)

**Conclusion:** The end of a piece of writing is the conclusion. The conclusion should sum up the main idea of the writing and provide an overall message for the reader. (W2f)

**Formatting:** The way in which a piece of writing is organized. For example, a writer can use headings and subheadings to organize the writing and present the information in a clear way. (W2a)

**Multimedia:** A variety of mediums. Writing does not only include pen-to-paper or a typed essay. Other ways of enhancing writing can include mediums such as art, presentations, photographs, charts, videos, and more. (W2a)

**Writing process:** Most informational or technical pieces require hard work and revision before they can be considered ready. Even professional writers may struggle with their words. Drafting, revising, editing, and proofreading your writing are all essential parts of an effective writing process. The steps in the writing process are prewriting, drafting, revising and editing, proofreading, and publishing. (W5)

### Important Tips

- ✍ Begin by organizing your ideas in different sections. You can use a graphic organizer such as a chart or Venn diagram, or you can create an outline of your piece. Then it will be easier to fill in the supporting details.
- ✍ Be sure to develop your writing with details such as facts, definitions, quotations, or other information that supports your topic.
- ✍ Organize your writing by using chronological order, cause and effect, compare and contrast, or asking and answering questions.
- ✍ Make sure your writing has a concluding statement that supports your central idea.
- ✍ Strengthen your writing by planning, revising, editing, rewriting, or trying a new approach.

### Sample Items 13–16

[**NOTE:** The structure of the practice items for Unit 4 is similar to how the section appears on the Georgia Milestones End-of-Grade assessment with the exception of the extended writing prompt: 1) multiple-choice questions (three on the actual test); 2) a constructed-response item; and 3) two constructed-response items in the place of an extended writing prompt.]

**In this section, you will read a passage and answer questions 13 through 16.**

Read the passage “Circadian Rhythm” and answer questions 13 through 16.

## Circadian Rhythm

Everyone is born with an inner clock, or circadian (sər-'kā-dē-ən) rhythm. This inner clock determines whether a person is more productive in the morning or in the evening. It basically tells the brain when it needs to sleep. Some people assume that these clocks are set for life. However, new research suggests that circadian rhythms can change after all.

### Perils of Artificial Light

It is hard to imagine life without artificial light from cell phones, computers, and televisions. As it turns out, this light greatly affects the body’s inner clock. When there is too much light, even in the middle of the night, the body thinks it is time to be awake. The body sends this message to the brain, and the brain revives itself. This is why falling asleep after watching TV or checking email is difficult.

### Changing One’s Internal Clock

Some researchers conducted an experiment on the adaptability of a person’s circadian rhythm. Their discoveries could change the way people label themselves.

Researchers took a small number of people camping for a week. No one was allowed electronics, including phones and computers. They lived only by natural light as they reset their internal clocks. By the end of the week, people who had been “night owls” had adjusted to the schedule of a morning person. They had little trouble getting up early. They also had more energy in the morning. This led researchers to draw several conclusions about light. One, excess light disturbs sleep. Two, light keeps people awake at night. Three, light prevents people from being energetic in the morning.

### Eliminating Light

Based on the results of this study, night owls can follow several steps to become less resistant to early wakeups. First, people need to monitor their use of artificial light. While sunlight provides vital vitamin D, artificial light confuses the body. People can benefit from turning off their electronics before bed. Trying to fall asleep to the TV is counterproductive. The light from the screen keeps people alert instead of helping them become drowsy. Instead of watching TV, people should try relaxing in a dark area.

Everyone should have a sleep schedule. On weekdays and weekends, people should try to get up at about the same time. This helps the body develop a routine. When the body knows what to expect, it can perform optimally. With a schedule, a person can expect to wake up automatically without alarms.

**Item 13**

**Which section heading would BEST introduce the final paragraph of the passage?**

Everyone should have a sleep schedule. On weekdays and weekends, people should try to get up at about the same time. This helps the body develop a routine. When the body knows what to expect, it can perform optimally. With a schedule, a person can expect to wake up automatically without alarms.

- A. Getting Peaceful Sleep
- B. Striving for Consistency
- C. The Dangers of Alarm Clocks
- D. Disturbing Your Natural Sleep Cycle

**Item 14**

**Which concluding statement is BEST to add to the end of the second paragraph of the passage to support the information presented?**

It is hard to imagine life without artificial light from cell phones, computers, and televisions. As it turns out, this light greatly affects the body's inner clock. When there is too much light, even in the middle of the night, the body thinks it is time to be awake. The body sends this message to the brain, and the brain revives itself. This is why falling asleep after watching TV or checking email is difficult.

- A. As a result, people can also suffer eyestrain and headaches.
- B. Few individuals are willing to give up their computers and cell phones.
- C. Turning off screens close to bedtime will prevent these negative effects.
- D. People have to decide which is more important: checking email or watching TV.



**Item 15**

**Write a brief summary of the author’s main points about circadian rhythms.**

**Be sure to include central ideas and details from the passage. Write your answer on the lines provided.**

A large rectangular box containing 25 horizontal lines for writing the answer.

**Item 16**

**How does the author illustrate the importance of eliminating light when changing one’s internal clock?**

**Be sure to include details from the text to support your answer. Write your answer on the lines provided.**

A large rectangular box containing 20 horizontal lines for writing an answer.

## Unit 5: Language

### CONTENT DESCRIPTION

The language portion of the English Language Arts test focuses on the use of proper grammar, punctuation, spelling, and usage.

#### Language

- You need to express yourself clearly and in an interesting way.
- Choose your words carefully so your readers understand what you are writing.
- Apply the rules of grammar as you write.

#### Conventions of Standard English

- Use correct grammar and usage when writing.
- Use correct capitalization, punctuation, and spelling.

#### Style

- Vary the words you use. Use a dictionary and thesaurus to help you.
- Your writing should be clear and interesting at the same time.
- Use colorful language and different sentence structures.

### KEY TERMS

**Subjective/Nominative pronoun:** Pronouns that act as the subject of a sentence. Examples are *I, we, he, she,* and *they*. In the sentence *They went to the beach, they* is the subject in the subject-verb-object structure. (L1a)

**Objective pronoun:** Pronouns that act as the object of a sentence. Examples are *me, us, him, her,* and *them*. In the sentence, *He gave it to them, them* is the object in the subject-verb-object structure. (L1a)

**Possessive pronoun:** Pronouns that show possession. Examples are *mine, his, hers, ours,* and *theirs*. For example, *Those cookies are mine*. (L1a)

**Indefinite pronoun:** Pronouns that represent an object that may have already been identified or does not need explicit identification. Examples are *another, any, both, each, neither, none,* and *some*. (L1)

**Punctuation:** Writing marks that help to separate and clarify ideas. Examples of punctuation are the period, comma, colon, exclamation mark, and question mark. (L2)

**Style:** The particular form or way an author chooses to write. There are many different writing styles. It is important to maintain your style throughout a piece of writing. (L3b)

**Context:** Words and phrases that surround another phrase and help to explain its meaning. Sometimes a word cannot be understood without the context of the words and phrases around it. For example, *he threw it* could mean several things, but when the full sentence is included, *He threw the basketball up high from midcourt and sunk it through the hoop for two points,* the meaning is clear. (L4a)

### Figurative language:

- **Personification:** When a writer describes an object as if it were a person. For example, *The trees sighed in the afternoon breeze*. The trees did not really sigh but seemed to as they blew gently in the breeze. (L5a)
- **Simile:** A comparison using *like* or *as*. For example, “*She is as pretty as a picture.*” (L5a)
- **Metaphor:** A direct comparison that states one thing *is* another. It isn’t meant to be literal, but descriptive. For example, *He is an animal on the soccer field* does not mean that the boy is really an animal, but it is a metaphor for how he plays soccer (very aggressively). (L5a)

### Important Tips

- ✍ To study for this part of the EOG assessment, concentrate on the kinds of errors you typically make in your own writing. Then review grammar rules for those specific kinds of errors. Use books or free online resources to find practice items that you can try. You can work with a partner and question each other on grammar rules or try editing sentences together. Focus your review time on strengthening the areas or skills that need to be reviewed the most.
- ✍ When you are faced with an unknown word, go back to the passage. Start reading two sentences before the word appears, and continue reading for two sentences afterward. If that doesn’t give you enough clues, look elsewhere in the passage. By reading the context in which the word appears, you may be able to make an educated guess.

**Sample Items 17–20****Item 17**

**Which sentence does NOT have an error in pronoun use?**

- A. Caleb is six years older than I.
- B. Our aunt visited Kiana and I yesterday.
- C. Who did Amelia share her lunch with today?
- D. Damian and me scored the highest grades in class.

**Item 18**

**Which sentence is the MOST concise way to combine the sentences while maintaining their meaning?**

Eve went to a hockey game tonight. It was her first hockey game. She went with her parents. She was impressed by the speed of the players. She was also impressed by the skill of the players.

- A. Along with her parents, Eve went to her first hockey game where the speed of the players and their skill impressed her.
- B. The speed and the skill of the players impressed Eve when she attended her first hockey game tonight along with her parents.
- C. Because she had never seen a hockey game before, Eve was impressed by the speed and skill of the players, and so were her parents.
- D. Having never seen a hockey game until tonight with her parents, Eve was impressed by the speed of the players and the skill of the players.

**Item 19**

**Which sentence, if added to the end of the paragraph, BEST maintains a consistent style?**

Like humans, animals need to visit their doctors regularly. Veterinarians provide regular shots that keep pets healthy. They also check pets' teeth, just like dentists do, to make sure they have no dangerous plaque. Veterinarians can even provide grooming services to keep your pets' nails at a comfortable length.

- A. I always take my pet to the vet to make sure he is healthy.
- B. If you take your pet to the vet, be ready to have an active, happy pet!
- C. With regular visits to the veterinarian, pets can enjoy long and healthy lives.
- D. Provided one visits with veterinarians quite regularly, pets will maintain their health.

**Item 20**

**Which sentence does NOT use commas correctly?**

- A. My older brother, Jonathan, attends college in Oregon.
- B. Briana speaks several languages including French, and Spanish.
- C. John, along with several of his friends, attended the symphony.
- D. According to this week's newspaper, the movie does not start until seven.

**ENGLISH LANGUAGE ARTS (ELA) ADDITIONAL SAMPLE ITEM KEYS**

Item	Standard/ Element/ Genre	DOK Level	Correct Answer	Explanation
1	ELAGSE6RL1 Literary	2	D	The correct answer is choice (D) He is determined. The context reveals that Grandpa has been looking for the ring for a long time, yet he is still determined to find it. Choices (A) and (B) are incorrect because although other details in the story support these traits, this example does not. Choice (C) is incorrect; this conclusion about Grandpa is not supported by the context of the quoted sentence.
2	ELAGSE6RL5 Literary	2	C	The correct answer is choice (C) It contrasts the organizational styles of Grandpa and Maura’s parents. Grandpa’s garage is neat and tidy, while Maura’s garage is messy and disorganized. Choice (A) is incorrect because the mere observation of Grandpa’s garage does not teach Maura a lesson. Choice (B) is incorrect because the characters are not in the garage for the majority of the action, so the garage is not the main setting. Choice (D) is incorrect because Maura’s mother has a messy garage, not an organized one like Grandpa’s.
3	ELAGSE6RL3 Literary	3	N/A	See scoring rubric and sample response beginning on page 59.
4	ELAGSE6W3e	4	N/A	See scoring rubric beginning on page 69 and sample response on page 61.
5	ELAGSE6RI5 Informational/ Explanatory	2	B	The correct answer is choice (B) It suggests that DST does not meet its goals. The end of the section explicitly states, “If saving money is the goal of DST, it likely fails.” Choice (A) is incorrect because the existence of multiple perspectives implies that DST is, in fact, controversial. Choice (C) is incorrect because the section is not balanced; it is biased toward critics of DST. Choice (D) is incorrect because this section does nothing to help readers adjust to DST; this role is filled by the passage’s final paragraph.
6	ELAGSE6RI1 Informational/ Explanatory	3	A	The correct answer is choice (A) Each state has the option of participating in DST. Since Hawaii and parts of Arizona do not participate, DST must be optional. Choice (B) is incorrect because although one of the non-participating states is in the south, there is no indication that DST is not as effective there. Choice (C) is incorrect because the sentence does not express the government’s plans. Choice (D) is incorrect because the controversy is not limited to one area.

Item	Standard/ Element/ Genre	DOK Level	Correct Answer	Explanation
7	ELAGSE6RI5 Informational/ Explanatory	3	N/A	See scoring rubric and sample response on page 62.
8	ELAGSE6RI6 Informational/ Explanatory	4	N/A	See scoring rubric and sample response on page 63.
9	ELAGSE6W1d	2	D	The correct answer is choice (D) In this way, scientists can protect crops from harmful weeds and diseases. This revision removes the informal phrase “mess with” and the exclamation point and uses appropriately formal language while preserving the meaning of the sentence. Choices (A) and (B) are incorrect because they are informal due to the phrases “pick fights” and “don’t stand a chance.” Choice (C) is incorrect because it is too formal with phrases like “quite clear” and “need not.”
10	ELAGSE6W1e	2	A	The correct answer is choice (A) Until then, consumers will have to educate themselves about the foods they buy. This conclusion follows the logic of the paragraph and reflects the balanced perspective of the article: in the absence of a firm judgment on GMOs, consumers are left to their own devices. Choice (B) is incorrect because, as the article states, there is no such mandatory labeling of GMOs. Choice (C) is incorrect because the article neither focuses on nor supports government restrictions. Choice (D) is incorrect because consumers <i>do</i> have choices between GMOs and non-modified foods.
11	ELAGSERI3 Informational/ Explanatory	3	N/A	See scoring rubric and sample response on page 64.
12	ELAGSE6W1	4	N/A	See scoring rubric beginning on page 73 and sample response on page 65.
13	ELAGSE6W2a	2	B	The correct answer is choice (B) Striving for Consistency. The paragraph is about establishing and maintaining a consistent sleep schedule that is compatible with circadian rhythm. Choice (A) is incorrect because peaceful sleep is not the focus of the paragraph. Choice (C) is incorrect because the paragraph does not address dangers of alarm clocks. Choice (D) is incorrect because the paragraph is about catering to your natural sleep cycle, not disturbing it.



Item	Standard/ Element/ Genre	DOK Level	Correct Answer	Explanation
14	ELAGSE6W2f	2	C	The correct answer is choice (C) Turning off screens close to bedtime will prevent these negative effects. The paragraph is about how artificial light from electronics undermines circadian rhythm; a natural conclusion is that turning off the screens will restore their natural rhythms. Choice (A) is incorrect because eyestrain and headaches are outside the topic of the paragraph. Choice (B) is incorrect because it is an unsupported generalization, and the paragraph does not imply that people should <i>entirely</i> give up their electronic devices. Choice (D) is incorrect because checking email and watching TV <i>both</i> harm circadian rhythm; the best choice is to avoid both.
15	ELAGSE6RI2 Informational/ Explanatory	3	N/A	See scoring rubric and sample response on page 66.
16	ELAGSE6RI3 Informational/ Explanatory	4	N/A	See scoring rubric and sample response on page 67.
17	ELAGSE6L1b	2	A	The correct answer is choice (A) Caleb is six years older than I. This sentence has no errors in pronoun use. It requires the subjective pronoun <i>I</i> . Choice (B) is incorrect because it has an error in pronoun use. It needs the objective pronoun <i>me</i> instead of <i>I</i> , because the pronoun is the direct object of the verb <i>visited</i> . Choice (C) is incorrect because it has an error in pronoun use. It needs the objective pronoun <i>Whom</i> instead of <i>Who</i> , because the pronoun is the object of the preposition <i>with</i> . Choice (D) is incorrect because it has an error in pronoun use. It needs the subjective pronoun <i>I</i> because it is part of the sentence's subject.
18	ELAGSE6L3a	3	B	The correct answer is choice (B) The speed and the skill of the players impressed Eve when she attended her first hockey game tonight along with her parents. This sentence preserves the meaning of the original sentences and combines their ideas correctly and without undue repetition. Choice (A) is incorrect because "the speed of the players and their skill" is awkward; "the speed and skill of the players" would be a better combination. Choice (C) is incorrect because it indicates a false cause/effect relationship; we do not know if Eve was impressed <i>because</i> this was her first hockey game. Choice (D) is incorrect because "the speed of the players and the skill of the players" is unnecessarily and awkwardly repetitive.

Item	Standard/ Element/ Genre	DOK Level	Correct Answer	Explanation
19	ELAGSE6L3b	3	C	The correct answer is choice (C) With regular visits to the veterinarian, pets can enjoy long and healthy lives. This moderately formal but not stiff style is most consistent with the rest of the paragraph. Choices (A) and (B) are incorrect because they break the style with pronouns that are in the wrong voice and sound too informal ( <i>I</i> and <i>you</i> ). Choice (D) is incorrect because it is overly formal and stiff due to the use of the indefinite pronoun <i>one</i> instead of a personal pronoun, and it has a dramatic change in tone.
20	ELAGSE6L2a	2	B	The correct answer is choice (B) Briana speaks several languages including French, and Spanish. There is no series of items, so the comma is unnecessary. Choice (A) is incorrect because it correctly uses commas to set off an appositive. Choice (C) is incorrect because it correctly uses commas to set off a non-crucial phrase. Choice (D) is incorrect because it correctly uses a comma to set off an introductory phrase.

## ENGLISH LANGUAGE ARTS (ELA) SAMPLE SCORING RUBRICS AND EXEMPLAR RESPONSES

### Item 3

#### Scoring Rubric

Points	Description
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to understand characterization and analyze its development over the course of a text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains the characterization or gives an explanation of its development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to understand characterization and analyze its development over the course of a text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains the characterization or gives an explanation of its development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to understand characterization or analyze its development over the course of a text</li> </ul>

**Exemplar Response**

<b>Points Awarded</b>	<b>Sample Response</b>
2	In the beginning of the story, Maura does not finish what she starts, but in the end, she understands the rewards that come with completion. When the story starts, Maura's mother points out shelves full of Maura's unfinished art projects (some from first grade). Also, we find out that Maura recently quit the baseball team early in the season. Then, when Maura and her grandpa find an old hair clip, Maura persists in cleaning it until it looks new again. This inspires her to go home and finish a project of her own.
1	By the end of the story, Maura actually finishes a project. She and Grandpa find something that doesn't look valuable but is. She polishes the hair clip until it looks brand-new. She thinks about what else she could finish.
0	Maura quits the baseball team. She has been giving up on art projects since first grade. Her room is messy, and she gets in trouble with her mom.

## Item 4

To view the four-point holistic rubric for a text-based narrative response, see pages 69 and 70.

## Exemplar Response

Points Awarded	Sample Response
4	<p>I followed Mother into the kitchen. Mother asked, “How was your day?”</p> <p>“Good. Grandpa bought a new metal detector, so we went looking for Grandma’s ring again.”</p> <p>“Did you find it?”</p> <p>“No,” I said. “But somehow I think we actually might find the ring this summer. We <u>did</u> find a box of old toys and a tarnished hair clip. Grandpa and I cleaned it up, and it looked brand-new. Grandma was pretty excited when we gave it to her.”</p> <p>Mother pulled some dinner ingredients out of the refrigerator. “Sounds like you have a new summer plan.”</p> <p>“Yep. When we find that ring, Grandma’s going to be so happy.”</p> <p>As I climbed the stairs toward my room, Mother asked what I was doing. “I’m headed off to finish a drawing,” I said.</p>
3	<p>Mother and I went to the kitchen. She asked me about my day, and I told her that Grandpa had bought a metal detector that we’d used to find some old toys and a hair clip. “We cleaned up that dirty hair clip until it looked brand-new. Grandma was so happy. Next time I go to the farm, I will help Grandpa find her missing ring.”</p> <p>“Sounds like you have a new summer plan.”</p> <p>I ran upstairs to my room to pick out an art project to finish. I imagined how it would look framed on my grandparents’ wall.</p>
2	<p>Mother and I went into the kitchen, and she asked me about my day. I told her about my adventures with Grandpa and how we found an old hair clip and made it look brand-new. I told Mother that Grandma loved the clip, but we still had to look for her ring. I told her Grandpa and I would find it next time.</p> <p>I ran upstairs to my room.</p>
1	<p>Me and Mom went to the kitchen. I told her about my day and she was happy that I had finished something. Talked to Dad about quitting baseball.</p>
0	<p>She had went home with her mom.</p>

**Item 7**

**Scoring Rubric**

Points	Description
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of how a section of a text contributes to the development of ideas in the text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains how the section fits in with the text and includes clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of how a section of a text contributes to the development of ideas in the text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains how the section fits in with the text and includes clearly relevant information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of how a section of a text contributes to the development of ideas in the text</li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
2	<p>The author most likely includes the section “Health Concerns” to show that the DST issue isn’t only about saving money and changing your schedule. It also affects your health. Some short-term effects include being tired. Research shows that DST can hurt your “...heart due to interrupted sleep cycles.” Sleep is more important than many people realize. The author wants people to know that while one hour may not seem like a lot, it is enough to hurt your body.</p>
1	<p>The author most likely includes the “Health Concerns” section because people need to know that their sleep schedules are important. Changing them can result in health problems among other things.</p>
0	<p>The author includes the section “Health Concerns” to support the main idea.</p>

## Item 8

## Scoring Rubric

Points	Description
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to determine the author’s point of view and analyze its development over the course of a text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains the author’s point of view or gives an explanation of its development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to determine the author’s point of view and analyze its development over the course of a text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains the author’s point of view or gives an explanation of its development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to determine the author’s point of view or analyze its development over the course of a text</li> </ul>

## Exemplar Response

Points Awarded	Sample Response
2	<p>The author provides a somewhat biased view of the controversy surrounding DST. In the Public Opinion section the author reveals his or her true feelings by saying, “If saving money is the goal of DST, it likely fails.” This is the author’s opinion and conclusion. He or she also adds, in the Health Concerns section, details about DST’s negative effects on health to solidify his or her argument. The tips for making the transition easier are general tips for good health and don’t guarantee relief from symptoms. In fact, the author implies that there <u>is</u> no guaranteed relief.</p>
1	<p>Although the author tries to be fair in the other sections, he or she believes that DST is a failure. This reveals the author’s bias.</p>
0	<p>DST adds an extra hour to the clocks in the fall. It takes away an hour in the spring.</p>

**Item 11****Scoring Rubric**

<b>Points</b>	<b>Description</b>
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to illustrate the importance of an idea and analyze its development over the course of a text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains the key details or gives an explanation of their development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to illustrate the importance of an idea and analyze its development over the course of a text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains the key ideas or gives an explanation of their development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to illustrate the importance of an idea or analyze its development over the course of a text</li> </ul>

**Exemplar Response**

<b>Points Awarded</b>	<b>Sample Response</b>
2	The author illustrates the importance of using GMOs to strengthen crops by providing the example of the wild sunflower. At its best, genetic modification allows plants to survive harsh conditions. Wild sunflowers can survive in many harsh conditions, including drought, and “Scientists can isolate this gene and transfer it to the DNA, or genetic material, of a commercial sunflower.” This illustrates the value of GMOs by proving that farmers can now grow plants in rugged conditions that were unusable before. This benefits both the farmer and the consumer.
1	Wild sunflowers illustrate the importance of GMOs. Their traits can help other crops. GMOs can be harmful to people.
0	The details in the article illustrate the importance of GMOs.



**Item 12**

The following is an example of a seven-point response. See the seven-point, two-trait rubric for a text-based argumentative response on pages 73 and 74 to see why this example would earn the maximum number of points.

**Example of a Seven-Point Response:**

*GMOs can have a huge impact on the world, and therefore, their growth should be encouraged. Some people are concerned about harmful side effects from GMOs, but according to the first article, “Many studies have been done on GMOs, and there has never been any proof linking GMOs to health risks.” If not one single link has been found, it is fair to conclude, at least for the time being, that GMOs must be safe.*

*Although the second article points out that skeptics worry about the nutritional value of GMOs, there is again no evidence to support this. In fact, some scientists claim that the reverse is actually true—that GMOs are more nutritious than commercial crops.*

*Finally, in the past, many crops have been destroyed by diseases, insects, and droughts. Through the process of genetic modification, scientists can breed crops “. . . to withstand these forces. The result is an abundance of food that will feed the world.” That promise is too exciting to ignore.*

*Scientists will probably continue to argue the benefits of GMOs moving forward. It is clear that the long-term effects of GMOs are still unknown. However, people need to give GMOs a chance to make a positive impact on our food supply.*

**Item 15**

**Scoring Rubric**

Points	Description
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to determine and summarize the main idea and analyze its development over the course of a text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains the main idea or gives a summary of its development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to determine and summarize the main idea and analyze its development over the course of a text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains the main idea or gives a summary of its development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to determine and summarize the main idea or analyze its development over the course of a text</li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
2	<p>Although people once thought that their inner clocks, or circadian rhythms, were set for life, research suggests that people can change their inner clocks after all. The main way to reset your clock is to limit light at night. The author emphasizes that this means no TV, phones, or other electronic devices before bed. In addition, people should go to bed and get up at the same time every day. This creates a routine that activates and maintains your inner clock. Camping trips, during which you rely only on natural light, can also ease the transition.</p>
1	<p>You can change your inner clock if you can spend a week camping. The natural light helps you make this change.</p>
0	<p>Night owls can reset their inner clocks.</p>

## Item 16

## Scoring Rubric

Points	Description
2	<p>The exemplar shows a full-credit response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives sufficient evidence of the ability to determine a key idea and analyze its development over the course of a text</li> <li>• Includes specific examples/details that make clear reference to the text</li> <li>• Adequately explains a key idea or gives an explanation of its development with clearly relevant information based on the text</li> </ul>
1	<p>The exemplar shows a 1-point response. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives limited evidence of the ability to determine a key idea and analyze its development over the course of a text</li> <li>• Includes vague/limited examples/details that make reference to the text</li> <li>• Explains a key idea or gives an explanation of its development with vague/limited information based on the text</li> </ul>
0	<p>The exemplar shows a response that would earn no credit. It achieves the following:</p> <ul style="list-style-type: none"> <li>• Gives no evidence of the ability to determine a key idea or analyze its development over the course of a text</li> </ul>

## Exemplar Response

Points Awarded	Sample Response
2	<p>The author explains that light makes the brain wake up. The light from the screens of phones, TVs, and computers makes your brain think it's daytime. To change your internal clock, the author says, "People can benefit from turning off their electronics before bed." Instead, people should relax in a dim place to let the brain know that it's time to sleep.</p> <p>The author also uses an example of how camping can restore your body's internal clock. People who went camping for a week and had no electronics "...adjusted to the schedule of a morning person." This shows how strong the effects of light are.</p>
1	<p>The author illustrates the importance of eliminating light to change your body's internal clock. Camping resets the body by letting only natural light in. If people could go camping more often, they could reset their clocks and have a happier life.</p>
0	<p>The author illustrates the importance of eliminating light to change one's internal clock.</p>

## **ENGLISH LANGUAGE ARTS (ELA) WRITING RUBRICS**

Grade 6 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 evaluates one major feature, which is ideas. On the Georgia Milestones EOG assessment, a holistic rubric is scored from zero to four. Each point value represents the difference in the levels or quality of the student’s work. To score an item on a holistic rubric, the scorer need only choose the description 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: Argumentative or Informational/Explanatory**

A two-trait rubric, on the other hand, evaluates two major traits, which are conventions and ideas. On the Georgia Milestones EOG assessment, a two-trait rubric contains two scales, one for each trait, ranging from zero to three on one scale (conventions) and zero to four on the other (ideas). 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 must choose the description 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 6 English Language Arts 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"> <li>• Effectively establishes a situation and introduces a narrator and/or characters</li> <li>• Organizes an event sequence that unfolds naturally</li> <li>• Effectively uses narrative techniques, such as dialogue, description, and pacing, to develop rich, interesting experiences, events, and/or characters</li> <li>• Uses a variety of words and phrases consistently to convey the sequence of events and signal shifts from one time frame or setting to another</li> <li>• Uses precise words, phrases, and sensory language consistently to convey experiences and events</li> <li>• Provides a conclusion that follows from the narrated experiences or events</li> <li>• Integrates ideas and details from source material effectively</li> <li>• Has very few or no errors in usage and/or conventions that interfere with meaning*</li> </ul>
	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"> <li>• Establishes a situation and introduces one or more characters</li> <li>• Organizes events in a clear, logical order</li> <li>• Uses narrative techniques, such as dialogue, description, and pacing, to develop experiences, events, and/or characters</li> <li>• Uses words and/or phrases to indicate sequence of events and signal shifts from one time frame or setting to another</li> <li>• Uses words, phrases, and details to convey experiences and events</li> <li>• Provides an appropriate conclusion</li> <li>• Integrates some ideas and/or details from source material</li> <li>• Has a few minor errors in usage and/or conventions that interfere with meaning*</li> </ul>
	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"> <li>• Introduces a vague situation and at least one character</li> <li>• Organizes events in a sequence but with some gaps or ambiguity</li> <li>• Attempts to use a narrative technique, such as dialogue, description, and pacing, to develop experiences, events, and/or characters</li> <li>• Uses occasional signal words inconsistently to indicate sequence of events and signal shifts from one time frame or setting to another</li> <li>• Uses some words or phrases inconsistently to convey experiences and events</li> <li>• Provides a weak or ambiguous conclusion</li> <li>• Attempts to integrate ideas or details from source material</li> <li>• Has frequent errors in usage and conventions that sometimes interfere with meaning*</li> </ul>

**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>	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"> <li>• Response is a summary of the story</li> <li>• Provides a weak or minimal introduction of a situation or a character</li> <li>• May be too brief to demonstrate a complete sequence of events</li> <li>• Shows little or no attempt to use dialogue, description, and pacing to develop experiences, events, and/or characters</li> <li>• Uses words that are inappropriate, overly simple, or unclear</li> <li>• Provides few, if any, words that convey experiences, or events, or signal shifts from one time frame or setting to another</li> <li>• Provides a minimal or no conclusion</li> <li>• May use few, if any, ideas or details from source material</li> <li>• Has frequent major errors in usage and conventions that interfere with meaning*</li> </ul>
	0	<p><i>The student’s response is flawed for various reasons and will receive a condition code:</i></p> <ul style="list-style-type: none"> <li>• Code A: Blank</li> <li>• Code B: Copied</li> <li>• Code C: Too Limited to Score/Illegible/Incomprehensible</li> <li>• Code D: Non-English/Foreign Language</li> <li>• Code E: Off Topic/Off Task/Offensive</li> </ul>

\*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 Appendix A 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
<p><b>Idea Development, Organization, and Coherence</b></p> <p><i>This trait examines the writer's ability to effectively establish a controlling idea and to support the idea with evidence from the text(s) read and to elaborate on the idea with examples, illustrations, facts, and other details in order. The writer must integrate the information from the text(s) into his/her own words and arrange the ideas and supporting evidence (from text that they have read) in order to create cohesion for an informative/explanatory essay.</i></p>	4	<p><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></p> <ul style="list-style-type: none"> <li>• Effectively introduces a topic</li> <li>• Effectively organizes ideas, concepts, and information using various strategies such as definition, classification, comparison/contrast, and cause/effect</li> <li>• Effectively develops a topic with multiple, relevant facts, definitions, concrete details, quotations, or other information and examples related to the topic</li> <li>• Effectively uses transitions to connect and clarify relationships among ideas</li> <li>• Uses precise language and domain-specific vocabulary to effectively inform and explain about the topic</li> <li>• Establishes and maintains a formal style</li> <li>• Provides a strong concluding statement or section that follows from the information or explanation presented</li> </ul>
	3	<p><i>The student's response is a complete informative/explanatory text that examines a topic and presents information clearly based on text as a stimulus.</i></p> <ul style="list-style-type: none"> <li>• Introduces a topic</li> <li>• Generally organizes ideas, concepts, and information</li> <li>• Develops a topic with a few facts, definitions, concrete details, quotations, or other information and examples</li> <li>• Uses some transitions to connect and clarify relationships among ideas, but relationships may not always be clear</li> <li>• Uses some precise language and domain-specific vocabulary to inform and explain about the topic</li> <li>• Maintains a formal style, for the most part</li> <li>• Provides a concluding statement or section</li> </ul>
	2	<p><i>The student's response is an incomplete or oversimplified informative/explanatory text that cursorily examines a topic.</i></p> <ul style="list-style-type: none"> <li>• Attempts to introduce a topic</li> <li>• Attempts to develop a topic with too few details</li> <li>• Ineffectively organizes ideas, concepts, and information</li> <li>• Uses limited language and vocabulary that does not inform or explain the topic</li> <li>• Uses few transitions to connect and clarify relationships among ideas</li> <li>• Uses a formal style inconsistently or uses an informal style</li> <li>• Provides a weak concluding statement or section</li> </ul>
	1	<p><i>The student's response is a weak attempt to write an informative/explanatory text that examines a topic.</i></p> <ul style="list-style-type: none"> <li>• May not introduce a topic or topic is unclear</li> <li>• May not develop a topic</li> <li>• May be too brief to group any related ideas together</li> <li>• May not use any linking words to connect ideas</li> <li>• Uses vague, ambiguous, or repetitive language</li> <li>• Uses a very informal style</li> <li>• Provides a minimal or no concluding statement or section</li> </ul>
	0	<p><i>The student's response is flawed for various reasons and will receive a condition code:</i></p> <ul style="list-style-type: none"> <li>• Code A: Blank</li> <li>• Code B: Copied</li> <li>• Code C: Too Limited to Score/Illegible/Incomprehensible</li> <li>• Code D: Non-English/Foreign Language</li> <li>• Code E: Off Topic/Off Task/Offensive</li> </ul>

## Seven-Point, Two-Trait Rubric

### Trait 2 for Informational/Explanatory Genre

Writing Trait	Points	Criteria
<p><b>Language Usage and Conventions</b></p> <p><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></p>	3	<p><i>The student's response demonstrates full command of language usage and conventions.</i></p> <ul style="list-style-type: none"> <li>• Effectively varies sentence patterns for meaning, reader/listener interest, and style</li> <li>• Shows command of language and conventions when writing</li> <li>• Any errors in usage and conventions do not interfere with meaning*</li> </ul>
	2	<p><i>The student's response demonstrates partial command of language usage and conventions.</i></p> <ul style="list-style-type: none"> <li>• Varies some sentence patterns for meaning, reader/listener interest and style</li> <li>• Shows some knowledge of languages and conventions when writing</li> <li>• Has minor errors in usage and conventions with no significant effect on meaning*</li> </ul>
	1	<p><i>The student's response demonstrates weak command of language usage and conventions.</i></p> <ul style="list-style-type: none"> <li>• Has fragments, run-ons, and/or other sentence structure errors</li> <li>• Shows little knowledge of languages and conventions when writing</li> <li>• Has frequent errors in usage and conventions that interfere with meaning*</li> </ul>
	0	<p>The student's response is flawed for various reasons and will receive a condition code:</p> <ul style="list-style-type: none"> <li>• Code A: Blank</li> <li>• Code B: Copied</li> <li>• Code C: Too Limited to Score/Illegible/Incomprehensible</li> <li>• Code D: Non-English/Foreign Language</li> <li>• Code E: Off Topic/Off Task/Offensive</li> </ul>

\*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 Appendix A for those standards that need continued attention beyond the grade in which they were introduced.



## Seven-Point, Two-Trait Rubric

### Trait 1 for Argumentative Genre

Writing Trait	Points	Criteria
<p><b>Idea Development, Organization, and Coherence</b></p> <p><i>This trait examines the writer's ability to effectively establish a claim, to support the claim with evidence from the text(s) read, and to elaborate on the claim 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 in order to create cohesion for an argument essay.</i></p>	4	<p><i>The student's response is a well-developed argument that effectively relates and supports claims with clear reasons and relevant text-based evidence.</i></p> <ul style="list-style-type: none"> <li>• Effectively introduces claim(s)</li> <li>• Organizes supporting reasons and evidence clearly</li> <li>• Supports claim(s) with clear reasons and relevant evidence using specific, well-chosen facts, details, or other information from credible sources and demonstrating an good understanding of the topic or texts</li> <li>• Uses words, phrases, or clauses effectively to connect ideas and clarify relationships among claim(s) and reasons</li> <li>• Establishes and maintains formal style that is appropriate for the task, purpose, and audience</li> <li>• Provides a strong concluding statement or section that logically follows from the argument presented</li> </ul>
	3	<p><i>The student's response is a complete argument that relates and supports claims with some text-based evidence.</i></p> <ul style="list-style-type: none"> <li>• Introduces claim(s)</li> <li>• Organizes supporting reasons and evidence</li> <li>• Supports claim(s) with reasons and evidence using some facts, details, or other information from generally credible sources</li> <li>• Uses words, phrases, or clauses to connect ideas and link claim(s) and reasons</li> <li>• Uses formal style fairly consistently for the task, purpose, and audience</li> <li>• Provides a concluding statement or section that follows from the argument presented</li> </ul>
	2	<p><i>The student's response is an incomplete or oversimplified argument that partially supports claims with loosely related text-based evidence.</i></p> <ul style="list-style-type: none"> <li>• Attempts to introduce claim(s)</li> <li>• Attempts to organize supporting reasons and evidence</li> <li>• Attempts to support claim(s) with facts, reasons and other evidence sometimes, but logic and relevancy are often unclear</li> <li>• Uses few words, phrases, or clauses to connect ideas and link claim(s) and reasons; connections are not always clear</li> <li>• Uses formal style inconsistently or uses informal style that does not fit task, purpose, or audience</li> <li>• Provides a weak concluding statement or section that may not follow the argument presented</li> </ul>
	1	<p><i>The student's response is a weak attempt to write an argument and does not support claims with adequate text-based evidence.</i></p> <ul style="list-style-type: none"> <li>• May not introduce claim(s)</li> <li>• May be too brief to demonstrate an organizational structure, or no structure is evident</li> <li>• May not support claim(s)</li> <li>• Uses minimal or no words, phrases, or clauses to connect ideas</li> <li>• Uses very informal style that is not appropriate for task, purpose, or audience</li> <li>• Provides a minimal or no concluding statement or section</li> </ul>
	0	<p><i>The student's response is flawed for various reasons and will receive a condition code:</i></p> <ul style="list-style-type: none"> <li>• Code A: Blank</li> <li>• Code B: Copied</li> <li>• Code C: Too Limited to Score/Illegible/Incomprehensible</li> <li>• Code D: Non-English/Foreign Language</li> <li>• Code E: Off Topic/Off Task/Offensive</li> </ul>

## Seven-Point, Two-Trait Rubric

### Trait 2 for Argumentative Genre

Writing Trait	Points	Criteria
<b>Language Usage and Conventions</b> <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"> <li>• Effectively varies sentence patterns for meaning, reader/listener interest, and style</li> <li>• Shows command of language and conventions when writing</li> <li>• Any errors in usage and conventions do not interfere with meaning*</li> </ul>
	2	<i>The student's response demonstrates partial command of language usage and conventions.</i> <ul style="list-style-type: none"> <li>• Varies some sentence patterns for meaning, reader/listener interest, and style</li> <li>• Shows some knowledge of languages and conventions when writing</li> <li>• Has minor errors in usage and conventions with no significant effect on meaning*</li> </ul>
	1	<i>The student's response demonstrates weak command of language usage and conventions.</i> <ul style="list-style-type: none"> <li>• Has fragments, run-ons, and/or other sentence structure errors</li> <li>• Shows little knowledge of languages and conventions when writing</li> <li>• Has frequent errors in usage and conventions that interfere with meaning*</li> </ul>
	0	<i>The student's response is flawed for various reasons and will receive a condition code:</i> <ul style="list-style-type: none"> <li>• Code A: Blank</li> <li>• Code B: Copied</li> <li>• Code C: Too Limited to Score/Illegible/Incomprehensible</li> <li>• Code D: Non-English/Foreign Language</li> <li>• Code E: Off Topic/Off Task/Offensive</li> </ul>

\*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 Appendix A for those standards that need continued attention beyond the grade in which they were introduced.

**ACTIVITY**

The following activity develops skills in Unit 1: Reading Literary Text.

**Standard:** ELAGSE6RL1

**Become a Character from a Literary Text**

Read any literary text of your own choosing. It can be a story, novel, play, or story poem.

- Participate in a first-person-only response group with your friends or family.
- Answer all questions about what you read from a first-person perspective, as if you were an actual character in the story.

Step into the minds of any character you choose. You should think like the character and explain how the character feels and why.

- Each person selects one character from a different literary text they have read.
- Be prepared to answer questions as your character.

Write down some questions to ask each other. Here are some sample questions you can use.

**Sample Question Starters**

- Why did you...?
- What made you choose...?
- Why did you treat \_\_\_\_\_ that way?
- How did you expect things to turn out?
- How did you feel when...?
- What made you say...?
- Would you ever...?
- Will you change your ways after what happened?
- What did you learn about yourself?

## ACTIVITY

The following activity develops skills in Unit 5: Language.

**Standard:** ELAGSE6L1

### Grammar Go-Round

Work with your friends or family.

- Use a copy of the English Language Arts language standards.
- Write three practice questions for each standard.

Once you have completed your questions, take turns passing your questions to another person. If the other person answers a question incorrectly, the first person is responsible for explaining why the answer is wrong.

Each person gets two points for a correct answer and they lose one point for an incorrect answer. The person with the most points wins the game.

Use the samples below as a model to help write your questions.

Standard	Sample Question
<b>ELAGSE6L1a</b> Ensure that pronouns are in the proper case (subjective, objective, possessive).	Is this sentence written correctly? If not, fix it. My younger sister, Grace, is better at Math than me.
<b>ELAGSE6L2a</b> Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements.	Add commas to this sentence. The tour bus stopped at the White House the National Gallery and the Air and Space Museum.

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# MATHEMATICS

## DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Grade 6 Mathematics EOG assessment consists of a total of 73 items.

You will answer a variety of item types on the test. Some of the items are selected-response (multiple-choice), which means you choose the correct answer from four choices. Some items will ask you to write your response.

The test will be given in two sections.

- You may have up to 85 minutes per section to complete Sections 1 and 2.
- The test will take about 120 to 170 minutes.

## CONTENT

The Grade 6 Mathematics EOG assessment will measure the Grade 6 standards that are described at [www.georgiastandards.org](http://www.georgiastandards.org).

The content of the assessment covers standards that are reported under these domains:

- Ratios and Proportional Relationships
- The Number System
- Expressions and Equations
- Geometry
- Statistics and Probability

## ITEM TYPES

The Mathematics portion of the Grade 6 EOG assessment consists of selected-response (multiple-choice) items, constructed-response items, and extended constructed-response items.

## MATHEMATICS DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent applicable DOK levels of the Mathematics assessment are provided for you on the following pages. The items and explanations of what is expected of you to answer them will help you prepare for the test.

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

### Example Item 1

**DOK Level 1:** This is a DOK level 1 item because it requires students to recall information.

**Mathematics Grade 6 Content Domain:** The Number System

**Standard:** MGSE 6.NS.5. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

**Which integer represents 10 degrees Fahrenheit below zero?**

- A. 10
- B. 0
- C. -10
- D. -20

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer choice is (C) -10. Temperatures often fall below 0. When a temperature is colder than 0 degrees, we use negative integers to represent that temperature. Choice (A) is incorrect because it represents positive 10 degrees Fahrenheit, which is 20 degrees warmer than 10 degrees below zero. Choice (B) is incorrect because it is 10 degrees warmer than 10 degrees below zero. Choice (D) is incorrect because it represents a temperature that is 10 degrees colder than 10 degrees below zero.



**Scoring Rubric**

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a complete understanding of how to use a strategy based on place value to add two decimal numbers.</li> <li>• Give 2 points for a correct response and a valid process.</li> <li>• Response is correct and complete.</li> <li>• Response shows application of a reasonable and relevant strategy.</li> <li>• Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a partial understanding of how to use a strategy based on place value to add two decimal numbers.</li> <li>• Give 1 point for a correct response that does not include a valid process or contains a calculation mistake made in an otherwise correct process.                             <ul style="list-style-type: none"> <li>• Response includes the correct sum but no or incomplete explanation.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of how to use a strategy based on place value to add two decimal numbers.                             <ul style="list-style-type: none"> <li>• Response shows no application of a strategy.</li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul> </li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
2	<p>34 AND <math>6.42 + 27.58 = \square</math> <math>\square = (6 + 7 + 20) + (0.4 + 0.5) + (0.02 + 0.08)</math> <math>\square = (13 + 20) + (0.9) + (0.1)</math> <math>\square = 33 + 1</math> <math>\square = 34</math> <i>OR other valid process</i></p>
1	34 with no explanation or incomplete work
0	<i>Response is irrelevant, inappropriate, or not provided.</i>



**Example Item 3**

**DOK Level 3:** This is a DOK level 3 item that assesses complex reasoning. The student must evaluate another student's work and explain why or why not expressions are equal. The student must change expressions to make them equivalent and provide evidence to support his or her reasoning.

**Mathematics Grade 4 Content Domain:** Expressions and Equations

**Standard:** MGSE 6.EE.4. Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions  $y + y + y$  and  $3y$  are equivalent because they name the same number regardless of which number  $y$  stands for.

**Sam wrote these four expressions.**

1.  $n + n + n + n + 2$
2.  $n + n + n + 2$
3.  $4n + 2$
4.  $2n + 2n + 2n$

**Part A: Which expressions are equivalent?**

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**Part B: Explain your reasoning for Part A.**

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### Scoring Rubric

Points	Description
4	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a complete understanding of evaluating expressions and identifying equivalent expressions.</li> <li>• Give 4 points for 4 parts answered correctly.               <ul style="list-style-type: none"> <li>• Response is correct and complete.</li> <li>• Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
3	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a nearly complete understanding of evaluating expressions and identifying equivalent expressions.</li> <li>• Give 3 points for correct responses for only three of the four parts OR two of the parts have errors or are incomplete.               <ul style="list-style-type: none"> <li>• Response is mostly correct but contains either a computation error or an unclear or incomplete explanation.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a partial understanding of evaluating expressions and identifying equivalent expressions.</li> <li>• Give 2 points for correct responses for only two of the four parts OR three of the parts have errors or are incomplete.               <ul style="list-style-type: none"> <li>• Response is only partially correct.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a minimal understanding of evaluating expressions and identifying equivalent expressions.</li> <li>• Give 1 point for correct responses for only one of the four parts OR three of the parts have errors or are incomplete.               <ul style="list-style-type: none"> <li>• Response is only partially correct.</li> <li>• Response shows incomplete or inaccurate application of a relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of evaluating expressions and identifying equivalent expressions.               <ul style="list-style-type: none"> <li>• Response shows no application of a strategy.</li> </ul> </li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
4	<p>Part A: Only expressions 1 and 3 are equivalent.</p> <p>AND</p> <p>Part B: To show that only two of the four expressions are equivalent, I set <math>n</math> equal to 3 in each expression and evaluated.</p> <ol style="list-style-type: none"> <li>1. When <math>n</math> is 3, the expression equals 14.</li> <li>2. When <math>n</math> is 3, the expression equals 11.</li> <li>3. When <math>n</math> is 3, the expression equals 14.</li> <li>4. When <math>n</math> is 3, the expression equals 18.</li> </ol> <p>Expressions 1 and 3 are equivalent because when you substitute <math>n</math> for a value, they both have the same result. If you substitute the same number for <math>n</math> in the other two expressions, the result is different. This is true for any value of <math>n</math>.</p> <p><i>OR other valid explanation</i></p> <p>AND</p> <p>Part C: (answers will vary depending on which expression the student chooses)</p> <p>I chose expressions 2 and 3, which are not equivalent. I know they are not equivalent because when I substitute the same value for <math>n</math> in both expressions, they do not equal the same number.</p> <p><i>OR other valid explanation</i></p> <p>AND</p> <p>Part D: If I add one <math>n</math> to expression 2, they are equivalent.</p>
3	The student correctly answers three out of the four parts.
2	The student correctly answers two out of the four parts.
1	The student correctly answers one of the four parts.
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

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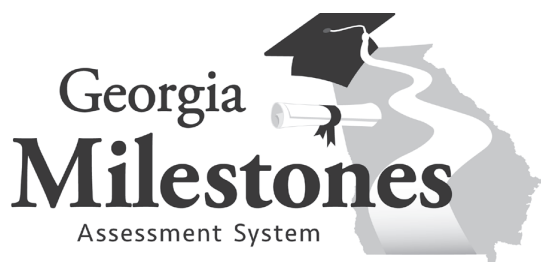
## MATHEMATICS CONTENT DESCRIPTION AND ADDITIONAL SAMPLE ITEMS

In this section, you will find information about what to study in order to prepare for the Grade 6 Mathematics EOG assessment. This includes key terms and important vocabulary words. This section also contains practice questions, with an explanation of the correct answers, and activities that you can do on your own or with your classmates or family to prepare for the test.

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

### CONTENT DESCRIPTION

- Apply and extend understanding of multiplication and division
- Divide fractions by fractions
- Compute fluently with multi-digit numbers and rational numbers
- Find common factors and multiples
- Apply and extend understandings of algebraic expressions
- Reason and solve one-variable equations and inequalities
- Analyze quantitative relationships between dependent and independent variables
- Understand ratio, area, surface area, and volume
- Develop understanding of statistical variability
- Summarize and describe distributions



## Mathematics Formula Sheet

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You can find mathematics formula sheets on the Georgia Milestones webpage at <http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Georgia-Milestones-Assessment-System.aspx>.

**Look under “EOG Resources.”**

## Unit 1: Number System Fluency

In this unit, you will divide numbers and fractions by fractions and identify reciprocal fractions. You will work with decimals and solve multi-digit division. You will learn about factors and multiples of numbers.

### KEY TERMS

**Quotients of fractions:** Dividing a number by a fraction is determining how many parts equal to the fraction are in the number. For example,  $4 \div \frac{1}{4}$  is asking for how many  $\frac{1}{4}$  parts are in 4, which is 16. This same strategy can be used to **divide a fraction by a fraction**. For example,  $\frac{5}{2} \div \frac{1}{4}$  is asking for how many  $\frac{1}{4}$  parts are in  $\frac{5}{2}$ , which is 10. Represent division of fractions using equations and fraction models to solve. (NS.1)

**Remainder:** A part of the dividend that is left over when dividing. The remainder is listed as the amount of the equal part that is left over. For example, in the equation  $\frac{3}{8} \div \frac{1}{4}$ , there is a remaining number of  $\frac{1}{8}$ , which is  $\frac{1}{2}$  of an equal part. The quotient of this division equation is  $1\frac{1}{2}$ . (NS.1)

**Reciprocal:** Two numbers that have a product of 1. In fractions, reversing the numerator and denominator creates a reciprocal fraction, such as  $\frac{2}{3} \times \frac{3}{2} = \frac{6}{6}$ . When dividing two fractions, it is also possible to multiply by the reciprocal to determine the quotient. For example,  $\frac{5}{2} \div \frac{1}{4}$  can be solved using  $\frac{5}{2} \times \frac{4}{1} = \frac{20}{2}$ . (NS.1)

**Standard algorithm:** A method used to solve a problem that includes a set of specific steps. (NS.2)

Solve multi-digit **division** equations using the standard algorithm. (NS.2)

### Operations with decimals:

**Addition** and **subtraction** of decimal numbers requires close attention to the place value of each digit. Operations must be completed on the digit in the same location such as adding the tenths place in one number with the tenths place in another number. (NS.3)

When **multiplying** a number by a decimal number, the product will have a smaller value than the whole number factor. The equation  $2 \times 0.01 = 0.02$  shows that 2 groups of 1 hundredth is equal to 2 hundredths. (NS.3)

When **dividing** a number by a decimal number, the **quotient** will have a greater value than the **dividend**. The equation  $2 \div 0.01 = 200$  shows that there are 200 hundredths in the number 2. (NS.3)

A number can be broken down into factors. The **factors** of a number are two numbers that, when multiplied together, equal the given number. A **greatest common factor** is the largest factor that two numbers share. (NS.4)

A **multiple** of a number is the product of that number and another factor. A **least common multiple** is the smallest multiple that two numbers share. (NS.4)

An addition equation can be rewritten using the **Distributive Property** with **common factors**. For example,  $21 + 35$  can be rewritten because both addends have a common factor of 7. So  $(7 \times 3) + (7 \times 5)$  can also be written as  $7(3 + 5)$ . (NS.4)

**Important Tips**

- ✍ Dividing by  $\frac{1}{2}$  is to determine how many  $\frac{1}{2}$  parts there are in a given number.  
Dividing in half means dividing by 2 to determine the quantity in 2 equal parts.
- ✍ The quotient of a division equation can be less than the dividend when the divisor is greater than 1. The quotient can be greater than the dividend if the divisor is smaller than 1. Or, the quotient can be equal to the dividend if the divisor is equal to 1.

**Sample Items 1–3**

**Item 1**

Which expression is equivalent to  $36 + 24$ ?

- A.  $6 + 4$
- B.  $4(6 + 4)$
- C.  $4(6 + 6)$
- D.  $6(6 + 4)$



**Item 2**

Solve the problem.

$$\frac{3}{6} \div \frac{1}{4} = \square$$

$$\square = \underline{\hspace{2cm}}$$

Explain how you found your answer. Write your answer on the space provided.

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**Item 3**

Elena divided a decimal by a whole number.

$$84.36 \div 12 = \square$$

**Part A: Explain each step needed to divide 84.36 by 12.**

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**Part B: What is the correct quotient?**

quotient = \_\_\_\_\_

## Unit 2: Rate, Ratio, and Proportional Reasoning Using Equivalent Fractions

In this unit, you will work with ratios and percentages. You will use measurement conversions and describe the relationship between quantities, including rate and constant speed. You will use equivalent fractions, ratio tables, diagrams, double number lines, equations, and proportions.

### KEY TERMS

**Ratio:** Describes the multiplicative relationship between two quantities.

- **Part-to-part ratio:** A ratio that relates two parts of the same whole. For example, a class has 12 boys and 9 girls; the ratio of boys to girls is 12 to 9.
- **Part-to-whole ratio:** A ratio that relates a part of the whole to the whole. For example, there are 12 boys in the class of 21 students. The ratio of boys to the class is 12 to 21. (RP.1)

**Unit Ratio:** A ratio that has a number related to 1. For example, there is a ratio of red cars to blue cars of 2 to 1. (RP.2)

Use ratios to solve problems and find missing values using these strategies:

- **Equivalent ratio table:** A table listing ratios that have the same value, such as 2 to 3 and 4 to 6.
- **Tape diagrams:** Also called bar models or strip diagrams, these are drawing strategies used to create a numerical operation from a written description.
- **Double number line:** Two number lines used to represent the two quantities in a ratio to find equivalent ratios.
- **Equation:** A **proportion** that shows two ratios as being equivalent. (RP.3a)

**Rate:** Describes the relationship between two quantities that have different units of measure. For example, price per yard of fabric (**unit pricing**) or miles per hour (**constant speed**). (RP.3b)

Unit pricing and constant speed require creating an equivalent rate where a value is 1. For example, the car travels 75 miles in 3 hours. The rate or constant speed of the car is 25 miles per 1 hour. (RP.3b)

**Percent:** A part-to-whole ratio that has a number related to 100. It can be written as a fraction with the denominator of 100 or using the symbol %. For example, there are 40 comic books out of 200 total books. The ratio of comic books to the total is 20 to 100, or  $\frac{20}{100}$ , or 20%. (RP.3c)

**Measurement conversion:** Using the relationship between measurement units to change units such as feet to inches as well as converting centimeters to inches. For example, 36 inches can be converted into feet using the ratio 1 foot to 12 inches. (RP.3d)

### Important Tip

- Percentages can be used in a variety of situations and include numbers that are greater than 100 as well as less than 1.

## Sample Items 4–6

### Item 4

Fran has 18 paperback books and 24 hardcover books. What is the ratio of paperback to hardcover books?

- A. 3 to 4
- B. 4 to 3
- C. 3 to 7
- D. 7 to 3

### Item 5

A tomato sauce recipe uses 96 ounces of crushed tomatoes.

How many pints of crushed tomatoes are needed to make the tomato sauce?  
(32 ounces = 2 pints)

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

**Item 6**

At the farmers' market, 2 watermelons cost \$6. At the grocery store, 4 watermelons cost \$20.

**Part A**

Number of Watermelons (Farmers' Market) ( $n$ )	Cost (\$)
1	
2	6
3	
	12

**Part B**

Number of Watermelons (Grocery Store) ( $n$ )	Cost (\$)
1	
	10
3	
4	20

**Part A:** Complete the table that shows the ratio of number of watermelons to price at the farmers' market. Explain what each row means.

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**Part B:** Complete the table that shows the ratio of the number of watermelons to price at the grocery store. Explain what each row means.

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**Part C: At which place do watermelons cost less? Explain how you got your answer.**

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## Unit 3: Expressions

In this unit, you will work with exponents, variables, and written and numerical expressions. You will use the order of operations to find the value of equations and equivalent expressions.

### KEY TERMS

**Exponent:** Represents repeated multiplication. For example,  $10 \cdot 10 \cdot 10 = 10^3$ , so 10 is multiplied by itself 3 times, so the number 10 is written with an exponent of 3. The same strategy for writing exponents can be used with any number or variable. (EE.1)

**Variables:** A letter used in an expression or equation to represent an unknown number or a number that may have different values. (EE.2a)

Use variables, numbers, and operations to represent **written expressions** as **numerical expressions**. For example, “multiply the sum of 2 and  $n$  by 3” can be written as  $3(2 + n)$ . (EE.2a)

#### Parts of an expression:

- **Term:** A number, variable, or a product of a number and a variable.
- **Factor:** A number that is multiplied by another number to find the product.
- **Sum:** The total of terms that are added together.
- **Difference:** The total of terms that are subtracted.
- **Product:** The total of terms that are multiplied.
- **Quotient:** The total of terms that are divided.
- **Coefficient:** A number multiplied by a variable. (EE.2b)

**Order of operations:** The specific order used to complete operations when finding the value of an equation or expression.

- Parenthesis
- Exponents
- Multiplication or division
- Addition or subtraction (EE.2c)

**Equivalent expressions:** Two expressions that represent the same number regardless of the value of the variable. (EE.4) Equivalent expressions can be created using the **Properties of Operations** such as using the Distributive Property to change  $24 + 6x$  to the equivalent expression of  $6(4 + x)$ . (EE.2)

**Greatest Common Factor:** The greatest factor that divides two numbers. (NS.4)

**Least Common Multiple:** The smallest positive integer that is divisible by two numbers. (NS.4)

**Important Tips**

- ✍ Variables are often used to represent unknown numbers in an equation. A specific letter can be used to represent several different numbers in different equations. Use the equation to determine the value of the variable in each problem.
- ✍ The coefficient relates to the variable it is paired with. The value of  $5n + 3$  is  $n + n + n + n + n + 3$  and is determined based on the value of  $n$ . If  $n = 2$ , then there are 5 groups of 2 and  $5n + 3$  has a value of  $10 + 3$ .
- ✍ A variable listed alone has a coefficient of 1. For example,  $3x - x$  is the same as  $3x - 1x$  for a total of  $2x$ .

**Item 7**

**Adam is  $n$  years old. Mary Beth is  $3n + 4$  years old.  
If Adam is 9 years old, how old is Mary Beth?**

- A. 23
- B. 27
- C. 31
- D. 43



**Sample Items 8–9****Item 8**

Look at this expression.

$$\frac{1}{5} \times \frac{1}{5} \times \frac{1}{5}$$

Which expression is equivalent?

- A.  $2 \times \frac{1}{5}$
- B.  $3 \times \frac{1}{5}$
- C.  $\left(\frac{1}{5}\right)^2$
- D.  $\left(\frac{1}{5}\right)^3$

**Item 9**

Look at this expression.

$$5(4x - 3)$$

Which expression is equivalent?

- A.  $20x - 3$
- B.  $20x - 15$
- C.  $4x - 15$
- D.  $9x - 8$

## Unit 4: One-Step Equations and Inequalities

In this unit, you will work with one-step equations and inequalities. You will use variables to represent unknown numbers. You will use rational numbers as well as dependent and independent variables.

### KEY TERMS

**Equation:** A grouping of numbers, variables, and operations with an **equal sign**. The solution to an equation is a specific number that makes the equation true. (EE.5)

**Inequality:** A grouping of numbers, variables, and operations with an **inequality symbol** such as  $<$ ,  $>$ ,  $\leq$ , or  $\geq$ . The solution for an inequality is a set of numbers or multiple numbers that make the inequality true. (EE.5)

A **variable** in an equation or inequality represents an **unknown number** or a number in a given set of numbers. (EE.6)

A word problem can be represented using an **equation** before solving. Using **rational numbers** from a problem, write equations such as  $x + 42 = 56$  and  $8x = 72$ . (EE.7)

A word problem can also be represented using an inequality using **rational numbers** such as  $x < 24$ . Solutions to inequalities can be represented on the **number line** by placing an **open** or **closed** point on the given number and an **arrow** towards greater or less than. For example, for  $x < 24$ , place an open circle on 24 and draw an arrow to the left over numbers that are less than 24. For  $x \geq 2$ , place a closed circle on 2 and draw an arrow to the right, over numbers that are greater than 2. (EE.8)

**Dependent variable:** A variable whose value changes based on other factors. (EE.9)

**Independent variable:** A variable whose value does not change based on other factors. (EE.9)

An **equation** can include an **independent** and a **dependent** variable. The relationship between the two variables can be seen by **graphing** the values of each variable or creating a **table**. (EE.9)

Use ratios to solve problems and find missing values using these strategies:

- **Equivalent ratio table:** A table listing ratios that have the same value, such as 2 to 3 and 4 to 6.
- **Tape diagrams:** Also called bar models or strip diagrams, these are drawing strategies used to create a numerical expression from a written description.
- **Double number line:** Two number lines used to represent the two quantities in a ratio to find equivalent ratios.
- **Equation:** A **proportion** that shows two ratios as being equivalent. (RP.3)

A proportional relationship will change by the same value over time. This **constant of proportionality** is represented by the value of the ratio ( $k$ ) between  $y$  and  $x$  as  $y = kx$ . (RP.3)

**Percent:** A part-to-whole ratio that has a number related to 100. It can be written as a fraction with the denominator of 100 or using the symbol %. For example, there are 40 comic books out of 200 total books. The ratio of comic books to the total is 20 to 100, or  $\frac{20}{100}$ , or 20%. (RP.3c)

**Measurement conversion:** Using the relationship between measurement units to change units. For example, 36 inches can be converted into feet using the ratio 1 foot to 12 inches. (RP.3d)

### Important Tips

- ✍ An equal sign (=) represents that the two sides of the equation have the same value. Operations may need to be completed before finding the solution to the equation.
- ✍ When writing a verbal or written expression as a numerical expression, focus on the chosen wording. The way an expression is written will identify the operation to use as well as the order of the terms. For example, “six less than  $x$ ” is written as  $x - 6$ , and “4 is greater than  $x$ ” is written as  $4 > x$ .

## Sample Items 10–12

### Item 10

Look at this inequality.

$$5y > 14$$

Which value for  $y$  makes the inequality true?

- A. 1.5
- B. 2
- C. 2.8
- D. 3

### Item 11

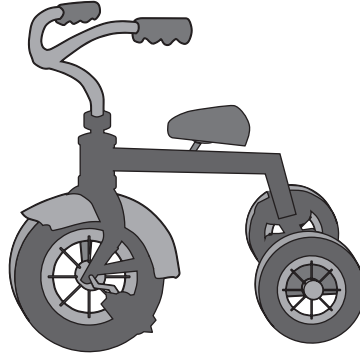
It costs \$60 to reserve a movie theater for a party. There is also a charge of \$3 for each person.

Which expression represents the total cost to reserve a movie theater for  $n$  persons?

- A.  $60 + 3n$
- B.  $60 - 3n$
- C.  $3 + 60n$
- D.  $3 - 60n$

**Item 12**

A bike shop needs to order new wheels for 10 tricycles. Hannah orders 10 new wheels. As this illustration shows, each tricycle has 3 wheels.



**Part A:** Did Hannah order the correct number of wheels? Explain your answer.

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**Part B:** The equation  $3x = y$  can be used to calculate the number of wheels to order for any number of tricycles. What does each part of the equation represent?

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**Part C:** How many wheels should be ordered for 15 tricycles? Explain how you used the equation from Part B to get your answer.

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## Unit 5: Area and Volume

In this unit, you will find the area of plane figures and the volume of solid figures. You will continue to work with fractions. You will work with three-dimensional figures to unfold nets and find the surface area.

### KEY TERMS

**Two-dimensional figures:** A **plane figure** that has two dimensions such as length and width. (G.1)

**Area:** The number of square units used to fill a two-dimensional figure without gaps or overlaps.

- Rectangle: Multiply the length and width of the rectangle.  $A = bh$
- Triangle: Multiply the height and base of the triangle, then divide by 2.  $A = \frac{1}{2}bh$ . (G.1)

The area of a **polygon** can be found by **composing** or **decomposing** the shape into rectangles and triangles. Determine the area of each triangle or rectangle that forms the polygon. The total area of the polygon is equal to the sum of the area of each part. (G.1)

The **volume** of a shape is the amount of space the shape takes up in three dimensions: length, width, and height. A **solid figure** or three-dimensional figure such as a rectangular prism has a volume. (G.2)

A solid figure can be packed with equally sized cubes leaving no **gaps** and without **overlapping** cubes. The number of cubes packed into the solid figure is used to find the volume of the figure. (G.2)

A three-dimensional figure with **fractional edge lengths** can be packed with cubes that have **edge** lengths equal to a **unit fraction**. For example, a figure with a length of 2, width of 2, and height of  $1\frac{1}{2}$  can be filled with 48 cubes with **edge** lengths of  $\frac{1}{2}$  unit.

The volume of each cube is  $\frac{1}{8}$  unit, multiplied by 48 cubes gives the figure a total volume of 6 units. (G.2)

The volume of a right rectangular prism can be determined using two formulas.

- $l \cdot w \cdot h$  multiplies the **length**, **width**, and **height** of the figure to find the cubic units of volume.
- $B \cdot h$  finds the **area of the base** using the width and length, and then multiplies it by the **height** of the figure to find the cubic units of volume. (G.2)

**Surface area:** The total area of each face of a three-dimensional figure. (G.3)

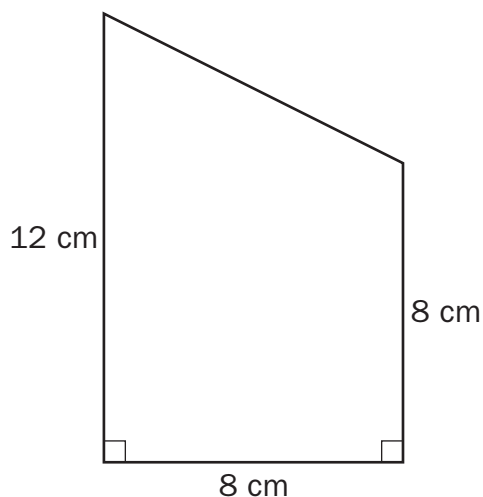
**Net:** A strategy used to unfold a three-dimensional figure to see each face as a two-dimensional figure. (G.3)

**Important Tips**

- ✍ Identify shapes using the attributes. Shapes can be turned and may appear different, but that does not change the shape.
- ✍ In a right triangle, the height can be a side of the triangle. In triangles with acute or obtuse angles, the height must be measured from the highest point and be perpendicular to the base. This measurement may be taken inside or outside of the figure, depending on the type of angle.

**Sample Items 13–15****Item 13**

Mitch drew this quadrilateral.

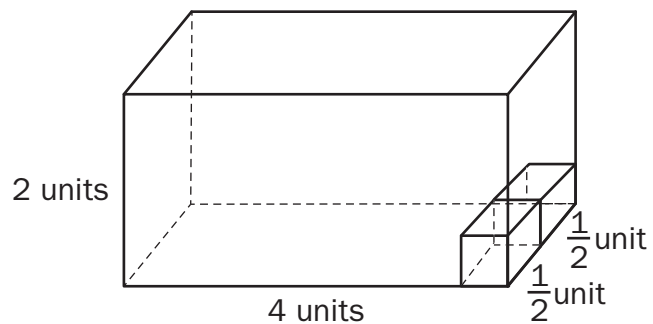


What is the area of the quadrilateral?

- A.  $28 \text{ cm}^2$
- B.  $80 \text{ cm}^2$
- C.  $96 \text{ cm}^2$
- D.  $128 \text{ cm}^2$

**Item 14**

Consider this rectangular prism.



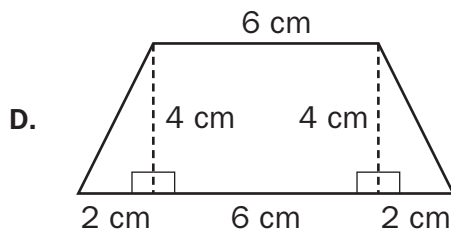
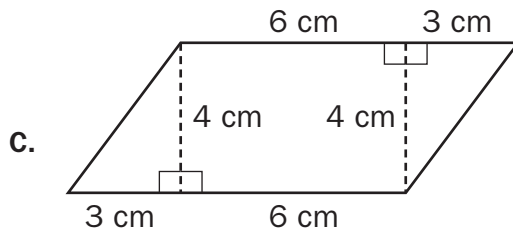
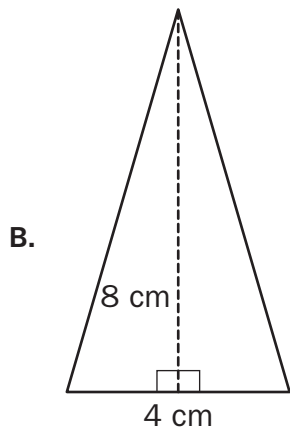
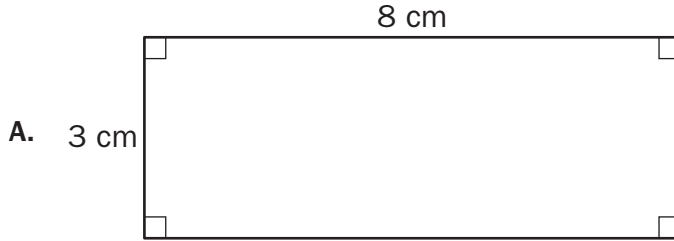
How many  $\frac{1}{2}$ -unit cubes are needed to fill the rectangular prism?

- A. 8
- B. 16
- C. 32
- D. 64

**Item 15**

Mia found the area of a polygon. The area is  $32 \text{ cm}^2$ .

Which of these polygons has an area of  $32 \text{ cm}^2$ ?





## Unit 6: Statistics

In this unit, you will work with statistics, numerical data, distribution of data, quartiles, plots, and histograms. You will calculate the mode of numbers and identify outliers.

### KEY TERMS

**Statistical questions:** Questions used to collect data that will allow for a variety of different answers. (SP.1)

**Numerical data set (Data set):** Information collected as rational numbers that can be represented using graphs and plots. (SP.2, SP.3, SP.4, SP.5)

**Distribution** of data can be described by:

- **Center:** The one number that summarizes data by giving the middle or center value. (SP.3) This can be measured using the **mean** if the data are symmetrical or **median** if the data are **skewed**. (SP.2)
- **Mean:** The “average” or “fair share” value for the data. The mean is also the balance point of the corresponding data distribution. (SP.3)
- **Median:** The value for which half the numbers are larger and half are smaller. If there are two middle numbers, the median is the arithmetic mean of the two middle numbers. (SP.3)
- **Range:** A measure of spread for a set of data. To find the range, subtract the smallest value from the largest value in a set of data. (SP.3)
- **Skewed Data:** When a set of data is not symmetrical it can be skewed, meaning it tends to have a long tail on the left or right side. (SP.2)
- **Spread:** The one number that summarizes the variation in the data. (SP.3) This can be measured by the **range**. (SP.2)
- **Overall shape:** The **frequency** of data and any data that is **skewed** to the left or right. (SP.2)

A **set of data** can be written in order and separated into four equal parts. Each part is a **quartile**. The **lower quartile** is the **first quartile** and is the center number between the minimum value and the median. The **upper quartile** is the **third quartile** and is the center number between the median and the maximum value. (SP.5)

Data can be displayed on a **number line** using:

- **Box plots:** Uses the minimum value, lower quartile, median, upper quartile, and maximum value to create a representation of the data. A box is placed around the Interquartile range with a line at the median. Lines or whiskers extend out of the box to the minimum and maximum values.
- **Dot plots (Line plots):** Displays a dot, a circle, or an “X” on a number line corresponding to the value of each piece of data.
- **Histograms:** Displays data using a bar. The length of the bar on the number line shows the frequency of that value of data. (SP.4)

**Interquartile range:** The range, or difference, in values of the first and third quartiles. (SP.5)

**Important Tips**

- ✍ When finding the median of a data set, the numbers must be placed in order before finding the centermost value.
- ✍ If data are **skewed** to the left, there is a large quantity of data on the right side of the number line and smaller quantity of data or a tail on the left side of the number line.

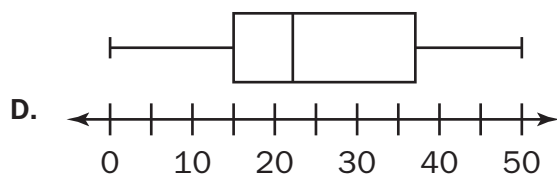
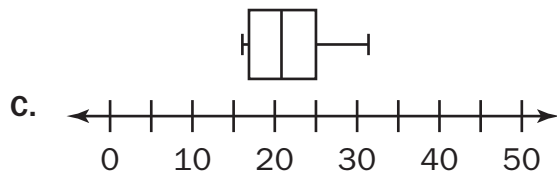
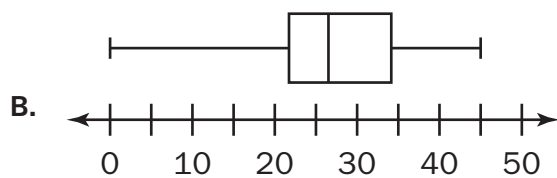
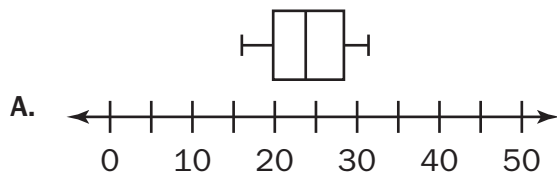
Sample Items 16–18

Item 16

This list shows the number of math problems solved each week by a sixth-grade student.

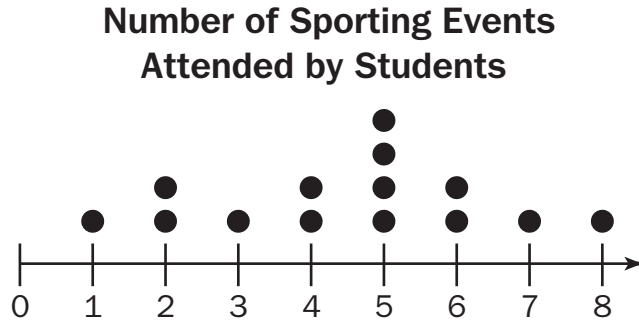
23, 19, 26, 20, 31, 16, 20, 29, 27

Which box plot BEST represents this list?



**Item 17**

The dot plot shows the number of times 14 students have attended a sporting event.



What number is the median of the data set?

- A. 1
- B. 4
- C. 5
- D. 7

**Item 18**

Which of these questions is a statistical question because it could have more than one answer?

- A. "Where does the current U.S. president live?"
- B. "What size coat am I wearing now?"
- C. "Did Jack wear sneakers or boots to school today?"
- D. "What size shirt do the kids in the school wear?"

## Unit 7: Rational Explorations: Numbers and Their Opposites

In this unit, you will work with negative and rational numbers. You will compare inequalities. You will learn about coordinate pairs, quadrants, polygons, and absolute value.

### KEY TERMS

**Negative number:** A number with a value less than zero. For example, the temperature is  $-4^\circ$ . (NS.5)

**Rational number:** A number that can be made by dividing two **integers** or whole numbers. Rational numbers can be displayed as a point on a number line or coordinate plane. (NS.6)

A negative number represents the **opposite** location on the number line as a positive number. For example,  $-2$  is the opposite of  $2$ . (NS.6)

The opposite of the opposite of a number is the number itself. For example,  $-(-2)$  is equal to  $2$ . (NS.6)

**Absolute value:** The distance between the given number and zero on a number line. For example,  $|-5| = 5$ . (NS.7)

**Inequalities:** A statement comparing the value and location of two or more numbers. For example,  $x < -5$  shows that the value of  $x$  is less than  $-5$ , so the value of  $x$  could be  $-6$ ,  $-7$ , etc.

**Ordered pairs:** A set of numbers that are used to label the location of a point on the coordinate plane written as  $(1, 2)$ . (NS.8)

A **coordinate plane** is created by **intersecting** two perpendicular number lines at  $0$ . The point where the two lines meet is called the **origin**. The **horizontal** line is called the **x-axis** and the **vertical** line is called the **y-axis**. (NS.8)

The coordinate plane is made up of four regions, or **quadrants**.

- First Quadrant: The values of the  $x$ -coordinate and  $y$ -coordinate are both positive.
- Second Quadrant: The values of the  $x$ -coordinates are negative and the  $y$ -coordinates are positive.
- Third Quadrant: The values of the  $x$ -coordinates and  $y$ -coordinates are both negative.
- Fourth Quadrant: The values of the  $x$ -coordinates are positive and the  $y$ -coordinates are negative. (NS.8)

On the coordinate plane, ordered pairs that differ only by their **signs** represent a **reflection** over one or both of the **axes**. (NS.6)

Draw **polygons** on the coordinate plane by placing a point at given coordinates for the **vertices**. The length of the sides of the polygon can be determined by counting the distance between points on the grid. (G.3)

### Important Tip

- ✍ An ordered pair lists the  $x$ -coordinate first, then the  $y$ -coordinate. When graphing a point using the ordered pair, move horizontally on the  $x$ -axis using the  $x$ -coordinate, then move vertically on the  $y$ -axis using the  $y$ -coordinate.

**Sample Items 19–21**

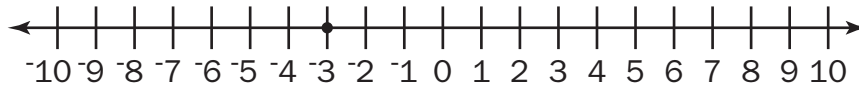
**Item 19**

Which list shows the numbers in descending order?

- A.  $|-2.5|$ ,  $-2.25$ ,  $2.75$
- B.  $-2.25$ ,  $-2.5$ ,  $|2.75|$
- C.  $-2.5$ ,  $2.5$ ,  $|-2.75|$
- D.  $2.75$ ,  $|-2.5|$ ,  $-2.25$

**Item 20**

Erin plotted the opposite of  $-3$  on the number line.



**Part A: Explain the error Erin made.**

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**Part B: Explain how Erin should correctly plot the opposite of  $-3$  on the number line.**

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## MATHEMATICS ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
1	MGSE6.NS.4	1	D	The correct answer is choice (D) $6(6 + 4)$ . The student finds the greatest common factor of the two addends, which is 6. Then student multiplies by the sum of 6 and 4, which are the factors that equal the initial addends when multiplied by the greatest common factor, 6. Choice (A) is incorrect because the response equals 10, rather than 60. Choice (B) is incorrect because the response equals 40, rather than 60. Choice (C) is incorrect because the response equals 48, not 60.
2	MGSE6.NS.1	2	N/A	See scoring rubric and sample response on page 116.
3	MGSE6.NS.3	2	N/A	See scoring rubric and sample response on page 117.
4	MGSE6.RP.1	1	A	The correct answer is choice (A) 3 to 4. The ratio of paperback to hardcover books can be written as the fraction $\frac{18}{24}$ . Reduce the fraction by dividing both the numerator and the denominator by 6 to get $\frac{3}{4}$ . Then write the ratio as 3 to 4. Choice (B) is incorrect because it results from finding the ratio of hardcover books to paperback books. Choice (C) is incorrect because it results from finding the ratio of paperback books to the total number of books. Choice (D) is incorrect because it results from finding the ratio of the total number of books to paperback books.
5	MGSE6.RP.3d	1	D	The correct answer is choice (D) 6 pints. The student uses the proportion of $\frac{32}{2} = \frac{96}{6}$ or another viable method to find the number of pints in 96 ounces. Choice (A) is incorrect because it shows the number of pints in 32 ounces. Choice (B) is incorrect because it is the factor used to change 32 ounces to 96 ounces. Choice (C) is incorrect because it shows the number of pints in 64 ounces.
6	MGSE6.RP.3a, b	3	N/A	See scoring rubric and sample response beginning on page 118.



Item	Standard/ Element	DOK Level	Correct Answer	Explanation
7	MGSE6.EE.2c	1	C	The correct answer is choice (C) 31. Replace $n$ in the expression with 9, which is the value given for Adam's age, and evaluate $3n + 4 = 3(9) + 4 = 27 + 4 = 31$ . Choice (A) is incorrect because 23 is the result of substituting 9 for $n$ in the expression $3n - 4$ . Choice (B) is incorrect because 27 is the result of only computing $3(9)$ . Choice (D) is incorrect because it is the result of writing the expression as $39 + 4$ rather than $3(9) + 4$ .
8	MGSE6.EE.1	1	D	The correct answer is choice (D) $\left(\frac{1}{5}\right)^3$ . An exponent of 3 can be used to write $\frac{1}{5}$ when it is multiplied by itself 3 times. Choice (A) is incorrect because it is equal to $\frac{2}{5}$ . Choice (B) is incorrect because it is equal to $\frac{3}{5}$ . Choice (C) is incorrect because it is equal to $\frac{1}{25}$ .
9	MGSE6.EE.3	1	B	The correct answer is choice (B) $20x - 15$ . Apply the distributive property to the equation by multiplying 5 by each term inside the parentheses. Choice (A) is incorrect because it is the result of only multiplying 5 by $4x$ . Choice (C) is incorrect because it is the result of only multiplying 5 by 3 only. Choice (D) is incorrect because it shows the result of adding 5 to $4x$ and 3, rather than multiplying.
10	MGSE6.EE.5	1	D	The correct answer is choice (D) 3. The inequality is true when you substitute $y = 3$ into $5y > 14$ ; $15 > 14$ . Choices (A) and (B) are both incorrect because those values for $y$ result in numbers less than 14 ( $5 \times 1.5 = 7.5$ and $5 \times 2 = 10$ ). Choice (C) is incorrect because that value of $y$ results in a number equal to 14 ( $5 \times 2.8 = 14$ ).
11	MGSE6.EE.6	1	A	The correct answer is choice (A) $60 + 3n$ . The reservation cost for the theater is a constant, at \$60. The additional \$3 per person charge will vary depending on the number of people, $n$ , for a variable charge of $3n$ that would need to be added to the initial cost of \$60. Choice (B) is incorrect because it subtracts $3n$ from 60 instead of adding. Choices (C) and (D) are incorrect because they multiply the variable number of people, $n$ , by the constant 60.
12	MGSE6.EE.7	3	N/A	See scoring rubric and sample response beginning on page 121.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
13	MGSE6.G.1	2	B	<p>The correct answer is choice (B) 80 cm<sup>2</sup>. The quadrilateral can be decomposed into a rectangle that is 8 cm long and 8 cm wide and a right triangle with a base of 4 cm and height of 8 cm. So, its area is 64 + 16 = 80 cm<sup>2</sup>. Choice (A) is incorrect because it is the sum of the three labeled side lengths. Choice (C) is incorrect because it uses 12 cm for one side of the rectangle part instead of 8 cm. Choice (D) is incorrect because it does not multiply the base and height of the triangle part by <math>\frac{1}{2}</math>.</p>
14	MGSE6.G.2	2	D	<p>The correct answer is choice (D) 64. Since the volume is <math>V = l \times w \times h</math>, the volume of this prism is <math>V = 4 \times \left(\frac{1}{2} + \frac{1}{2}\right) \times 2 = 8 \text{ units}^3</math>, and the volume of each unit cube is <math>V = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{8} \text{ units}^3</math>. The number of cubes needed is the volume of the prism divided by the volume of each cube: <math>8 \div \frac{1}{8} = 8 \times 8 = 64</math>.</p> <p>OR</p> <p>Since the volume is <math>V = l \times w \times h</math> and we are looking for the number of cubes, we find the dimensions in terms of cubes: <math>w = 2</math> cubes, <math>l = 4 \div \frac{1}{2} = 8</math> cubes, and <math>h = 2 \div \frac{1}{2} = 4</math> cubes. So the volume, in cubes, of this prism is <math>V = 2 \times 8 \times 4 = 64</math>. Choice (A) is incorrect because it is the volume of the prism. Choice (B) is incorrect because it is the volume of the prism divided by <math>\frac{1}{2}</math>. Choice (C) is incorrect because it is the volume of the prism divided by <math>\frac{1}{4}</math>.</p>

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
15	MGSE6.G.1	1	D	The correct answer is choice (D) trapezoid with side lengths of 6 cm and 10 cm and a height of 4 cm. Student finds the area by breaking apart the trapezoid into 2 right triangles and a rectangle and adding the areas of the 3 shapes. The total area is $32 \text{ cm}^2$ , which is the given area. Choice (A) is incorrect because it shows a rectangle with an area of $24 \text{ cm}^2$ . Choice (B) is incorrect because it shows a triangle with an area of $16 \text{ cm}^2$ . Choice (C) is incorrect because it shows a parallelogram with an area of $36 \text{ cm}^2$ .
16	MGSE6.SP.4	1	A	The correct answer is choice (A) box plot with the minimum and maximum at 16 and 31. Choice (B) is incorrect because it shows a box plot with the minimum and maximum extending from 0 to 45 and the data only ranges from 16 to 31. Choice (C) is incorrect because, although it shows the correct minimum and maximum, it shows an incorrect median. Choice (D) is incorrect because it shows a box plot with second and third quartiles that are either too small or too large.
17	MGSE6.SP.2	1	C	The correct answer is choice (C) 5. The median of the 14 data points is the average of the 7th and 8th points, which are both 5, so the median is 5. Choice (A) is incorrect because it is the minimum value. Choice (B) is incorrect because it is the middle number on the number line (not data). Choice (D) is incorrect because it is the range of the data set.
18	MGSE6.SP.1	1	D	The correct answer is choice (D) "What size shirt do the kids in the school wear?" The student identifies a statistical question that will include variability. Answer choices (A), (B), and (C) are not statistical questions as they only elicit a single response with no variability.
19	MGSE6.NS.7	1	D	The correct answer is choice (D) 2.75, $ -2.5 $ , $-2.25$ . Descending means numbers are in order on a number line from greatest to least. 2.75 is the highest positive number, then the absolute value of $-2.5$ is 2.5, then $-2.25$ . Choice (A) is incorrect because it shows the numbers out of order. Choice (B) is incorrect because it shows the numbers in a mixed-up order. Choice (C) is incorrect because it shows the numbers in ascending order.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
20	MGSE6.NS.6a	3	N/A	See scoring rubric and sample response beginning on page 124.
21	MGSE6.NS.6b	2	N/A	See scoring rubric and sample response beginning on page 126.

## MATHEMATICS SAMPLE SCORING RUBRICS AND EXEMPLAR RESPONSES

### Item 2

#### Scoring Rubric

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>Response demonstrates a complete understanding of how to divide a fraction by a fraction.</li> <li>Give 2 points for a correct response and a valid process.               <ul style="list-style-type: none"> <li>Response is correct and complete.</li> <li>Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>Response demonstrates a partial understanding of how to divide a fraction by a fraction.</li> <li>Give 1 point for a correct response but no valid process.               <ul style="list-style-type: none"> <li>Response includes the correct quotient but no or incomplete work shown on using the fraction models.</li> <li>Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates limited to no understanding of how to divide a fraction by a fraction.               <ul style="list-style-type: none"> <li>Response shows no application of a strategy.</li> <li>Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul> </li> </ul>

#### Exemplar Response

Points Awarded	Sample Response
2	<p>2</p> <p>I used equivalent factors to find the quotient. I know <math>\frac{3}{6}</math> is <math>\frac{1}{2}</math>, which is also <math>\frac{2}{4}</math>. So I found the number I need to multiply <math>\frac{1}{4}</math> by to get <math>\frac{2}{4}</math>. And that number is 2.</p> <p><i>OR other valid explanation</i></p>
1	2
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

**Item 3**

**Scoring Rubric**

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a complete understanding of how to use a strategy based on place value to divide a decimal number by a whole number.</li> <li>• Give 2 points for a correct response and a valid process.                             <ul style="list-style-type: none"> <li>• Response is correct and complete.</li> <li>• Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a partial understanding of how to use a strategy based on place value to divide a decimal number by a whole number.</li> <li>• Give 1 point for a correct response but no valid process.                             <ul style="list-style-type: none"> <li>• Response includes the correct quotient but no or incomplete work shown.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of how to use a strategy based on place value to divide a decimal number by a whole number.                             <ul style="list-style-type: none"> <li>• Response shows no application of a strategy.</li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul> </li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
2	<p>Part A: First, find the number of sets of 12 in 84. That is 7. Next use a place holder 0 for the tenths place. Find the number of sets of 12 in 36. That is 84.36 divided by 12 equals 7.03.</p> <p><i>OR other valid explanation</i></p> <p>AND</p> <p>Part B: 7.03</p>
1	<p>Part A: First, find the number of sets of 12 in 84. That is 7. Next use a place holder 0 for the tenths place. Find the number of sets of 12 in 36. That is 84.36 divided by 12 equals 7.03.</p> <p>OR</p> <p>Part B: 7.03</p>

Points Awarded	Sample Response
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

## Item 6

### Scoring Rubric

Points	Description
4	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates a complete understanding of using ratio and rate to solve real-world mathematical problems by using tables with equivalent ratios and by using unit rates.</li> <li>Give 4 points for all 3 parts answered correctly. <ul style="list-style-type: none"> <li>Response is correct and complete.</li> <li>Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
3	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates a nearly complete understanding of using ratio and rate to solve real-world mathematical problems by using tables with equivalent ratios and by using unit rates.</li> <li>Give 3 points if student response indicates one error in one or within both of the tables for Parts A and B and completes Part C correctly OR student completes Parts A and B correctly, but has one minor error in Part C. <ul style="list-style-type: none"> <li>Response is mostly correct, but contains either a computation error or an unclear or incomplete explanation.</li> <li>Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates a partial understanding of using ratio and rate to solve real-world mathematical problems by using tables with equivalent ratios and by using unit rates.</li> <li>Give 2 points if student response indicates two errors in one or within both of the tables for Parts A and B OR student completes Parts A and B correctly, and makes a correct comparison for Part C but fails to provide evidence to support comparison. <ul style="list-style-type: none"> <li>Response is only partially correct.</li> <li>Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>

Points	Description
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a minimal understanding of using ratio and rate to solve real-world mathematical problems by using tables with equivalent ratios and by using unit rates.</li> <li>• Give 1 point if student response indicates more than two errors in one or within both of the tables for Parts A and B. Student makes a correct comparison in Part C, but fails to provide evidence to support comparison. OR student has more than two errors in Parts A and B and Part C’s comparison is incorrect.               <ul style="list-style-type: none"> <li>• Response is only partially correct.</li> <li>• Response shows incomplete or inaccurate application of a relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of using ratio and rate to solve real-world mathematical problems by using tables with equivalent ratios and by using unit rates.</li> <li>• Response shows no application of a strategy.</li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul>

**Exemplar Response**

Points Awarded	Sample Response
4	<p>Part A:            At the farmers’ market,            1 watermelon costs 3 dollars.            2 watermelons cost 6 dollars.            3 watermelons cost 9 dollars.            4 watermelons cost 12 dollars.</p> <p>AND</p> <p>Part B:            At the grocery store,            1 watermelon costs 5 dollars.            2 watermelons cost 10 dollars.            3 watermelons cost 15 dollars.            4 watermelons cost 20 dollars.</p> <p>AND</p> <p>Part C: A watermelon purchased at the farmers’ market is 2 dollars less than a watermelon purchased at the grocery store.</p> <p>The ratio of watermelon to dollars is 1 to 3 at the farmers’ market.            The ratio of watermelon to dollars is 1 to 5 at the grocery store.            So the unit price at the farmers’ market is 2 dollars less than at the grocery store.</p>



Points Awarded	Sample Response
3	The student correctly answers three out of the four parts.
2	The student correctly answers two out of the four parts.
1	The student correctly answers one of the four parts.
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

## Item 12

### Scoring Rubric

Points	Description
4	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates a complete understanding of solving real-world and mathematical problems by writing and solving equations of the form <math>px = q</math>, in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.</li> <li>Give 4 points for all 3 parts answered correctly. <ul style="list-style-type: none"> <li>Response is correct and complete.</li> <li>Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
3	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>The response demonstrates a nearly complete understanding of solving real-world and mathematical problems by writing and solving equations of the form <math>px = q</math>, in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.</li> <li>Give 3 points if student performs the correct evaluation in Part A, but does not include a complete explanation. Student presents correct responses for Parts B and C. <ul style="list-style-type: none"> <li>Response is mostly correct, but contains either a computation error or an unclear or incomplete explanation.</li> <li>Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a partial understanding of solving real-world and mathematical problems by writing and solving equations of the form <math>px = q</math>, in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.</li> <li>• Give 2 points if student response indicates correct evaluation for Parts A and C, but lacks explanations. Student provides correct response for Part B.               <ul style="list-style-type: none"> <li>• Response is only partially correct.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates a minimal understanding of solving real-world and mathematical problems by writing and solving equations of the form <math>px = q</math>, in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.</li> <li>• Give 1 point if student indicates only 1 correct response for either Parts A, B, or C. Incomplete explanations are provided.               <ul style="list-style-type: none"> <li>• Response is only partially correct.</li> <li>• Response shows incomplete or inaccurate application of a relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of solving real-world and mathematical problems by writing and solving equations of the form <math>px = q</math>, in which <math>p</math>, <math>q</math>, and <math>x</math> are all nonnegative rational numbers.               <ul style="list-style-type: none"> <li>• Response is incorrect.</li> <li>• Response shows no application of a strategy.</li> </ul> </li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul>

## Exemplar Response

Points Awarded	Sample Response
4	<p>Part A: No, Hannah did not order the correct number of wheels. A tricycle has 3 wheels on it, so if you were to order new wheels for 10 tricycles, you would need to order 3 wheels for each tricycle, not 1 wheel per tricycle.</p> <p>AND</p> <p>Part B: In the equation, 3 represents the number of wheels per tricycle, <math>x</math> represents the number of tricycles, and <math>y</math> represents the total number of wheels.</p> <p>AND</p> <p>Part C: 45 wheels; I substituted 15 for <math>x</math> in the equation and solved for <math>y</math>. Since 3 times 15 is 45, 45 wheels should be ordered for 15 new tricycles.</p>
3	The student correctly answers three out of the four parts.
2	The student correctly answers two out of the four parts.
1	The student correctly answers one of the four parts.
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

**Item 20**

**Scoring Rubric**

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a complete understanding of recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line, as well as recognizing that the opposite of the opposite of a number is the number itself.</li> <li>• Give 2 points for both parts correct.               <ul style="list-style-type: none"> <li>• Response is correct and complete.</li> <li>• Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a partial understanding of recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line, as well as recognizing that the opposite of the opposite of a number is the number itself.</li> <li>• Give 1 point for only one part correct.               <ul style="list-style-type: none"> <li>• Response shows all three points plotted correctly but lacks a complete or valid explanation for why student plotted the coordinates in those locations.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of recognizing opposite signs of numbers as indicating locations on opposite sides of 0 on the number line, as well as recognizing that the opposite of the opposite of a number is the number itself.               <ul style="list-style-type: none"> <li>• Response is incorrect.</li> <li>• Response shows no application of a strategy.</li> </ul> </li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul>

## Exemplar Response

Points Awarded	Sample Response
2	<p>Part A: Erin plotted the opposite of the opposite of <math>-3</math>, rather than the opposite of <math>-3</math>, which is 3.</p> <p>OR</p> <p>Erin plotted <math>-3</math> instead of the opposite of <math>-3</math>.</p> <p>AND</p> <p>Part B: The opposite of a number is the number that is the same distance from 0 on a number line but on the opposite side of 0. <math>-3</math> is 3 units to the left of 0 on the number line. So, the opposite of <math>-3</math> is 3 units to the right of 0 on the number line, which is 3.</p>
1	<p>Part A: Erin plotted the opposite of the opposite of <math>-3</math>, rather than the opposite of <math>-3</math>, which is 3. Erin plotted <math>-3</math> instead of the opposite of <math>-3</math>.</p> <p>OR</p> <p>Erin plotted <math>-3</math> instead of the opposite of <math>-3</math>.</p> <p>OR</p> <p>Part B: The opposite of a number is the number that is the same distance from 0 on a number line but on the opposite side of 0. <math>-3</math> is 3 units to the left of 0 on the number line. So, the opposite of <math>-3</math> is 3 units to the right of 0 on the number line, which is 3.</p>
0	<p><i>Response is irrelevant, inappropriate, or not provided.</i></p>

## Item 21

## Scoring Rubric

Points	Description
2	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a complete understanding of signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</li> <li>• Give 2 points for a correct response and a valid process.               <ul style="list-style-type: none"> <li>• Response is correct and complete.</li> <li>• Response shows application of a reasonable and relevant strategy.</li> </ul> </li> <li>• Mathematical ideas are expressed coherently through a clear, complete, logical, and fully developed response using words, calculations, and/or symbols as appropriate.</li> </ul>
1	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• Response demonstrates a partial understanding of signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</li> <li>• Give 1 point for a correct response but no valid process.               <ul style="list-style-type: none"> <li>• Response shows all three points plotted correctly but lacks a complete or valid explanation for why student plotted the coordinates in those locations.</li> <li>• Response shows application of a relevant strategy, though it may be only partially applied or remain unexplained.</li> </ul> </li> <li>• Mathematical ideas are expressed only partially using words, calculations, and/or symbols as appropriate.</li> </ul>
0	<p>The response achieves the following:</p> <ul style="list-style-type: none"> <li>• The response demonstrates limited to no understanding of signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.               <ul style="list-style-type: none"> <li>• Response shows no application of a strategy.</li> <li>• Mathematical ideas cannot be interpreted or lack sufficient evidence to support even a limited understanding.</li> </ul> </li> </ul>

## Exemplar Response

Points Awarded	Sample Response
2	<p>Part A:            Quadrant 2            Quadrant 1            Quadrant 3</p> <p>AND</p> <p>Part B: The first point is in Quadrant 2 because its <math>x</math>-coordinate is negative and its <math>y</math>-coordinate is positive. The second point is in Quadrant 1 because both of its coordinates are positive. The last point is in Quadrant 3 because its <math>x</math>-coordinate is positive and its <math>y</math>-coordinate is negative.</p>
1	<p>Part A:            Quadrant 2            Quadrant 1            Quadrant 3</p> <p>OR</p> <p>Part B: The first point is in Quadrant 2 because its <math>x</math>-coordinate is negative and its <math>y</math>-coordinate is positive. The second point is in Quadrant 1 because both of its coordinates are positive. The last point is in Quadrant 3 because its <math>x</math>-coordinate is positive and its <math>y</math>-coordinate is negative.</p>
0	<i>Response is irrelevant, inappropriate, or not provided.</i>

# SCIENCE

## DESCRIPTION OF TEST FORMAT AND ORGANIZATION

The Grade 6 Science EOG assessment has a total of 75 selected-response (multiple-choice) items.

The test will be given in two sections.

- You may have up to 70 minutes per section to complete Sections 1 and 2.
- The total estimated testing time for the Grade 6 Science EOG assessment ranges from approximately 90 to 140 minutes.

## CONTENT

The Grade 6 Science EOG assessment will measure the Grade 6 Science standards that are described at [www.georgiastandards.org](http://www.georgiastandards.org). The science items also relate to a Characteristics of Science standard. Because science consists of a way of thinking and investigating and includes a growing body of knowledge about the natural world, you will need to understand the **Characteristics of Science** standards and the **Content** standards for Science. The Characteristics of Science and Nature of Science standards can also be found at [www.georgiastandards.org](http://www.georgiastandards.org).

The content of the assessment covers standards that are reported under these domains:

- Astronomy
- Geology
- Hydrology and Meteorology

## ITEM TYPES

The Science portion of the Grade 6 EOG assessment consists of selected-response (multiple-choice) items only.



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## SCIENCE DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items that represent applicable DOK levels of the Science assessment are provided for you on the following pages. The items and explanations of what is expected of you to answer them will help you prepare for the test.

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

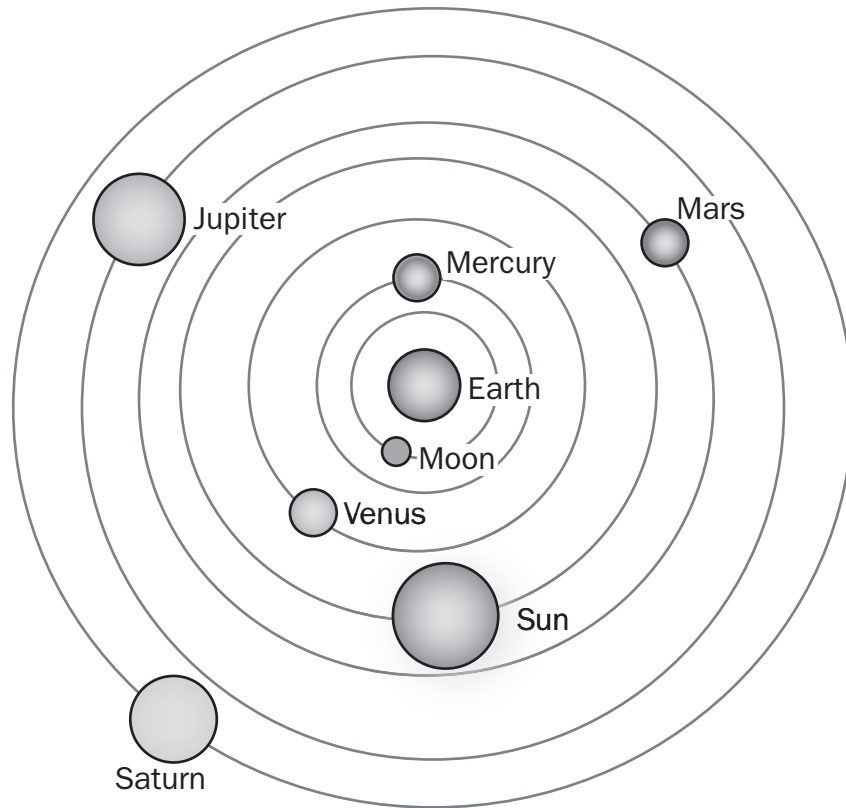
### Example Item 1

**DOK Level 1:** This is a DOK level 1 item because the question requires the student to recall information concerning a known relationship between scientific quantities.

**Science Grade 6 Content Domain:** Astronomy

**Standard:** S6E1. Students will explore current scientific views of the universe and how those views evolved. a. Relate the Nature of Science to the progression of basic historical scientific models (geocentric, heliocentric) as they describe our Solar System, and the Big Bang as it describes the formation of the universe.

**Standard:** S6CS5. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters. b. Identify several different models (such as physical replicas, pictures, and analogies) that could be used to represent the same thing, and evaluate their usefulness, taking into account such things as the model's purpose and complexity.



**Which scientific theory does the model illustrate?**

- A. Big Bang
- B. geocentric
- C. heliocentric
- D. steady state

**Correct Answer:** B

**Explanation of Correct Answer:** The correct answer is choice (B) geocentric. The geocentric model was a popular model in Ancient Greece and other cultures. It described the Sun, planets, and Moon as all revolving around Earth. Choices (A) and (D) are incorrect because the Big Bang theory and steady state theory are both models of how the universe was created. Choice (C) is incorrect. The heliocentric model replaced the geocentric model. It places the Sun as the center of the solar system with all the bodies orbiting around the Sun.

## Example Item 2

**DOK Level 2:** This is a DOK level 2 item because the question requires the student to apply learned information to abstract and real-life situations.

**Science Grade 6 Content Domain:** Geology

**Standard:** S6E5. Students will investigate the scientific view of how Earth's surface is formed. a. Compare and contrast Earth's crust, mantle, and core including temperature, density, and composition.

**Standard:** S6CS6. Students will communicate scientific ideas and activities clearly. c. Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.

**A teacher provides his students with this table that contains information about Earth's layers.**

Layer	Temperature Range (°C)	Average Density (g/cm <sup>3</sup> )	Composition
1	4,400–6,100	11.1	liquid nickel and iron
2	200–400	3.0	solid rock
3	5,000–7,000	12.8	solid nickel and iron
4	500–4,000	4.5	molten rock

**Which layer is Earth's outermost layer, and which is Earth's innermost layer?**

- A. Layer 1 is the outermost layer; layer 4 is the innermost layer.
- B. Layer 4 is the outermost layer; layer 1 is the innermost layer.
- C. Layer 3 is the outermost layer; layer 2 is the innermost layer.
- D. Layer 2 is the outermost layer; layer 3 is the innermost layer.

**Correct Answer:** D

**Explanation of Correct Answer:** The correct answer is choice (D) Layer 2 is the outermost layer; layer 3 is the innermost layer. The crust, which is the outermost layer, is made of solid rock with an average density of 3.0 g/cm<sup>3</sup> and a temperature range of 200°C to 400°C. The inner core, which is the innermost layer, is made of solid nickel and iron with an average density of 12.8 g/cm<sup>3</sup> and a temperature range of 5,000°C to 7,000°C. Choices (A), (B), and (C) are incorrect because they do not identify the layers correctly.

### Example Item 3

**DOK Level 3:** This is a DOK level 3 item because the question requires the student to make choices based on a reasoned argument.

**Science Grade 6 Content Domain:** Hydrology and Meteorology

**Standard:** S6E4. Students will understand how the distribution of land and oceans affects climate and weather. b. Relate unequal heating of land and water surfaces to form large global wind systems and weather events such as tornadoes and thunderstorms.

**Standard:** S6CS5. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters. a. Observe and explain how parts are related to other parts in systems such as weather systems, solar systems, and ocean systems including how the output from one part of a system (in the form of material, energy, or information) can become the input to other parts (for example, El Niño's effect on weather).

**A city near the ocean experiences thunderstorms on a frequent basis. Which of these is the BEST explanation for this?**

- A. The cold fronts that form only over coastal areas cause thunderstorms.
- B. The amount of sunshine received by coastal areas causes thunderstorms.
- C. The uneven heating of land and water in coastal areas creates fronts that cause thunderstorms.
- D. The interactions of the waves with the landmass change the air pressure to cause thunderstorms.

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer choice is (C) The uneven heating of land and water in coastal areas creates fronts that cause thunderstorms. There is increased moisture in the air over the city due to the ocean's presence. Breezes created by the uneven heating of land and water can move the moisture-filled air up, creating a front that produces a thunderstorm. Choice (A) is incorrect. Cold fronts and thunderstorms can be found in all areas of the country, not just in coastal ones. Choice (B) is incorrect. The amount of sunshine alone does not cause thunderstorms to form. Choice (D) is incorrect. Wave action does not cause changes in air pressure or formation of cold fronts.

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## SCIENCE CONTENT DESCRIPTION AND ADDITIONAL SAMPLE ITEMS

In this section, you will find information about what to study in order to prepare for the Grade 6 Science EOG assessment. This includes main ideas and important vocabulary words. This section also contains practice questions, with an explanation of the correct answers, and activities that you can do with your classmates or family to prepare for the test.

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

### CONTENT DESCRIPTION

- Investigate how Earth’s surface is formed
- Recognize the significance of water in Earth processes
- Recognize how the distribution of land and oceans affects climate and weather
- Explore scientific views of the Solar System and the universe
- Explain different phenomena based on understandings of the effects of the relative position of the Earth, Moon, and the Sun
- Describe sources of energy, their uses, and conservation

### CHARACTERISTICS OF SCIENCE STANDARDS

- Recognize the importance and value of developing hypotheses that lead to investigations
- Analyze scientific data and use it to support scientific explanations
- Draw conclusions based on analyzed data
- Use appropriate technology to observe phenomena, collect data about the phenomena, and measure physical quantities
- Test a hypothesis, keep records, and use safety procedures and appropriate tools and instruments
- Understand how science knowledge grows and changes
- Create models to explain or represent patterns of change and/or scale
- Communicate scientific ideas orally and in writing
- Organize scientific information in tables, charts, and graphs and identify relationships they reveal
- Question scientific claims and arguments effectively

## Unit 1: Rocks and Minerals

In this geology unit, you will study rocks and minerals. You will learn about the rock cycle and the process of formation of sedimentary, igneous, and metamorphic rocks. You will study the physical properties of minerals and how they are formed.

### KEY TERMS


**Minerals** can be identified by their physical properties, such as crystal structure, streak, one word color, cleavage, luster, and hardness. Minerals form under many conditions. Some molten materials like lava cool and leave iron ore behind. When liquids such as saltwater evaporate, the mineral salt is left behind. When liquids evaporate, such as ground water leaching through a cave, calcium deposits known as stalagmites and stalactites are left behind. Under high temperatures and **pressures**, minerals can be formed, such as when carbon is turned into diamonds deep in the mantle. (S6E5b)

**Rocks** are composed of one or more types of minerals. The **rock cycle** is a slow process through which rocks transform from one type to another. Here is an example of the rock cycle: Magma cools and turns into granite. The granite gets weathered and broken down. Over time it is eroded into the soil. That mixture ends up in a lake and the lake dries up. Over millions of years the pressure of other materials on top of the mixture creates **sedimentary** rock. This sedimentary rock is composed of the broken-down bits of granite and the sediments that the granite settled into. Limestone is an example of a sedimentary rock. (S6E5b, c)

**Igneous** rock is formed when magma or lava cools and turns solid. Because most lava contains silica, a naturally occurring mineral in molten form, most igneous rocks have a lot of silica in them. This tends to form crystals. If you look at a piece of granite, you can see the crystals that formed from the silica as the magma cooled. (S6E5c)

**Metamorphic** rock is formed when existing rock is changed. This change is caused by heat and very high pressure on the rock. Marble is an example of a metamorphic rock. When limestone is subjected to high heat and pressure, it changes into marble. (S6E5c)

### Important Tip

 Fossils are found in rock and are evidence of the environment changing over time. Fossils are found most often in sedimentary rock and rarely in metamorphic rock. Igneous rock does not contain fossils, because this type of rock forms as a result of the hardening of molten material originating deep within the earth. The size of fossils ranges from microscopic to large dinosaurs. Many fossils discovered on the surface of Earth are found in places that, millions of years ago, were lake beds, forests, and jungles. As Earth changed, these environments changed. Many dead organisms were buried by sediment, a process that creates sedimentary and metamorphic rock. Other beds of fossils can be found in areas where the earth was raised up and what was the bottom of bodies of water became hills and mountains. (S6E5c, e, f, g)

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## Sample Items 1–3

### Item 1

**On a trip to a river, a student found a rock. When she observed the rock more closely, she saw small particles, some shell fossils, and large particles.**

**What conclusion can she make about the rock with this information?**

- A. The fossils mean this is most likely a sedimentary rock.
- B. The particle size means this is most likely an igneous rock.
- C. More information is needed because the rock could be either igneous or metamorphic.
- D. More information is needed because the rock could be either metamorphic or sedimentary.

### Item 2

**A group of students observe igneous rocks. Some of the rocks have small, fine grains while other rocks have large, coarse grains.**

**Which statement would MOST LIKELY explain this difference?**

- A. Some of the rocks were exposed to weathering.
- B. Some rocks cooled faster than other rocks when they formed.
- C. The rocks with larger grains were formed from larger sediments.
- D. The rocks with larger grains experienced less pressure during formation.

**Item 3**

A class looks at a sandstone sample from a cliff near a river. The students identify it as a sedimentary rock. Then they discuss what happened to the rock during the rock cycle.

**Student 1:** As hot, liquid rock cooled, it created new crystals. The temperature of the liquid rock determined the size of the minerals.

**Student 2:** Preexisting minerals that became unstable in high heat and pressure changed into new minerals to form the sandstone.

**Student 3:** Deep underground, the existing minerals crystalized and grew larger.

**Student 4:** Pieces of sand accumulated over time. The sand was buried under more layers and eventually compressed into a solid rock.

Which student has the MOST accurate description?

- A. Student 1
- B. Student 2
- C. Student 3
- D. Student 4



## Unit 2: Weathering and Erosion

In this unit, you will learn about soil formation and erosion. You will study methods of conservation. You will look at the processes of chemical and physical weathering and their effects on rocks. You will study nonrenewable and renewable resources and recycling.

### KEY TERMS

**Soil formation** happens when rock particles, minerals, **organic matter**, and water are combined. The amounts of each material can be different in different types of soil. Sandy soil has more rocks and minerals. Soils in swampy areas and rain forests have more broken-down organic matter and less rock particles and minerals. (S6E5f)

Wind, water, and ice all cause **erosion**. Erosion is the movement of soil and rock from one area to another. Humans can affect the rate of erosion. For example, poor farming practices such as overgrazing cattle or plowing too often make it easier for wind and water to erode soil faster. (S6E5f, i)

**Conservation of natural resources** is a term that refers to human practices that allow for careful, appropriate management of Earth's resources by humans. Planting more ground cover and plowing different ways can help control erosion. Many different methods of conservation are used to control erosion. Reshaping land so the ground is not too steep slows down the speed of water on hills. This helps reduce erosion. (S6E5j)

Eroded soil eventually settles into layers known as **horizons**. Horizons differ based on the sources of their soil. (S6E5h)

After the eroded soil has compacted and cemented into rock over millions of years, scientists study it for evidence of geological events such as volcanoes and floods. (S6E5f)

Rocks are broken down into smaller pieces by a process known as **weathering**. When rocks are weathered, the particles created are then moved by erosion. (S6E5d, f)

One form of weathering is known as **chemical weathering**. This happens when chemicals interact with rocks to break them down into smaller pieces. Examples include rocks and minerals that are dissolved in acidic water and the rusting of iron. (S6E5d)

Another form of weathering is known as **physical weathering**. This happens when rocks and minerals are broken down by physical means, such as ice or heat breaking rocks into smaller pieces. (S6E5d)

Any natural substance used by living things can be considered a **natural resource**. For example, minerals, such as copper and iron, are natural resources. Most minerals are **nonrenewable resources**. Nonrenewable resources either can never be replaced or can only be replaced over very long periods of time. Most metals are examples of minerals that cannot be easily replaced. This is why it is important to recycle metals. Other nonrenewable resources include coal, natural gas, oil, and nuclear fuel. (S6E5j, S6E6b)

**Renewable resources** are resources that can be replaced in the space of a human lifetime. Renewable resources include water, sunlight, wind, and plants. (S6E5j, S6E6b)

**Important Tip**

- ✍ Waves can erode shorelines as well as many structures that humans put along coastlines. Erosion would normally carry a certain amount of sediment away from and toward a coastline. Because of human activity, the depth of the water along coastlines can get more shallow as sediment from human activity builds up under the water. The water is still pushed and pulled along the coastlines by oceans and lakes. Because the water has more energy, the water can move more sediment. The water can also create waves that move farther inland. When this happens, the water can erode the soil from the bottom of hills. This can lead to landslides and rockslides. (S6E5i, j)

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## Sample Items 4–6

### Item 4

A group of students visited a farm. The farmland had a gentle slope to it. The farmer had straight rows of cotton planted. As he showed the students the crops, he explained that he was concerned about the amount of soil erosion he was experiencing due to runoff. After returning to school, the class discussed ways to prevent erosion.

Which method would **MOST LIKELY** prevent the **MOST** soil erosion due to runoff?

- A. use crop rotation
- B. plant a wind break
- C. reestablish forest cover
- D. practice contour farming

### Item 5

Students analyze the characteristics of various soil samples. They discover decaying leaves in some of the samples. The students disagree about whether the leaves should be included as part of the sample.

Which statement is the **BEST** reason for including the leaves?

- A. Soil is nonliving, so it should not include plant or animal remains.
- B. Soil is made only of rocks that have been broken down over time.
- C. Soil has different layers, and only the top layer is organic material.
- D. Soil consists of weathered rocks and decomposed organic material.

### Item 6

Students are studying fossils found in different layers of a cliff. The teacher explains that the fossils formed over long periods of time. The fossils found in the upper layers of the cliff show desert plants that hold and retain water. The fossils in the lower layers of the cliff show many tropical rainforest plants such as ferns.

Which conclusion **MOST LIKELY** explains these differences?

- A. The climate in the location was drier during later time periods.
- B. The climate in the location was colder during later time periods.
- C. There was an increasing number of animals bringing new plants into the location during later time periods.
- D. There was an increasing number of plant-eating animals in the location during later time periods.

## Unit 3: Inside the Earth

In this geology unit, you will study Earth’s lithosphere, mantle, and core. You will also study the processes that are involved in the formation and destruction of Earth’s features such as mountains, volcanoes, continents, and oceans. You will learn about the movements of Earth’s tectonic plates and their effect on major geological events.

### KEY TERMS

Earth is made of layers known as the **crust**, **mantle**, and **core**. The crust is the outermost layer—Earth’s surface (including that underneath the oceans). The layer below the crust is the mantle. Below the mantle is Earth’s core, which has two parts: the outer core and the inner core. The **temperature** and **density** increase towards the center of Earth. The layers have different **compositions**: rocky, metallic, solid, liquid, partially solid. (S6E5a)

The top part of the mantle is cooler than the rest, and it is somewhat brittle. This part of the mantle, along with the crust, makes up Earth’s **lithosphere**. The lithosphere is broken into several pieces of different sizes, called **tectonic plates**. Tectonic plates move around on the liquid layers below the lithosphere. These plates form sections of the surface of Earth. Some plates move toward or away from each other. (S6E5a, e)

**Magma** is the molten rock below Earth’s crust. This molten rock is extremely hot. Density and temperature variations cause convection (the process by which matter rises or sinks due to differences in temperature) to occur. This leads to **convection currents** in which the magma moves in a slow, cycling manner below the lithosphere. Earth’s hot, dense core heats the magma. This hotter magma rises toward the lithosphere. As the magma rises, the cooler, denser magma above it sinks toward Earth’s core. The magma that rises then cools and becomes denser as it gets closer to the lithosphere. This cooler, denser magma then sinks as the hotter, less dense magma below it rises. It is this continuous sinking and rising of magma that forms convection currents. (S6E5a)

The area where two or more plates meet is known as a **plate boundary**. A **fault** occurs when Earth’s crust is fractured by the forces that result from the movement of tectonic plates at plate boundaries. Some tectonic plates will push against each other, causing the land to buckle and fold. This process can create hills and mountains. The Himalaya Mountains in Asia formed due to this type of plate interaction. (S6E5e, f)

The process in which one plate slides below the other is known as **subduction**. This may force the plate on top to rise up. A volcano can result if this occurs between a continental plate and an oceanic plate. When subduction happens between two oceanic plates, a trench can result. When tectonic plates slide past each other instead of colliding, earthquakes can result. This is known as a **transform** boundary. (S6E5e, f)

On some areas of Earth, tectonic plates are moving away from each other. This allows magma to rise to the surface as the plates move apart. This magma cools to become new lithosphere. This new rock forms mid-ocean ridges where the plates move apart below the ocean. Along the center of a mid-ocean ridge is a rift valley. Rift valleys can also be found where continental plates are moving apart. Because the crust is thinner at these areas, volcanoes and earthquakes often occur near rift valleys. (S6E5e, f)

The theory of **continental drift** explains that the continents are slowly moving on the surface of Earth. Magma underneath tectonic plates is very dense, so the convection currents within the magma are very slow. The slow movement of the magma drags the plates, causing the plates to gradually change position over millions of years. (S6E5e, f)

When tectonic plates move, sudden shifts can occur at their boundaries.

**Earthquakes** can result from these movements. The energy released as the plates shift creates seismic waves that move through the Earth. A **volcano** is a break in Earth's crust that lets magma come out from below the lithosphere and onto Earth's surface. Volcanoes can be found in the deep ocean and on Earth's surface. Volcanic eruptions are a constructive process, because the cooling magma creates new lithosphere. (S6E5e, f)

### **Important Tip**

✍ The theory of continental drift was created by many scientists. The first scientist to present a more complete hypothesis, which was later confirmed to be a theory, was Alfred Wegener. As evidence that the continents are drifting, he cited findings from the fossil record. There are fossils of the same fern that can be found in South America, Africa, Antarctica, India, and Australia. There are also many fossils of animals that can be found on many different continents. The only way those plants and animals could be found as fossils, on each continent is if those continents were all linked at some point. (S6E5e, f)

## Sample Items 7–9

### Item 7

**A student is making a diagram of Earth’s layers.**

**How should the temperature be labeled on the different layers?**

- A. The crust would be hotter than the mantle.
- B. The outer core would be hotter than the mantle.
- C. The crust would be hotter than the inner core.
- D. The outer core would be hotter than the inner core.

### Item 8

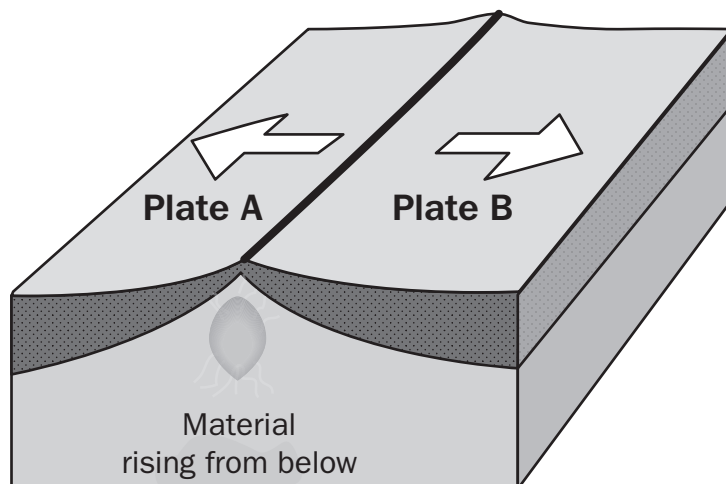
**In the early 1900s, a German scientist named Alfred Wegener hypothesized that the continents move on Earth’s surface. However, he never determined the mechanism by which this movement happens, and his hypothesis was not widely accepted. Later in the 20th century, other scientists determined that the ocean floor moves away from a mid-ocean ridge as magma rises through the rift. This magma solidifies to become new lithosphere.**

**How did this later discovery support Wegener’s hypothesis?**

- A. It showed that rifts are responsible for continental movement.
- B. It showed that if the ocean floor moved, so could other land masses.
- C. It showed that the continents were moving away from mid-ocean ridges.
- D. It showed that mountain building, volcanoes, and earthquakes occur underneath the ocean.

**Item 9**

A group of students create different models showing the movement of lithospheric plates. One student creates this model.



What will **MOST LIKELY** be created if this movement continues?

- A. fault
- B. trench
- C. rift valley
- D. river plain

## Unit 4: Water in Earth's Processes

In this unit, you will study the significance of water in many Earth processes. You will examine the water cycle and its relationship to various atmospheric conditions. You will study the composition, location, and subsurface topography of Earth's oceans. You will learn about the causes of currents, waves, and tides. You will also study the role of the Sun as the ultimate source of wind and water energy, and you will learn how these energy resources are used and conserved.

### KEY TERMS

In addition to being vital to life, water plays a **significant role** in many **Earth processes**. Almost 80% of Earth is covered by water. Salt water makes up 97% of all the water on Earth. Of the remaining water, 2% is frozen in ice caps and glaciers. The remaining 1% is fresh water. This is the only water humans can drink. (S6E3a)

Earth's water is a **natural resource** used by humans. Because fresh water must be used for other human activities like farming, we must practice **conservation** of fresh water. There is a limited supply of fresh water on Earth. In times of drought, where there is little rain, humans need to make plans to conserve water, such as not watering lawns and filling pools. (S6E3a, S6E5j)

The **water cycle** is the process that moves water above, below, and around Earth in a cycle. The water cycle has four main **stages**: evaporation, condensation, precipitation, and collection. The Sun heats up liquid water and causes it to evaporate. The water vapor, which is a gas, then rises up into the atmosphere. When **atmospheric conditions** are right, the water vapor forms clouds as it cools. The clouds then release the water as precipitation, in the form of rain and snow. As the water runs off, it is collected into the ground and bodies of water. The Sun then heats the liquid water up, causing it to evaporate and the water cycle starts all over again. (S6E3b)

The **subsurface topography** of the ocean describes the features of the ocean floor. Much like there are hills and valleys on land, Earth below the sea is **composed** of many different **geological features**. There are flat valleys where sediment is **deposited** as it is **eroded** from rivers. There are mountains on the ocean floor. There are valleys that are not filled in with sediment. There are trenches that are very deep and thousands of kilometers long. There are also active and inactive volcanoes. (S6E5f)


A **current** is the continuous flow of ocean water. Currents can be described as either surface currents or deep-ocean currents. Many forces act on the flow of these currents. Waves, caused by the wind, act on surface currents. Differences in **density**, in temperature, and in **salinity** all have an impact on the flow of deep-ocean currents. (S6E5f)

**Tides** are caused by the gravitational pull from the Sun and Moon on the ocean water. (S6E5d)



**Waves** are created when wind moves across the surface of water and pushes the water. The **energy** from the wind is transferred to the water. Waves can also be created when the energy from the waves created by earthquakes is transmitted to the water in the oceans. (S6E5d)

### **Important Tip**

 The amount of salt in the ocean, also known as salinity, is largely caused by the runoff from rivers and streams that carry minerals into the oceans. Salt is a mineral and can be found in soil and rocks. The runoff of water has carried and continues to carry salt into the ocean. Salt water is dangerous for humans to drink. Our bodies have a safe level of salts in them. When people drink salt water, their body will try to get rid of the excess salt by making more water leave their body, largely through urine. This is why you should never drink salt water when stranded at sea. You may be thirsty, but by drinking salt water, you will make yourself thirstier. Without enough water, your cells and organs cannot function properly. (S6E3)

## Sample Items 10–12

### Item 10

**A student reads an adventure novel. In the novel, a deep-diving research submarine has a problem while in the deepest part of the ocean.**

**Which part of the ocean will the student find listed as the deepest in her science textbook?**

- A. The ocean basin is the deepest point.
- B. The oceanic trench is the deepest point.
- C. The continental rise is the deepest point.
- D. The continental shelf is the deepest point.

### Item 11

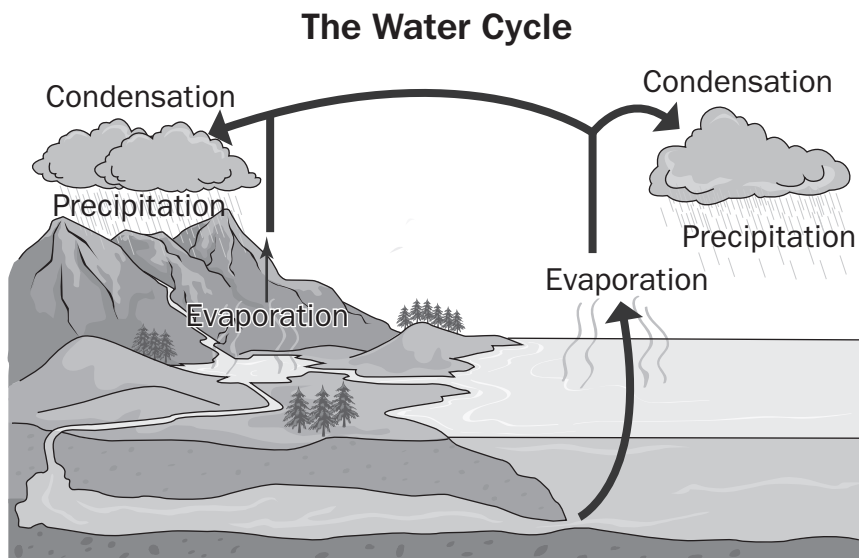
**Passengers on a ship observe that waves are moving in the opposite direction of the wind near the ship. Later, the wind becomes stronger and moves in the same direction as the waves. The captain tells the passengers that the ship is passing through a major current in the ocean.**

**What should the passengers conclude about how the ocean was changed by the wind?**

- A. The waves will get bigger because wind causes waves.
- B. The current will increase because wind causes the current.
- C. The current will decrease because wind works against the current.
- D. The waves will get smaller because wind works against the waves.

**Item 12**

A class created the following diagram of the water cycle to show how the parts of the water cycle work together as a whole.



The students want to add information about the type of precipitation that falls. Which would be **MOST** useful in predicting the type of precipitation that will fall?

- A. whether the precipitation occurs over land or ocean
- B. the air pressure measurement in the precipitation area
- C. the number of droplets in the clouds in the precipitation area
- D. how the temperature changes between the surface and the clouds

## Unit 5: Climate and Weather

In this unit, you will study climate, weather, and weather patterns. You will learn about global winds, air masses, weather fronts, and pressure systems. You will examine tornadoes and hurricanes.

### KEY TERMS

When people talk about **weather**, they are talking about the conditions in the atmosphere at a specific time. Conditions that describe the weather include the temperature, humidity, and amount of wind. For example, the temperature in Georgia on January 5 was 41°F. This is an example of the weather of Georgia. (S6E4)

When people talk about **climate**, they are talking about the average of the conditions in the atmosphere in an area over a long period of time. To compare the two, think about the temperature. In January, Georgia averages a temperature of about 39°F. This is an example of the climate of Georgia. (S6E2c)

As Earth **orbits** around the Sun, Earth **rotates** on its axis. **Earth's axis** tilts toward or away from the Sun. Light from the Sun heats up Earth. When the Northern Hemisphere of Earth is tilted toward the Sun, it receives more direct light from the Sun. At the same time, the Southern Hemisphere receives less direct light from the Sun. Because of this effect, when the Northern Hemisphere is having summer, the Southern Hemisphere is having winter. (S6E2c, S6E4a, S6E6a)

The **formation of weather patterns** is caused by the uneven heating patterns that Earth experiences as it rotates on its tilted axis in its orbit around the Sun. This causes a **transfer of energy** as light from the Sun heats up air. The heated air rises from the equator and moves to cooler regions to the north and south. This effect creates the six convection currents, also known as global winds, which cover Earth. (S6E4b, S6E6a)

The global winds move from the center of Earth to the north and south due in part to the rotation of Earth. The **Coriolis** force causes the winds to shift clockwise and counterclockwise, depending on the hemisphere. An object on the surface of Earth will rotate faster at the equator than at other latitudes. This difference in speeds causes the air masses moving away from the equator to not follow a straight line. Because of this, wind that is moving from the equator up to the North Pole will bend counterclockwise as it moves north, and wind that is moving from the equator to the South Pole will bend clockwise as it moves south. (S6E4b)

Convection is the process by which air or other matter rises or sinks due to differences in temperature and density. Uneven heating of air produces convection currents that push air masses around different regions of Earth. An **air mass** is a large body of air in which temperature and moisture levels are similar throughout. Air masses cover large areas of Earth. Each air mass has different characteristics. Air masses that form over the polar regions are drier and colder. Air masses that form over tropical areas are moister and warmer. (S6E4b)

Areas where two different air masses meet are called **weather fronts**. On a weather map, warm fronts are usually shown as red arcs. These warm fronts replace cold fronts. Cold fronts are usually shown as blue arcs. These cold fronts replace warm fronts. (S6E4b)

Meteorologists often talk about **high- and low-pressure** systems when they talk about weather. In a low-pressure system, the air is pushed toward the center of the system. Because the air has nowhere to go but up, the air rises. This causes water to condense and clouds to form. In a high-pressure system, air moves away from the center and the air is pushed down. This causes clouds to break up and makes for sunnier weather. (S6E4b, c)

**Tornadoes** largely form over flatter areas of earth. When a cold air mass rises at the same time and in the same area as a warm air mass, the two air masses start spinning horizontally. As air masses move up, the spinning air mass is tilted so it is vertical. The spinning air mass touches one end down to Earth and it is a tornado. Most tornadoes in the United States occur east of the Rocky Mountains. Most tornadoes only last a short time. **Hurricanes** only form over oceans that are warmer than 80°F (26.7°C). They are much larger than tornadoes and can last for more than a week. Like a tornado, hurricanes are formed when rotating air masses start to move. Light winds push the rotating air masses. As a hurricane moves over the ocean, it picks up moisture from the ocean. At the same time, the hurricane picks up more energy from the movement of the air masses and the hurricane grows in size. (S6E4b)

Evaporation has an effect on the salinity of a body of water. When water evaporates, it leaves behind the salts that it contains. This causes an increase in the salinity of the body of water. (S6E4c)

### **Important Tip**

✍ When trying to make sense of how weather is created, always remember that the Sun is the source of energy for the whole system. Light energy warms the soil and water on Earth unevenly, and this creates warmer and cooler regions. This causes the movement of air and water throughout regions of Earth. Changes in moisture level and air temperature can affect weather patterns, sometimes producing extreme events such as hurricanes. (S6E4c)

## Sample Items 13–15

### Item 13

Scientists study four areas to analyze the possibility of a future hurricane. They measure the Sea Surface Temperature (SST) in degrees Celsius ( $^{\circ}\text{C}$ ) at the same position in each area once a week for three weeks.

	SST 1	SST 2	SST 3
Area A	26 $^{\circ}\text{C}$	28 $^{\circ}\text{C}$	29 $^{\circ}\text{C}$
Area B	30 $^{\circ}\text{C}$	29 $^{\circ}\text{C}$	27 $^{\circ}\text{C}$
Area C	20 $^{\circ}\text{C}$	21 $^{\circ}\text{C}$	20 $^{\circ}\text{C}$
Area D	8 $^{\circ}\text{C}$	6 $^{\circ}\text{C}$	7 $^{\circ}\text{C}$

Based on the information in the table, which area is **MOST LIKELY** to develop a hurricane in Week 2 or Week 3?

- A. Area A
- B. Area B
- C. Area C
- D. Area D

### Item 14

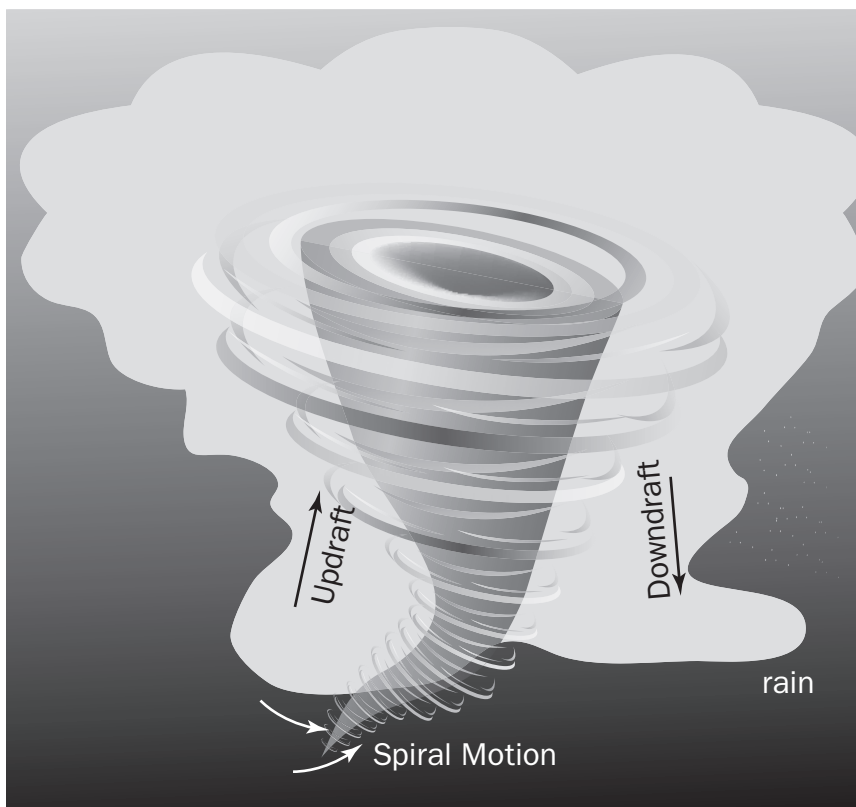
A student is using a scientific website to do research on the unequal heating of land and water surfaces. She discovers that during the day, the land near the Georgia coast gets warmer faster than the nearby water.

Which of these is the **MOST LIKELY** result of this uneven heating?

- A. doldrums
- B. land breeze
- C. sea breeze
- D. trade winds

**Item 15**

Some students have created the following drawing of a tornado. Their teacher has asked them to expand on their drawing by including the type of weather conditions that would need to be present in order for tornadoes to occur.



**What type of conditions should the students describe for a tornado to form as shown in the diagram?**

- A. They should show that it is a sunny but cool day.
- B. They should show a winter storm that includes a lot of snow.
- C. They should show a strong thunderstorm with a lot of wind present.
- D. They should show that the temperature is above twenty-five degrees Celsius.

## Unit 6: Universe and Solar System

In this unit, you will explore the universe and learn about how scientists think it came into being. You will learn about galaxies, constellations, and our own Solar System. You will compare the geocentric and heliocentric models and learn how scientists moved from one to the other as they improved their understanding of our Solar System. You will also learn about the role that the force of gravity plays in shaping the universe as we see it.

### KEY TERMS

The **Big Bang** theory states that the universe started as a result of one giant explosion. According to this theory, the universe started from a single point in time and space. All the matter and energy in the universe was released in this explosion. The universe is constantly expanding away from the single point that is the center of the universe. (S6E1a)

The universe is made up of matter and energy. Most of the matter in the universe is concentrated in large structures called galaxies. Galaxies are composed of stars, gas, dust, dark matter, and solar systems. Our Solar System is contained in a galaxy known as the **Milky Way**. (S6E1b)

Until the mid-1600s, people believed in the **geocentric model**: that Earth (geo) was the center (centric) of the universe. It was believed that the Sun and planets revolved around Earth. People believed this model was correct for a number of reasons. One reason often cited was that the place where one stands does not appear to move while the Sun, Moon, and planets appear to move around Earth. (S6E1a)

The **heliocentric model** replaced the geocentric model. The heliocentric model states that the Sun (helio) is the center (centric) of the universe and that Earth and other planets revolve around the Sun. Scientists used mathematical models to support the heliocentric model. Scientists such as Galileo Galilei used telescopes to confirm the hypotheses predicted by the mathematical models. (S6E1a)

Isaac Newton's mathematical models described the motion of the planets. He showed that the **gravitational force** between the Sun, planets, and other objects in space affected the motion of the planets. Newton's work also explained how **gravitational attraction** between bodies in space affected the movements of those bodies. (S6E1e)

Our Solar System is made up of the Sun and all the objects that orbit the Sun. The largest objects that orbit the Sun are the planets. **Inner planets** are all composed of rock, have few to no moons, and do not have ring systems. The inner planets of the Solar System are Mercury, Venus, Earth, and Mars. (S6E1c)

The **outer planets** refer to the gas giants—planets farther from the Sun that are mostly made up of gases and liquids. The outer planets all have ring systems that orbit around each planet. The outer planets of the Solar System are Jupiter, Saturn, Uranus, and Neptune. (S6E1c)

The Solar System also includes **dwarf planets**. Dwarf planets are round and orbit the Sun. But unlike other planets, dwarf planets cannot clear other objects out of their orbital paths. Dwarf planets are small—some are smaller even than our Moon. Pluto is the best-known dwarf planet.



Between the inner and outer planets is the **asteroid belt**. When the Solar System was formed, bits of solid matter smaller than planets ended up in a zone between the inner and outer planets. This zone is an area where the pull of gravity between the Sun and Jupiter, the closest outer planet to the asteroid belt, is equal. The matter in this zone cannot join together to form planets. (S6E1f)

**Asteroid** is a term used to describe solid material, often made of rock, found in the asteroid belt. The smallest asteroids are the size of small dust. The largest asteroid is about the size of Georgia. (S6E1f)

**Comets** are bodies made of ice and dust that orbit the Sun. Many comets are created beyond the orbit of Jupiter and even outside our Solar System. Most comets have tails, which are created when the ice melts and trails behind the comet as it orbits the Sun. (S6E1f)

A **meteor** is a piece of comet or asteroid that enters Earth's atmosphere. As it falls toward the earth at great speed, the atmosphere creates friction with the meteor. This creates a streak of light and heat. Before a meteor enters Earth's atmosphere, it is known as a **meteoroid**. The remains of a meteor that hits Earth is known as a **meteorite**. (S6E1f)

A **revolution** is the movement of a body in an orbit around another body. Planets in our Solar System revolve around the Sun. A **rotation** is the movement of a body around a central axis. A spinning top rotates around its axis. (S6E1)

### **Important Tip**

✍ Remembering the relative position of each planet in the Solar System can be difficult. People often remember the phrase "My Very Eager Mother Just Served Us Nachos." Each word represents the name of a planet, in order from the Sun and moving outward. "My" represents Mercury, "Very" represents Venus, "Eager" represents Earth, "Mother" represents Mars, "Just" represents Jupiter, "Served" represents Saturn, "Us" represents Uranus, and "Nachos" represents Neptune. (S6E1c)

## Sample Items 16–18

### Item 16

A student creating a science fiction story writes about an asteroid as a small body of rock and metal that has a large dust tail when it orbits the Sun. Another student refers to a science textbook to determine if this is an accurate description.

Which part of the story’s description of asteroids would the science textbook disagree with?

- A. The asteroid orbits the Sun.
- B. The asteroid is a small body.
- C. The asteroid has a large dust tail.
- D. The asteroid is made of rock and metal.

### Item 17

The Sun is the largest object in the Solar System, and the planets and other objects in the Solar System all revolve around it.

What would happen to the orbits of the planets if the amount of gravity produced by the Sun were reduced to almost zero?

- A. The planets would continue to orbit as usual.
- B. The planets would start crashing into each other.
- C. The planets would eventually float off into space.
- D. The planets would stay in a fixed position in space.

**Item 18**

Students created a chart to compare and contrast the planets.

Column A	Column B
Mars	Jupiter
Venus	Saturn
Earth	Uranus
Mercury	Neptune

Which of these **BEST** describes how the planets are grouped?

- A. Column A planets can support life, while Column B planets cannot.
- B. Column A planets are rocky, while Column B planets are mostly gas.
- C. Column A planets are farther from the Sun, while Column B planets are closer to the Sun.
- D. Column A planets have thick atmospheres, while Column B planets have thin atmospheres.

## Unit 7: Earth, Moon, and Sun

In this unit, you will study the effects of the relative position of the Earth, Moon, and Sun on phenomena that we observe and experience here on Earth. You will learn about the phases of the Moon, what causes an eclipse, and the relationship between the tilt of the Earth's axis and the seasons.

### KEY TERMS

The Moon appears to change shape because of its relative position in respect to Earth and the Sun as it orbits Earth. The phases of the Moon are created by how much of the Moon is lit up and visible from Earth. During the new moon phase, the Moon is between Earth and the Sun. This means that sunlight is lighting the side of the Moon facing away from Earth. From our position on Earth, the Moon is not lit. Fourteen days later, the Moon has rotated around Earth. Earth is now between the Sun and the Moon, and light from the Sun lights the side of the Moon facing Earth. This is known as a full moon. Each day within each fourteen-day cycle, a little more or a little less of the Moon is lit up. (S6E2a)


As Earth orbits around the Sun, Earth rotates on its axis. The **tilt of Earth's axis** is toward or away from the Sun. Light from the Sun heats up Earth. When the Northern Hemisphere of Earth is tilted toward the Sun, it receives more direct light from the Sun. At the same time, the Southern Hemisphere receives less direct light from the Sun. Because of this effect, when the Northern Hemisphere is having summer, the Southern Hemisphere is having winter. (S6E2b)

The gravity of the Moon pulls on Earth. As the Moon rotates around Earth, the gravity from the Moon pulls on the water on the oceans. This causes water in oceans, and other bodies of water like lakes, to rise and fall. People refer to the rising and falling of bodies of water as a result of this effect as tides. (S6E1d)

A **lunar eclipse** happens when the Moon passes directly behind Earth and into the shadow of Earth created by the Sun. Lunar eclipses can last for a couple hours and are safe to look at. (S6E2b)

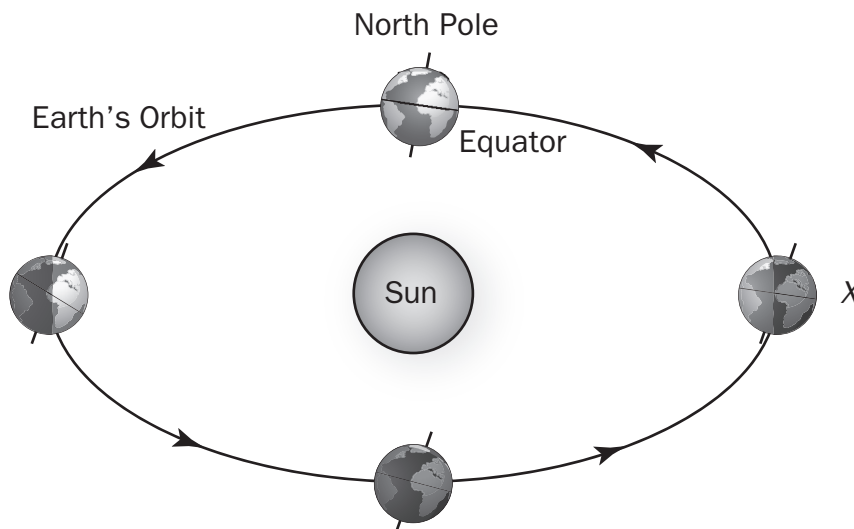
A **solar eclipse** happens when the Moon passes between Earth and the Sun. Solar eclipses only last a few minutes. A solar eclipse will cause the temperature of Earth to get colder as the eclipse passes through an area. Solar eclipses are not safe to look at unless you are wearing the proper protective gear or equipment. (S6E2b)

### Important Tip

 During the phases of the Moon, the Moon is said to be waxing or waning. This refers to the increase or decrease of the amount of area of the Moon being lit by sunlight. The term “wax” comes from “to grow.” A waxing moon is a Moon whose lit portion is increasing each day until the Moon is fully lit. The term “wane” comes from “to be less than.” A waning moon is a Moon whose lit portion is decreasing each day until the Moon is completely unlit. (S6E2a)

**Sample Items 19–21****Item 19**

A class is creating a series of posters to share what they have learned about Earth and the Solar System.

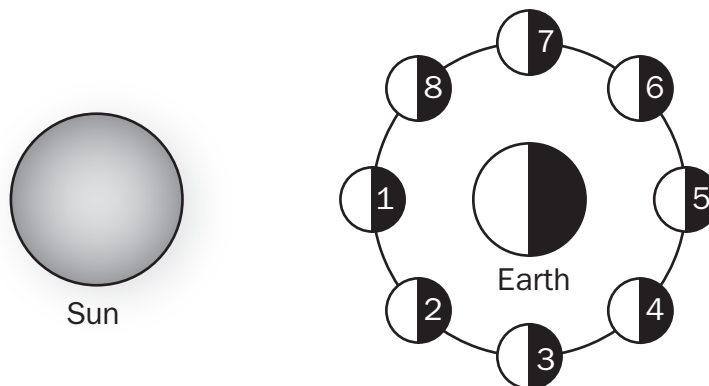


According to the "X" on the diagram, what season is currently being experienced by the Northern Hemisphere, and how much light is it receiving?

- A. It is fall and there is a lot of light.
- B. It is summer and there is little light.
- C. It is spring and there is a lot of light.
- D. It is winter and there is very little light.

**Item 20**

The diagram shows the phases of the Moon as they are seen from the surface of Earth.

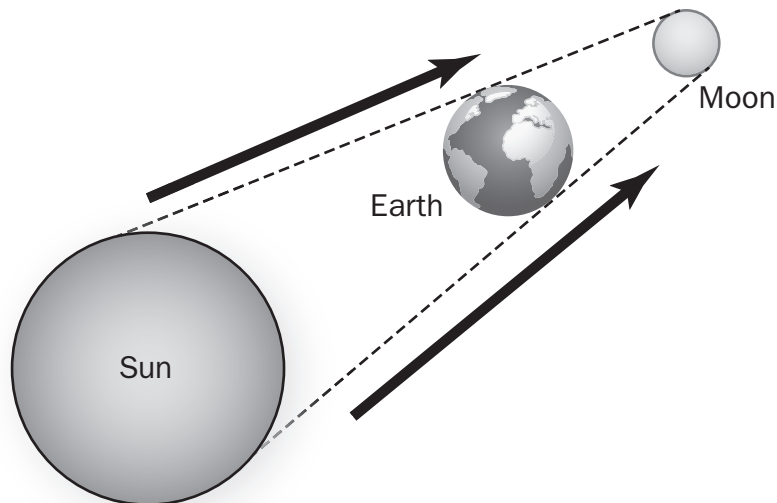


Based upon this diagram, which numbers represent the first and third quarter phases of the Moon?

- A. Numbers 1 and 5
- B. Numbers 3 and 5
- C. Numbers 3 and 7
- D. Numbers 5 and 7

**Item 21**

Four students used the diagram to study the relationships in the Earth-Moon-Sun system.



Each student drew a conclusion based on the diagram.

**Student 1: The Moon is passing through Earth's shadow.**

**Student 2: The Moon is blocking the light from the Sun.**

**Student 3: The Moon will be in an eclipse.**

**Student 4: The Sun will not be visible from Earth.**

**Which students are correct?**

- A. Student 1 and Student 2
- B. Student 2 and Student 3
- C. Student 1 and Student 3
- D. Student 2 and Student 4

## Unit 8: Human Impact

In this unit, you will examine nonrenewable and renewable resources and energy sources on Earth. You will learn about fossil fuels and biomass. You will compare solar, wind, and thermal energy. You will evaluate conservation strategies.

### KEY TERMS

**Nonrenewable resources** are resources that can only be replaced over very long periods of time. Oil and coal are examples of nonrenewable resources. Millions of years ago the remains of marine plants, animals, and microorganisms became compressed and slowly turned into oil and coal. (S6E6b)

**Renewable resources** are resources that can be replaced in the space of a human lifetime. Renewable resources include sunlight, wind power, and plants. (S6E6b)

The Sun is the major source for all **energy sources** on Earth. Light from the Sun provides the energy for the wind systems that move air around Earth. Light from the Sun also provides the energy for the systems that move water around Earth. In addition, energy from the Sun is used by plants to power processes that produce the substances necessary for growth. (S6E6a)

Millions of years ago, plants began converting energy from the Sun into their own energy. Other organisms ate some of those plants. When those plants and animals became buried under rock, they eventually became oil and coal. Thus, the energy from oil and coal started as energy from the Sun. Fuels that come from ancient plants and animals are known as **fossil fuels**. Fossil fuels contain a lot of carbon. Because fossil fuels contain a lot of carbon, along with hydrogen and oxygen, they burn easily. The three major fossil fuels are oil, coal, and natural gas. Because of the millions of years it takes for fossil fuels to form, they are considered nonrenewable. (S6E6a)

Fuel that is produced from **biomass** is a renewable resource. Biomass refers to biological energy sources such as plant materials, manure, sawdust, paper waste, and other organic materials. For example, corn can be converted into ethanol, a type of alcohol that can be used as fuel. Biodiesel is made from old frying oil and is used in vehicles that burn diesel, a fuel that is usually made from fossil fuels. (S6E5j, S6E6b)

**Solar** energy is energy that Earth receives from the Sun. Scientists are working to develop ways to capture more of this energy. Buildings in colder areas can be designed to trap more solar energy. In areas that are warmer, buildings can be designed to reduce the amount of solar energy that heats the buildings. Because the building in a colder area would retain more heat from the Sun, less energy from electrical and gas sources would be needed to keep it warm. The building in the warmer area would retain less heat from the Sun, and so less energy would be needed to cool it. Such **conservation strategies**, which help to preserve and protect resources, reduce the amount of energy needed to keep the buildings at comfortable temperatures. (S6E6a, b)



**Hydroelectric** energy is another source of renewable energy. Dams are built on large rivers to slow the flow of water and create lakes, and water is allowed to flow out at the bottom of the dam. The energy of the moving water turns turbines that are connected to generators which convert this into electrical energy. The advantage of hydroelectric power generation is that it uses a renewable resource to produce electricity. A disadvantage is that lakes were created in places where people lived, so they had to be moved to other locations. Another disadvantage is that sometimes fish would use places further up the river as places to reproduce and they either died out or the dams had to have special structures built to allow the fish to go upstream past the dam. (S6E6a, b)

**Wind** energy is another source of renewable energy. For hundreds of years, humans have used windmills to capture energy from the wind to power grain mills. As humans rely more on electrical energy, they have started to generate electricity from wind energy using wind turbines (mechanical windmills). Wind farms are areas where many wind turbines are set up to generate electricity. They are often built on coastland, where there is an abundance of wind, and on farmland. The advantage of wind turbines is that they use a renewable resource to produce electricity. But there are also disadvantages. Birds and bats can die after flying into a turbine's blades. Wind turbines are also loud, contributing to noise pollution where they are located. (S6E6a, b)

**Geothermal** energy is a source of renewable energy that is extracted from the ground. In areas of the world where the heat from Earth is closer to the surface, machinery is built that helps pull up heat from below the surface of Earth. The heat is brought up to a turbine where the heat helps spin a turbine. The turbine spins a generator and electricity is generated. (S6E6b)

### **Important Tip**

✍ When thinking of ways people use conservation strategies and develop new energy sources, it is always good to remember that there are always advantages and disadvantages to everything. Fossil fuels have the advantage of having a high-energy capacity. The disadvantage is that fossil fuels are nonrenewable, and they produce a lot of pollution that affects environments. Solar energy has the advantage of being renewable and in great supply, but the disadvantage is that the Sun doesn't always shine. Fuel from biomasses has the advantage of being renewable and a great way to recycle materials. The disadvantage is that fuels that come from biomasses tend to have a lower-energy capacity. (S6E5j, S6E6a,b)

## Sample Items 22–24

### Item 22

Students made a list of energy resources available in their state.

Energy Resources
Coal
Wind
Oil
Solar
Biomass
Natural gas
Hydroelectric

They want to sort the resources into those that are easily replaced and those that are not. Which question will **BEST** help them sort the resources?

- A. Are they unlimited?
- B. Are they renewable?
- C. Are they pollution-free?
- D. Are they naturally occurring?

**Item 23**

Scientists are interested in the influence of the Sun on Earth. They study the temperatures of the air and ground in the larger geographic area surrounding a wind farm (an area with many windmills used to generate electricity). Earlier in the year, there was a 20 degree difference between the temperatures on the ground and the temperatures in the air. However, their recent measurements show only a 10 degree difference.

What might this **MOST LIKELY** mean for the local winds that power the farm?

- A. The local winds will stop moving because the Sun is no longer fueling the wind.
- B. The local winds will be stronger because the temperature difference has dropped.
- C. The local winds will increase in intensity because there is unequal heating of the land and air.
- D. The local winds will decrease in intensity because the Sun is heating the ground and the air more uniformly.

**Item 24**

**A new electricity company claims that the electricity it provides is generated completely through the use of renewable resources. However, a visit to the company's plant reveals that it uses coal-powered generators to power the machines that extract geothermal energy from the ground.**

**Which of these is the BEST reason why an environmental group might dispute the electricity company's claims?**

- A.** Geothermal energy is nonrenewable. Therefore, the company cannot claim it uses only renewable resources to generate electricity.
- B.** Coal is a nonrenewable resource. Therefore, the company cannot claim it uses only renewable resources to generate electricity.
- C.** Electricity can only be generated using nonrenewable resources. Therefore, the company cannot claim it uses only renewable resources.
- D.** Electricity can only be generated using renewable resources. Therefore, the company cannot be producing electricity if it uses coal-powered generators.

## SCIENCE ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
1	S6E5c	S6Cs9a	2	A	The correct answer is choice (A) The fossils mean this is most likely a sedimentary rock. Igneous rocks are rocks formed from melted rock, so there would be no fossils. Choice (B) is incorrect as igneous rocks do not contain fossils or sediments. Choices (C) and (D) are incorrect as metamorphic rocks normally do not contain fossils or sediment, and they do not have different sizes of particles.
2	S6E5b	S6CS3d	2	B	The correct answer is choice (B) Some rocks cooled faster than other rocks when they formed. Igneous rocks are formed when molten rock solidifies. The size of the crystals in the rock depends on how quickly the molten lava cools. When the rock cools slowly, it creates larger crystals. Choice (A) is incorrect because weathering would not influence the grain size. The grain size was determined when the rock was formed. Choice (C) is incorrect because igneous rocks are not formed from sediment. Choice (D) is incorrect because the size of the crystal grains is related only to the time it takes to form, not the pressure.
3	S6E5c	S6CS3d	2	D	The correct answer is choice (D) Student 4. Sedimentary rocks are often formed when pieces of transported rocks are deposited in an area. They build up in layers and then are compacted under pressure until they are cemented together to form a new rock. Choices (A) and (C) are incorrect. They describe the formation of an igneous rock. Choice (B) is incorrect. It describes the creation of a metamorphic rock.

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
4	S6E5i	S6CS3d	2	D	<p>The correct answer is choice (D) practice contour farming. In traditional farming, crops are planted in straight rows. In contour farming, the land is ploughed following the elevation, or contour lines. This helps to prevent runoff of water during heavy rains. Water runoff is a factor in soil erosion. Choice (A) is incorrect. Crop rotation is important for the health of the soil, but it will not prevent as much runoff. Choice (B) is incorrect. Planting a wind break will help prevent soil erosion from the wind, but it will not prevent as much water runoff. Choice (C) is incorrect. Reestablishing forest cover can prevent wind erosion, but it will not help as much with water runoff.</p>
5	S6E5h	S6CS9a	2	D	<p>The correct answer is choice (D) Soil consists of weathered rocks and decomposed organic material. Soil is composed of rock that has been weathered into particles and decomposed organic material such as leaves. Different types of soil have different mixtures of rock and organic material. Choice (A) is incorrect. While soil is nonliving, it contains the decomposed remains of plants and animals that were once living. Choice (B) is incorrect because soil can also contain organic materials. Choice (C) is incorrect. Soil consists of different layers, but organic material may be found in all layers.</p>
6	S6E5g	S6CS3d	2	A	<p>The correct answer is choice (A) The climate in the location was drier during later time periods. The fossil record can show evidence of the changing surface and climate of Earth. These fossils appear to indicate that the climate changed from one that supported tropical plants to a drier climate. Choice (B) is incorrect because the climate was drier, shown by the desert plant fossils. Choices (C) and (D) are incorrect because the fossil record in the area does not give evidence about animals.</p>

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
7	S6E5a	S6CS5a	2	B	The correct answer is choice (B) The outer core would be hotter than the mantle. The temperature of each Earth layer increases toward the center. Choice (A) and (C) are incorrect because the crust has the lowest temperature. Choice (D) is incorrect because the inner core has the highest temperature.
8	S6E5f	S6CS8c	2	B	The correct answer is choice (B) It showed that if the ocean floor moved, so could other land masses. The evidence revealed that large land masses can move, giving support to Wegener's idea. Choice (A) is incorrect because Wegener's hypothesis did not involve rifting. Choice (C) is incorrect because Wegener's hypothesis did not concern mid-ocean ridges. Choice (D) is incorrect because the discovery did not have anything to do with these geological features or events.
9	S6E5e	S6CS5b	2	C	The correct answer is choice (C) rift valley. The diagram shows a divergent boundary where two plates are separating. At the boundary, magma from the mantle is pushed up, creating new crust. The movement of plates as they spread apart could create a rift valley. Choice (A) is incorrect, as faults form when two plates slide next to each other. Choice (B) is incorrect because a trench is a deeper area that forms when one plate slides under another. Choice (D) is incorrect because a river plain is a large flat area.
10	S6E3c	S6CS3d	2	B	The correct answer is choice (B) The oceanic trench is the deepest point. When one tectonic plate slips below another, it creates a large trench similar to a valley on land. Choice (A) is incorrect. The ocean basin is above a trench. Choice (C) is incorrect. The continental rise moves upward toward the surface. Choice (D) is incorrect. The continental shelf is the shallowest part of the ocean floor.

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
11	S6E3d	S6CS3d	2	A	<p>The correct answer choice is (A) The waves will get bigger because the wind causes waves. Wind blowing over the water pushes water at the surface, and waves begin to form. Choices (B) and (C) are incorrect because wind does not cause ocean currents; they are caused by temperature and salinity differences between areas and depths in the ocean. Choice (D) is incorrect because wind moving in the same direction as waves works to build them, not reduce them.</p>
12	S6E3b	S6CS5a	2	D	<p>The correct answer is choice (D) how the temperature changes between the surface and the clouds. This is the temperature of the atmosphere at different heights. The combination of the temperature and the amount of relative humidity in certain zones are the two most important factors in determining the type of precipitation that falls. Choice (A) is incorrect. While certain geographic areas are more prone to certain types of weather, this is a result of the temperature in the atmosphere rather than the geographic location. Choice (B) is incorrect. Low-pressure systems are generally associated with rain, but they do not determine the <i>type</i> of precipitation that falls. Choice (C) is incorrect. The number of droplets will determine <i>if</i> precipitation falls, but it does not influence the <i>type</i> of precipitation that falls.</p>



Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
13	S6E4c	S6CS6c	3	A	The correct answer is choice (A) Area A. A hurricane needs energy to form, and the data show the temperature of the sea trending upward. Under the proper conditions, this causes the water to evaporate. This cools the surface ocean temperature and releases heat energy into the air, which is then stored as latent heat. Choices (B) and (C) are incorrect, as the water temperature remains consistent. Choice (D) is incorrect, as the water temperatures are too cool to form a hurricane.
14	S6E4a	C6CS5a	2	C	The correct answer is choice (C) sea breeze. Land and sea breezes are formed from the uneven heating of land and sea. On warm, sunny days, the temperature of the land is often higher than the temperature of the water. Pressure differences raise the warm air from the land, causing air to sink over the ocean. This cycle of moving air causes the sea breeze. Choices (A) and (D) are incorrect because doldrums and trade winds do not occur near the shore. Choice (B) is incorrect because land breezes occur when the water is warmer than the land.

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
15	S6E4b	S6CS5a	2	C	<p>The correct answer is choice (C) They should show a strong thunderstorm with a lot of wind present. The fronts that bring strong thunderstorms create the movement of air needed for tornadoes to form. Choice (A) is incorrect because on sunny days, there is little movement of air, and it is fairly uniform in terms of temperature. Choice (B) is incorrect because in order for it to snow, the lower atmosphere needs to be cooler than the upper atmosphere, which is the opposite of what is needed for tornadoes to form. Choice (D) is incorrect because even though the air temperature may be very warm, there is no guarantee of a difference in air temperature between the upper and lower atmospheres or that the cold front needed to create the thunderstorm will be present.</p>
16	S6E1f	S6CS7a	2	C	<p>The correct answer is choice (C) The asteroid has a large dust tail. Asteroids do not have tails or comas. A comet is a body that orbits the Sun, displaying a coma when it is close enough to the Sun. Choices (A), (B), and (D) are properties of asteroids.</p>
17	S6E1e	S6CS5a	3	C	<p>The correct answer is choice (C) The planets would eventually float off into space. Without the Sun's gravity, there would be nothing to hold the planets in their orbits, so they would travel off into space. Choice (A) is incorrect because in order to remain in orbit around the Sun, there would need to be gravity. Choice (B) is incorrect because each planet is currently moving at a different rate, so the likelihood of crashing into another is fairly small. Choice (D) is incorrect because Newton's Law says, an object in motion will stay in motion, so the planets will not just stand still.</p>

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
18	S6E1c	S6CS6c	2	B	The correct answer is choice (B) Column A planets are rocky, while Column B planets are mostly gas. "Rocky" and "Gaseous" describe the groupings. Mars, Venus, Earth, and Mercury are inner planets with rocky surfaces. The outer planets are all gaseous. Choice (A) is incorrect. No life has been detected on Mars, Venus, or Mercury. Choice (C) is incorrect, as the planets in Column A are closest to the Sun. Choice (D) is incorrect as there are planets with thick and thin atmospheres in both columns.
19	S6E2c	S6CS3d	3	D	The correct answer is choice (D) It is winter and there is very little light. The position of Earth puts it closer to the Sun, but the Northern Hemisphere is tilted away from it, thereby receiving less light. Choice (A) is incorrect because in the fall, the amount of light received is decreasing, and the position of Earth on the diagram is incorrect. Choice (B) is incorrect because in the summer, the Northern Hemisphere receives a lot of light from the Sun. Choice (C) is incorrect because while the amount of light in spring is increasing, the position of Earth is incorrect.
20	S6E2a	S6CS3d	1	C	The correct answer is choice (C) Numbers 3 and 7. As the Moon moves through its cycle, the first and third quarters appear when the Sun, Earth, and Moon form 90-degree angles with each other. Choice (A) is incorrect because based on their positioning, Number 1 is the new moon, and Number 5 is the full moon. Choice (B) is incorrect because while Number 3 is the first quarter, Number 5 is receiving too much light to be the quarter moon, so it is the full moon phase. Choice (D) is incorrect because Number 5 is getting a lot of light, so it must be the full moon, while Number 7 is a third quarter moon.

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
21	S6E2b	S6CS5a	3	C	The correct answer is choice (C) Student 1 and Student 3. The diagram illustrates a lunar eclipse. During a lunar eclipse, the Moon passes into Earth's shadow, impairing the visibility of part or all of the Moon from Earth. Choices (A), (B), and (D) are incorrect. This diagram describes a lunar, not a solar, eclipse. A solar eclipse occurs when the Moon is blocking light from the Sun, so it is not visible from Earth.
22	S6E6b	S6CS6c	2	B	The correct answer is choice (B) Are they renewable? Renewable energy resources are resources that are easily replaced. These resources include hydroelectric, solar, biomass, and wind. Choice (A) is incorrect. Biomass is limited. However, it can be replenished at a sustainable level. Choice (C) is incorrect. Both renewable and nonrenewable resources have the potential to cause pollution. Choice (D) is incorrect because both renewable and nonrenewable resources can be natural resources.
23	S6E6a	S6CS4b	3	D	The correct answer is choice (D) The local winds will decrease in intensity because the Sun is heating the ground and the air more uniformly. Choice (A) is incorrect. As long as a discrepancy exists, the local winds will be produced. Choice (B) is incorrect. It will decrease the wind intensity. Choice (C) is incorrect. Since the temperature difference has decreased, the local winds will also decrease in intensity.

Item	Standard/ Element	Characteristics of Science	DOK Level	Correct Answer	Explanation
24	S6E6b	S6CS7a	2	B	The correct answer is choice (B) Coal is a nonrenewable resource. Therefore, the company cannot claim it uses only renewable resources to generate electricity. The company is not relying on only renewable resources. Choice (A) is incorrect because geothermal energy is renewable. Coal is the resource that is nonrenewable. Choices (C) and (D) are incorrect because electricity can be generated using both renewable and nonrenewable resources.

## ACTIVITY

The following activity develops skills in Unit 7: Earth, Moon, and Sun.

**Standards:** S6E2a, S6E2b

### Earth, Moon, and Sun

#### Part One:

Before beginning, gather the following materials:

- small ball, such as a tennis ball
- desk light or flashlight
- swivel chair

To understand moon phases, work with friends or family.

- Ask one individual to sit in the swivel chair, explaining that this represents our view from Earth.
- Ask another individual to hold a ball at different positions around the chair, explaining that this person represents the Moon.
- With the lights off or dimmed, have a third individual stand in a fixed position on the outside of the circle with the light to represent the Sun.
- Everyone should exchange positions and have an opportunity to see the views from Earth.
- Record your observations.

#### Part Two:

For the second half of the activity, gather the following materials:

- foam ball on a stick
- desk light or flashlight

To understand solar and lunar eclipses, work with a friend or a family member.

- The foam ball on a stick represents the Moon, and the flashlight represents the Sun.
- Your heads will represent Earth. Have one individual stand, holding the stick with the foam ball in front of his or her face.
- The individual holding the flashlight should stand behind the individual shining the light toward the ball. The light should be positioned so the head is blocking the light.
- Draw what you observe.
- Experiment with different placements of Earth, the Sun, and the Moon, predicting what you will observe as the objects change position.

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Discuss the following questions after completion of the entire activity:

- *How did the phases of the Moon change?*
- *How was your model alike and different from the way the phases of the Moon are made?*
- *How did the alignment of the models of the Earth, the Moon, and the Sun affect what was observed in the second half of the activity?*
- *How was your model alike and different from the way the solar and lunar eclipses are made?*

## ACTIVITY

The following activity develops skills in Unit 2: Weathering and Erosion.

**Standards:** S6E5b, S6E5d, S6E5f, S6E5h, S6E5j

### Erosion and Soil Composition

#### Part One:

Before beginning, gather the following materials:

- dry sand
- aluminum pan
- materials to use for testing methods to resist erosion, such as sticks, small branches of leaves, blocks, mesh, and rocks or pebbles

Work to complete a model.

- Partly fill the pan with sand so that it is up to the pan's rim at one end and almost down to the bottom at the other end.
- Gently blow across from the low-sand end toward the high-sand end. Observe what happens, and predict what happens when wind blows across the sand. This represents strong winds blowing ashore over a beach.
- *Where did the sand move? Did it move evenly? What happens when you blow harder?*

Some beach communities encourage residents to donate used holiday trees to serve as wind breaks to help prevent sand erosion.

- Place small branches of leaves on the edge of your pans and repeat the experiment.
- *How did the trees change what happened to the sand?*
- Research different soil conservation practices such as no-till farming, terrace farming, contour farming, and planting windbreaks and forest cover.
- Create a poster to share how each technique works.

Answer the following questions after completion of the entire activity:

- *What effect does the wind play on sand formations?*
- *What methods were used to reduce erosion in your model? Were they effective?*
- *What methods could humans use to reduce soil erosion?*

#### Part Two:

For the second half of the activity, gather the following materials:

- clear container with lid (6–20 fl oz size)
- soil sample
- clock
- water
- tablespoon



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Fill the container two-thirds full with water and add two heaping tablespoons of soil.

- Seal the container and shake it for a minute.
- Afterward, place the container on a flat surface so the soil components can settle out.
- After 5 minutes, observe and record what you see in the soil sample.

Note: As the soil settles in the container, heavier materials will settle toward the bottom and lighter materials will settle toward the top. Look for small bits of rock at the bottom, then sand, clay, loam, and other lighter materials at the top.

If different soil types such as topsoil and potting soil are available, you may wish to test different samples and determine where in Georgia the samples came from based on the composition of the soil.

- For example, sandier soils from coastal areas, Georgia red clay from many areas of the state, rockier soils from the mountain regions, etc.

Answer the following questions after completion of the activity:

- *What components of soil were visible in your soil sample?*
- *Based on the composition of your soil sample, what properties do you think the soil has?*
- *Compare different soil samples. How are the samples alike and different?*

## **SOCIAL STUDIES**

### **DESCRIPTION OF TEST FORMAT AND ORGANIZATION**

The Grade 6 Social Studies EOG assessment has a total of 75 selected-response (multiple-choice) items.

The test will be given in two sections.

- You may have up to 70 minutes per section to complete Sections 1 and 2.
- You will have about 90 to 140 minutes for the complete Social Studies EOG assessment.

### **CONTENT**

The Grade 6 Social Studies EOG assessment will measure the Grade 6 Social Studies standards that are described at [www.georgiastandards.org](http://www.georgiastandards.org).

The content of the assessment covers standards that are reported under these domains:

- History
- Geography
- Government and Civics
- Economics

### **ITEM TYPES**

The Social Studies portion of the Grade 6 EOG assessment consists of selected-response (multiple-choice) items only.

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## SOCIAL STUDIES DEPTH OF KNOWLEDGE EXAMPLE ITEMS

Example items are representative of applicable DOK levels across various Grade 6 Social Studies content domains.

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

### Example Item 1

**DOK Level 1:** This is a DOK level 1 item because it asks students to recall specific information.

**Social Studies Grade 6 Content Domain:** History

**Standard:** SS6H1. The student will describe the impact of European contact on Latin America. a. Describe the encounter and consequences of the conflict between the Spanish and the Aztecs and Incas and the roles of Cortés, Montezuma, Pizarro, and Atahualpa.

**Who was the leader of the Aztecs when the Spanish first arrived in Mexico?**

- A. Atahualpa
- B. Cortés
- C. Montezuma
- D. Pizarro

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer is choice (C) Montezuma. When the Spanish first arrived in Mexico, Montezuma was the leader of the Aztecs. Choice (A) is incorrect because Atahualpa was a leader of the Incas. Choices (B) and (D) are incorrect because Cortés and Pizarro were Spanish conquistadors, not Aztec leaders.

### Example Item 2

**DOK Level 2:** This is a DOK level 2 item because it asks students to engage in simple reasoning to compare and contrast systems of government.

**Social Studies Grade 6 Content Domain:** Government/Civics

**Standard:** SS6CG1. The student will compare and contrast various forms of government. c. Describe the two predominate forms of democratic governments: parliamentary and presidential.

**Which is a way that parliamentary systems differ from presidential systems?**

- A. In parliamentary systems, the chief executive is advised by cabinet officials.
- B. In parliamentary systems, the powers of government are separated between branches.
- C. In parliamentary systems, the legislature has the power to select the head of government.
- D. In parliamentary systems, the democratic process is used to select the leader of the nation.

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer is choice (C) In parliamentary systems, the legislature has the power to select the head of government. Choices (A) and (B) are incorrect because they refer to characteristics shared by both parliamentary and presidential systems. Choice (D) is incorrect because in both systems the people vote for leaders directly or indirectly.

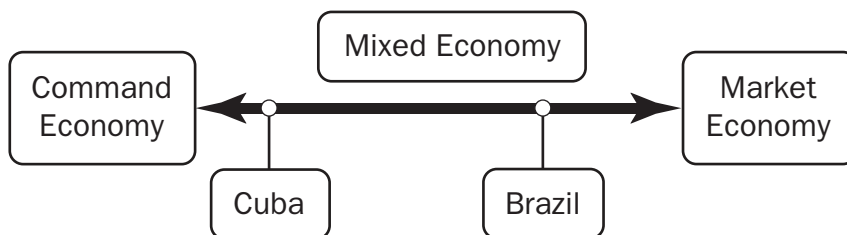
### Example Item 3

**DOK Level 3:** This is a DOK level 3 item because it asks students to engage in complex reasoning to make a prediction based on knowledge drawn from multiple sources.

**Social Studies Grade 6 Content Domain:** Economics

**Standard:** SS6E1. The student will analyze different economic systems. c. Compare and contrast the basic types of economic systems found in Canada, Cuba, and Brazil.

**Study the diagram.**



**Which action would do the MOST to make Cuba's economic system more like Brazil's?**

- A. increasing incentives to trade
- B. decreasing personal income tax rates
- C. decreasing government involvement in key industries
- D. increasing per capita income by not allowing a free market

**Correct Answer:** C

**Explanation of Correct Answer:** The correct answer is choice (C) decreasing government involvement in key industries. In a pure command economy, the government makes every important economic decision, while in a pure market economy, these decisions are instead made through the interaction of market forces such as supply and demand. Choices (A) and (B) are both incorrect because these actions alone do not define which type of economy a country has. Choice (D) is incorrect because a country that does not allow a free market is behaving more like a command economy.

## **SOCIAL STUDIES CONTENT DESCRIPTION AND ADDITIONAL SAMPLE ITEMS**

In this section, you will find information about what to study in order to prepare for the Grade 6 Social Studies EOG assessment. This includes key terms and important vocabulary words. This section also contains practice questions, with an explanation of the correct answers, and activities that you can do with your classmates or family to prepare for the test.

The organization of Social Studies units in this guide is based on Frameworks developed by the Curriculum and Instruction Division of the Georgia Department of Education. Unit 1 focuses on over-arching themes and concepts, rather than specific standards. Unit 1 will, therefore, not be a part of the End-of-Grade assessment. The Social Studies section begins with Unit 2. These Frameworks can be accessed at <https://www.georgiastandards.org/Frameworks/Pages/BrowseFrameworks/socialstudies6-8.aspx>.

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

### **CONTENT DESCRIPTION**

The four domains (History, Geography, Government/Civics, and Economics) are fully integrated.

Some of the topics you will study in this guide are the following:

- The world outside of the United States
- The cultures, geographies, economics, and histories of Latin America, the Caribbean, Canada, Europe, and Australia
- The correlation between human and physical geography of each region
- Reasons for population distribution in each region and the effect of geography on culture
- Types of governments that are different from the United States
- How governments distribute power and how citizens participate in the political process
- The economies of each region and their effectiveness in relation to the standard of living
- Effectiveness of investments in human capital and capital goods
- Events of each region's past, beginning with European exploration up until the present

## Unit 2: Europe Today

In this unit, you will examine Europe and all of its diversity. You will study the geography and history of some European nations. You will look at individual countries and learn about their forms of government.

### KEY IDEA

#### Europe's Diversity

The continent of Europe is home to about 50 nations. Although they share much with one another, each also has its own rich culture and history.

Europe's major religions are Judaism, Christianity, and Islam. All three of them share some beliefs, traditions, and scriptures. All three believe in one god and all can trace their roots back to Abraham.

There are 24 officially recognized languages in Europe. The most common is English. However, about 60 additional languages can be found in various regions. The various languages spoken by immigrants raise that number even higher.

Throughout most of Europe, the literacy rate is 98% or higher. While slightly lower in some nations, nowhere in Europe does it fall below 95%. (G11a, b, c)

### KEY TERMS

**The Alps:** A European mountain range that runs from the French Mediterranean region through the countries of France, Switzerland, and Italy. The range also reaches into Austria, Slovenia, and Croatia. (G8a)

**Autocracy:** A system in which all of the power is held by one person. In this system of government, the ruler has absolute or unlimited power. (CG4b)

**Belgium:** A Western European country bordered by the Netherlands, Germany, Luxembourg, France, and the North Sea. (G8b)

**Cold War:** Name for the military and political rivalry that existed between the United States and the Soviet Union. It began at the end of World War II in 1945. It ended with the collapse of the Soviet Union in 1990. (H7b)

**Danube River:** The second longest river in Europe. It runs through 10 countries, including Austria, Bulgaria, Germany, and Hungary. (G8a)

**Democracy:** A system of government in which a nation's citizens vote for their leaders. (CG4b)

**English Channel:** The part of the Atlantic Ocean that separates northern France from southern England. It is about 350 miles long and varies between 20 and 112 miles wide. (G8a)

**European Plain:** A plain that stretches from the Pyrenees Mountains on the Spanish-French border to the Ural Mountains in Russia. (G8a)

**European Union (EU):** An economic and political partnership among a group of European countries that share a single currency (the euro). (CG5b)

**Federal system of government:** A system in which individual states share authority with a central government. Examples include Germany and the United States. (CG4a, CG5a)

**Federation:** A form of government in which sovereign power is formally divided between a central authority and a number of constituent regions (states, colonies, or provinces) so that each region retains some management of its internal affairs. One example of a federation is Russia. (CG4a, CG5a)

**France:** A country in Western Europe. It is bordered by Belgium, Luxembourg, Italy, Spain, Germany, and Switzerland. It also has coasts on the Mediterranean Sea and the Atlantic Ocean. (G8b)

**Germany:** A country in Western Europe. It is bordered by Austria, Belgium, France, Denmark, Poland, the Czech Republic, Switzerland, Luxembourg, and the Netherlands. Its climate is moderate, without long periods of either cold or heat. It is a major producer of coal, lumber, and raw minerals. In 1949, it was divided into Communist East Germany and democratic West Germany. The country reunited in 1990, when the Soviet Union collapsed. (G8b, G10b, H7c)

**Holocaust:** The murder of Jewish men, women, and children committed by Germany's Nazis during World War II. Six million Jews lost their lives, along with tens of thousands of members of other persecuted groups. (H7b)

**Iberian Peninsula:** The peninsula located in southwestern Europe, stretching into the Atlantic Ocean. It is where Spain and Portugal are located. (G8a)

**Italy:** A country in Western Europe. It is a peninsula bordered on three sides by the Mediterranean Sea and shares its northern border with France, Switzerland, Austria, and Slovenia. Its climate is harsh in the north and mild in the rest of the country. It has few natural resources and little usable farmland. (G8b, G10b)

**Literacy:** The ability to read and write. (G11c)

**Mediterranean Sea:** The body of water located between Western Europe and Northern Africa. (G8a)

**Monotheism:** A belief in a single God. (G11b)

**Oligarchy:** A system in which a small and powerful group controls the government. (CG4b)

**Parliamentary system of government:** A democratic form of government in which voters choose representatives to a governing body called a parliament. Great Britain and Northern Ireland are governed under a parliamentary system. (CG4c, CG5a)

**Poland:** A country in Central Europe. It is bordered by Russia, Ukraine, Slovakia, Lithuania, Belarus, the Czech Republic, and Germany, with the Baltic Sea to its north. (G8b)

**President:** The leader of a federal government, elected by a nation's citizens. A president can also be the leader of a unitary state or centralized government. (CG4c, CG5a)

**Prime minister:** The leader of a parliamentary government. Prime ministers are chosen by members of parliament, who in turn are elected by citizens. (CG4c, CG5a)



**The Pyrenees:** A mountain range that marks most of the Spanish-French border. (G8a)

**Rhine River:** A river located in Central and Western Europe. It begins in Switzerland and flows west, where it empties into the North Sea. (G8a)

**Scandinavian Peninsula:** A peninsula located in Northern Europe, containing Norway, Sweden, and part of Finland. It stretches into the Baltic, North, Barents, and Norwegian Seas. (G8a)

**Spain:** A country in Southwestern Europe. It is located on the Iberian Peninsula, bordered by France to the north and Portugal to the west. (G8b)

**Superpower:** A powerful and influential nation. At various times, the term has been applied to the United States, the Soviet Union, and China. (H7b)

**Ukraine:** A country in Eastern Europe. It is bordered by Russia, Belarus, Poland, Slovakia, Hungary, Romania, and Moldova, with the Black Sea to its south. (G8b)

**Unitary system of government:** A system in which an entire country is ruled by a single government. Power is not shared between the central government and smaller states the way that it is in a federal system. (CG4a)

**United Kingdom:** A country in Western Europe made up of England, Wales, Scotland, and Northern Ireland. It is located on two islands separated from the European continent by the English Channel. It has a mostly temperate climate with frequent rainfall. (G8b, G10a)

**Ural Mountains:** A mountain range in Western Russia. It runs north and south, forming a natural boundary between Europe and Asia. (G8a)

## Sample Items 1–2

### Item 1

**Physical barriers led to the creation of many different countries in Europe with their own traditions. Which of these describes a result of the diversity of Europe?**

- A. It is difficult to travel between countries.
- B. Many different languages are spoken in Europe.
- C. It is hard for countries to trade with one another.
- D. Many people in Europe practice the same customs.

### Item 2

**Which statement BEST compares democracy to autocracy?**

- A. Autocracy and democracy both have frequent elections by citizens.
- B. Autocracy requires little feedback from citizens, while democracy encourages it.
- C. Democracy and autocracy both allow citizens to disagree with the government.
- D. Democracy requires a high standard of living for citizens, while autocracy forbids it.

## Unit 3: Environmental and Economic Forces in Europe

In this unit, you will study European economies, including traditional, market, mixed, and command economies. You will examine the different environments in Europe and some issues like acid rain, air pollution, and nuclear disasters. You will consider the gross domestic products, human capital, and the benefits of voluntary trade agreements.

### KEY TERMS

**Acid rain:** Rainfall made toxic by air pollution. It is a result of waste gases from the burning of fossil fuels. In Germany, it has damaged buildings/monuments, vegetation, and water. (G9a)

**Air pollution:** The contamination of the air by gases and smoke. In Great Britain and most other industrialized nations, it is caused mostly by emissions from factories and cars. (G9a)

**Capital:** The property (buildings, machinery, etc.) and technology that represent the chief investments of a person or business. (E7b)

**Chernobyl:** A nuclear power plant located in Ukraine. On April 26, 1986, it became the site of one of the worst nuclear disasters in history. (G9a)

**Command economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is determined by the government. (E5a)

**Currency exchange:** A business that allows individuals or groups to exchange the currency of one country for that of another. The exchange of currencies is necessary in a world where trade takes place between nations with different monetary systems. (E6b)

**Embargo:** An official ban, usually on trade with another country. Sometimes the ban is on specific goods. (E6a)

**Entrepreneurship:** The process of starting an organization or business. The economies of many countries are supported by small businesses begun by entrepreneurs. (E7d)

**Gross domestic product (GDP):** The total monetary value of goods and services produced and distributed in a country during the span of one year. (E7a)

**Human capital:** The human knowledge, creativity, and habits that contribute to an economy. (E7a)

**Market economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is based on supply and demand. Producers set prices for their goods based on what individuals are willing to pay. (E5a)

**Mixed economy:** An economy that is part market economy and part command economy. Most countries have mixed economies. (E5b, c)

**Natural resources:** Land, water, forests, minerals, and other things found in nature that are useful to humans. These generally contribute to the wealth of a country. (E7c)

**Nuclear disaster:** The radioactive contamination of an area usually caused by the meltdown of a nuclear plant. Such meltdowns have happened in Ukraine and Japan. (G9a)

**Quota:** A limit set on the production of a product. Quotas can be set by governments or industry groups. Their purpose is usually to control item prices and protect domestic production. (E6a)

**Tariff:** A tax or duty that must be paid on a specific import or export. Tariffs are often used by governments to limit imports from other countries. (E6a)

**Traditional economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is based on the traditions, beliefs, and customs of society. Traditional economies are usually agriculturally based. (E5a)

**Voluntary trade:** An economic market in which individuals and businesses are allowed to buy from and sell to whom they choose. A benefit of such an exchange is that most parties gain something they want from it. (E6a)

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## Sample Items 3–4

### Item 3

Read the quotation in the box.

“[Ukraine’s] citizens were the first to step into the fire and into the invisible but murderous field of radiation with the aim of protecting the whole planet from the disastrous [very damaging] fire at the cost of their own lives. And by their experience they paid the highest price to give mankind the key to solving such unprecedented problems.”

—*President of Ukraine, Leonid Kuchma, 2000*

Which of these is referenced in this quotation?

- A. the collapse of the Soviet Union
- B. acid rain over Eastern Europe
- C. the nuclear disaster in Chernobyl
- D. genocide of Jewish people in Nazi Germany

## Item 4

Study the chart.

### Comparing European Economies (2013)

Country	Gross Domestic Product (GDP) per capita* in US dollars	Area (square kilometers)	Population	Literacy Rate	Urban Population
Macedonia	\$10,800	25,713	2,091,719	97.4%	59.3%
Norway	\$55,400	323,802	5,147,792	100%	79.4%
Romania	\$14,400	238,391	21,729,871	97.7%	52.8%
United Kingdom	\$37,100	243,610	63,742,977	99%	79.6%

\*GDP per capita is the GDP per person.

Source: CIA, *The World Factbook*

**According to the chart, which of these would MOST LIKELY improve the economy of Romania?**

- A. investing more in human capital
- B. selling land to reduce the size of the country
- C. encouraging people to move away from cities
- D. supporting immigration to increase the population

## Unit 4: Europe's Historical Influence

In this unit, you will study European history. You will learn about efforts at colonization and the significance of the Russian Revolution, World War I, the Great Depression, and the rise of Nazism.

### KEY IDEA

#### The Great Depression

An economic depression is a sustained downturn in a country's economic situation. A little over a decade after the end of World War I, the United States and much of the world entered the greatest depression in history.

It began in October 1929 with a crash of the stock market. A large number of people rushed to withdraw their money from banks, resulting in their collapse. Crop failures and home foreclosures made the problem worse.

During this period, jobs were hard to find. Because people had little money to buy even basic necessities, products sat unsold on store shelves or in factory warehouses.

The Great Depression finally came to an end in the 1940s, a result of the economic stimulus provided by World War II. (H7a)

### KEY TERMS

**Colonization:** Installation of a colony, or branch, away from an actual nation. After the discovery of the "New World" in the late 15th century, many European nations—including Portugal, Spain, England, and France—established colonies in North and South America as well as in Australia and parts of Africa and Asia. These nations exploited the natural resources of these areas to benefit their own economies. Colonization lasted until World War I, when unrest in Asia and Africa led to major revolts. (H6a, b, c, d)

**Nazism:** The beliefs and practices of the Nazi political party. Nazis supported a totalitarian view of government and the belief that Germans were superior to other ethnic groups. A Nazi government was established in Germany by Chancellor Adolph Hitler. (H7a)

**Prince Henry the Navigator:** A Portuguese prince who oversaw expeditions and led military campaigns in North Africa. (H6a)

**Russian Revolution:** A series of revolutions in Russia in 1917 that ended the Russian Empire and sparked the rise of the Soviet Union, along with its Communist system of governance. (H7a)

**Treaty of Versailles:** A peace treaty signed at the end of the World War I that ended hostilities between the Allied Powers and Germany. It was signed on June 28, 1919. (H7a)

**World War I:** A war that lasted from 1914 to 1918. It was the largest, most expensive, and deadliest war ever seen on Earth up until that time. Most of the world's major powers took part, including Germany, Great Britain, Russia, Japan, Italy, and the United States, among others. (H7a)

## Sample Items 5–6

### Item 5

**Which of these was a significant challenge facing Europe in the years immediately following World War I?**

- A. the Cold War
- B. protests against war
- C. an economic depression
- D. the reunification of Germany

### Item 6

**Read the information in the box.**

- The percentage of Africa under European control increased greatly between 1881 and 1914.
- Britain, France, and Germany used their African colonies as a way to compete with each other.
- In 1905, Germany and France nearly fought over the African territory of Morocco.

**Which of these would be the BEST title for the box?**

- A. Examining Modern Africa
- B. The Strategic Benefits of Imperialism
- C. How Colonialism in Africa Led to World War
- D. Why European Powers Explored New Lands



## Unit 5: Latin America Today

In this unit, you will turn your attention to Latin America. You will study the geography of some Latin American countries. You will learn about their history, politics, revolutions, and forms of government.



### KEY TERMS

**Amazon River:** The world's largest river in terms of volume, located in South America. (G1a)

**Andes Mountains:** A mountain range in western South America. It stretches approximately 5,000 miles, from Venezuela to Tierra del Fuego. (G1a)

**Atacama Desert:** A plateau in western South America, located between the Pacific Ocean and the Andes Mountains. It is considered the driest desert in the world. (G1a)

**Autocracy:** A system in which all of the power is held by one person. In this system of government, the ruler has absolute or unlimited power. (CG1b)

**Bolivia:** A country located in western South America. It is landlocked, which means that it is not bordered by a body of water. (G1b)

**Brazil:** The largest country in South America and the fifth largest in the world. It contains tropical and temperate zones, with timber forests and a large amount of minerals at hand. (G1b, G3b)

**Caribbean:** The area in and around the Caribbean Sea, including its many islands and the coasts of countries bordering that sea. It is located east of southern Central America and north of South America. (G1a)

**Confederation:** A group of states or nations that retain most power while granting limited authority to a central government. (CG1a)

**Cuba:** An island country located in the Caribbean Sea, south of the tip of Florida. Its climate is tropical, and its natural resources include cobalt, nickel, iron ore, copper, salt, and petroleum. (G1b, G3b)

**Cuban Revolution:** A revolution in Cuba that lasted from 1956 to 1959. It was led by Fidel Castro against the dictatorship that, at that time, controlled the small island country. (H3a)

**Democracy:** A system of government in which a nation's citizens vote for their leaders. (CG1b)

**Dictatorship:** A system in which the government is controlled by a single person, known as a dictator. The Republic of Cuba is a dictatorship. (CG2a)

**Embargo:** An official ban, usually on trade with another country. Sometimes the ban is on specific goods. (E2b)

**Federal-republican system:** A system under which individual states have a republican system of government, while there is a central government known as a federation. The federation is given limited power. Brazil and Mexico are both federal-republican systems. (CG2a)

**Federal system:** A system in which individual states share authority with a central government. Examples include Germany and the United States. (CG1a)

**Gulf of Mexico:** An Atlantic Ocean region located east of Mexico and south of the United States. (G1a)

**Haiti:** A country on the western third of the island of Hispaniola in the West Indies. (G1b)

**Human capital:** The human knowledge, creativity, and habits that contribute to an economy. (E3a)

**Latin America:** The countries in the area connecting North and South America. People here speak mostly Spanish, Portuguese, or French. In addition to the native languages, English is also spoken. (H2a, b, c)

**Mexico:** A nation bordered by the United States to its north. It is also bordered by four bodies of water: the Sea of Cortes and the Pacific Ocean to the west and the Gulf of Mexico and the Caribbean Sea to the east. Its climate varies between temperate and tropical, and its natural resources include petroleum, silver, copper, and gold. (H3b, G1b, G3a)

**Mixed economy:** An economy that is part market economy and part command economy. Most countries have mixed economies. (E1b,c)

**North American Free Trade Agreement:** A trade agreement between Canada, the United States, and Mexico that eliminated most tariffs and trade restrictions on goods and services traded among those countries. (E2c)

**Oligarchy:** A system in which a small and powerful group controls the government. (CG4b)

**Pacific Ocean:** The largest ocean on Earth. It is bordered by the Arctic Ocean to the north, the Southern Ocean to the south, Asia and Australia to the west, and North and South America to the east. (G1a)

**Panama:** A small country on the Isthmus of Panama. It is the southernmost nation of North America and is known for the Panama Canal, a man-made waterway that connects the Caribbean Sea to the Pacific Ocean. (G1b)

**Parliamentary system of government:** A democratic form of government in which voters choose representatives to a governing body called a parliament. (CG4c, CG1c)

**Presidential system of government:** A republican form of government in which voters choose a president to lead the executive branch of a government, which is separate from other branches. (G4c, CG1c)

**Quota:** A limit set on the production of a product. Quotas can be set by governments or industry groups, such as OPEC. The purpose is usually to prevent the price of a product from dropping too steeply and therefore hurting the economy. (E2b)

**Sierra Madre Mountains:** A Mexican mountain system approximately 1,500 miles in length. (G1a)

**Tariff:** A tax or duty that must be paid on a specific import or export. Tariffs are often used by governments to limit imports from other countries. (E2b)

**Unitary system of government:** A system in which an entire country is ruled by a single government. Power is not shared between the central government and smaller states the way that it is in a federal system. (CG1a)

**Venezuela:** A country in South America located along the southern waters of the Caribbean Sea. The nation's climate is alpine and tropical. Its natural resources include petroleum, iron ore, nickel, and coal. (G1b, G3a)

**Zapatista Guerrilla Movement:** A political and military group based in the southern state of Chiapas, Mexico. Its purpose was to protect rural Mexican indigenous people from economic policies that would negatively impact them. (H3b)

## Sample Items 7–8

### Item 7

**Which of these describes a long-term impact of European settlements in Latin America?**

- A. It resulted in the blending of ethnic groups.
- B. It led to the continued practice of ancient religions.
- C. It decreased the number of languages spoken in the region.
- D. It increased the trade opportunities for the indigenous people of the region.

### Item 8

**Which of these was an impact of the Cuban Revolution?**

- A. civic unrest spreading from Cuba to North America
- B. increased territory for Cuba in the Caribbean region
- C. decreased trade between Cuba and the United States
- D. threat of nuclear war between Cuba and the Soviet Union

## Unit 6: Environmental and Economic Forces in Latin America

In this unit, you will examine the economies of the Latin American countries. You will look at their currency, capital, entrepreneurship, embargo, and quota policies. You will also look at environmental concerns like natural resources and pollution. You will learn about NAFTA—a trade agreement among the United States, Canada, and Mexico.

### KEY TERMS

**Capital:** The property (buildings, machinery, etc.) and technology that represent the chief investments of a person or business. (E3b)

**Command economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is determined by the government. (E1a, c)

**Currency exchange:** A business that allows individuals or groups to exchange the currency of one country for that of another. The exchange of currencies is necessary in a world where trade takes place between nations with different monetary systems. (E2d)

**Embargo:** An official ban, usually on trade with another country. Sometimes the ban is on specific goods. (E2b)

**Entrepreneurship:** The process of starting an organization or business. The economies of many countries are supported by small businesses begun by entrepreneurs. (E3d)

**Human capital:** The human knowledge, creativity, and habits that contribute to an economy. (E3a)

**Market economy:** A system in which what is produced, how it is produced, and for whom it is produced is based on supply and demand. Producers set the prices for their goods based on what individuals are willing to pay. (E1a)

**Mixed economy:** An economy that is part market economy and part command economy. Most countries have mixed economies. (E1b,c)

**Natural resources:** Land, water, forests, and minerals found in nature. These contribute to the wealth of a country. (E3c)

**North American Free Trade Agreement (NAFTA):** A trade agreement between Canada, the United States, and Mexico that eliminated most tariffs and trade restrictions on goods and services traded among the countries. (E2c)

**Quota:** A limit set on the production of a product. Quotas can be set by governments or industry groups, such as OPEC. The purpose is usually to protect domestic production and control the price of a product. (E2b)

**Specialization:** The focusing of a business or a country on the production of one or a relatively small number of products or services. Because most areas can produce only a limited number of goods or services, they must then trade these goods and services for others that they need. (E2a)

**Tariff:** A tax or duty that must be paid on a specific import or export. Tariffs are often used by governments to limit imports from other countries. (E2b)

**Traditional economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is based on the traditions, beliefs, and customs of society. Traditional economies are usually agriculturally based. (E1a)

## Sample Items 9–10

### Item 9

Look at the information in the box.

- Replacing old cars
- Using natural gas vehicles
- Removing lead from gasoline
- Expanding public transportation
- Relocating factories and refineries

Which problem is being addressed by all the actions listed in the box?

- A. air pollution in Mexico City
- B. the destruction of the rain forests in Brazil
- C. pollution from oil production in Venezuela
- D. the death of coral reefs in the Caribbean Sea

### Item 10

How does the North American Free Trade Agreement (NAFTA) benefit the economies of its member countries?

- A. by setting trade prices for these countries
- B. by establishing trade tariffs in these countries
- C. by removing barriers to trade between these countries
- D. by identifying the products to trade among these countries

## Unit 7: Latin America’s Cultural Legacy

In this unit, you will examine Latin American culture. You will study the influence of Spanish and Portuguese explorers and the establishment of the Columbian Exchange. You will read about historical figures like Miguel Hidalgo and Simón Bolívar.

### KEY TERMS

**Simón Bolívar:** A statesman from Venezuela who led a revolt against Spanish rule in the Latin American colonies. In 1825 he founded the nation of Bolivia. (H2c)

**Columbian Exchange:** A period of exchange between the Old and the New Worlds. These exchanges included ideas, knowledge, food, animals, and people. As more Europeans came to Latin America, however, local populations fell into decline due to diseases introduced from Europe and the practice of slavery. The Spanish introduced Christianity to Latin America and established missions to convert native peoples. They also introduced the horse, which changed the nature of trade in the “New World.” The Exchange also led to the introduction of new foods and farming methods in Europe. (H1b)

**Miguel Hidalgo:** A Catholic priest who helped lead the Mexican War of Independence. He met defeat at the Battle of Calderón Bridge and was taken captive and executed. (H2c)

**Toussaint L’Ouverture:** A former slave who organized a slave rebellion in the French colony of Haiti. (H2c)

**Slavery:** A situation in which one person is the property of another. One aspect of the Columbian Exchange was the enslavement of African men and women, who were then sold into forced labor in North and South America. In the colonies and later in the United States, people were enslaved mostly in the South, where they worked on large plantations. (H2a)

**Spanish and Portuguese influence:** When the Spanish and Portuguese conquered parts of Latin America, their languages became dominant, and Christianity, mostly Catholicism, replaced or blended with native religions. (H2b)

## Sample Items 11–12

### Item 11

**Which of these was an effect of the Columbian Exchange on Native Americans?**

- A. It caused Native Americans to migrate to new continents.
- B. It caused dramatic population declines among Native Americans.
- C. It allowed an extended period of peace among Native Americans.
- D. It allowed Native Americans to acquire substantial amounts of wealth.

### Item 12

**Who led a revolt for independence on the island of Haiti?**

- A. Hernán Cortés
- B. Miguel Hidalgo
- C. Simón Bolívar
- D. Toussaint L'Ouverture



## Unit 8: Canada Today

In this unit, you will examine our neighbor to the north, Canada. You will learn about its forms of government, including presidential, unitary, monarchy, and parliamentary systems of government. You will read about the French and English European influences and learn about Canada today.

### KEY TERMS

**Autocracy:** A system in which all of the power is held by one person. In this system of government, the ruler has absolute or unlimited power. (CG1b)

**Confederation:** A group of states or nations that retain most power while granting limited authority to a central government. (CG1a)

**Constitutional monarchy:** A system of government in which a king or queen acts as the head of state, while laws are enacted by a parliament elected by voters. Canada is a constitutional monarchy. (CG3a)

**Democracy:** A system of government in which a nation's citizens vote for their leaders. (CG1b)

**Federal system of government:** A system in which individual states share authority with a central government. Examples include Canada and the United States. (CG1a)

**Federation:** A form of government in which sovereign power is formally divided between a central authority and a number of constituent regions (states, colonies, or provinces) so that each region retains some management of its internal affairs. One example of a federation is Canada. (CG3a)

**French and English influence:** Canada was originally made up of colonies established by France and England. As a result, the majority of the provinces within the nation speak English, while one, Quebec, speaks French. Colonizing nations also established Christianity, mostly Catholicism, within the nation. (H4a, b)

**Oligarchy:** A system in which a small and powerful group controls the government. (CG1b)

**Quebec:** A province located in the east-central part of Canada. Predominantly French-speaking, it has sought independence from Canada at several points to preserve its cultural heritage. (H5a)

**Parliamentary system of government:** A democratic form of government in which voters choose representatives to a governing body called a parliament. Canada is governed under a parliamentary system. (CG1c)

**Presidential system of government:** A republican form of government in which voters choose a president to lead the executive branch of government, which is separate from other branches. (CG1c)

**Unitary system of government:** A system in which an entire country is ruled by a single government. Power is not shared between the central government and smaller states the way that it is in a federal system. (CG1a)

## Sample Items 13–14

### Item 13

Which nation had the **MOST** influence on the language and religion of Quebec?

- A. England
- B. France
- C. Netherlands
- D. Spain

### Item 14

While doing research for a report, Mary found this information:

- The British Parliament granted Canada many powers of self-government in 1867.
- The Canada Act of 1982, passed by Great Britain, gave Canada total legislative freedom.
- Canada remains part of the British Commonwealth, with the Queen as sovereign.

Which argument could Mary make in her report that would be supported by the information in the box?

- A. Canada engaged in a long revolutionary struggle against British rule.
- B. Great Britain still controls Canada as a colony for the benefit of the empire.
- C. Canada gained independence slowly and without the use of much violence.
- D. Great Britain's role in Canadian affairs increased more and more over time.

## Unit 9: Environmental and Economic Forces in Canada

In this unit, you will turn to the economic and environmental forces in Canada. You will examine its geological features such as the Great Lakes, Hudson Bay, the Canadian Shield, the St. Lawrence River, the Rocky Mountains, and the Atlantic and Pacific Oceans. You will learn about Canada's vast timber resources and other natural resources.

### KEY TERMS

**Acid rain:** Rainfall made toxic by air pollution. It is a result of waste gases from the burning of fossil fuels. In Canada, acid rain caused by pollution in other countries results in damage to vegetation, lakes, and rivers. (G7a)

**Atlantic Ocean:** The second largest ocean in the world. It extends from the Arctic Ocean in the north to the Antarctic in the south and is divided into the North Atlantic and the South Atlantic. It is located between North and South America and Europe and Africa. (G5a)

**Canada:** A large country located in the northern part of North America. It is bordered to the south by the United States. Its economy is largely based on natural resources such as timber, minerals, and oil. Because of its location near the top of the northern hemisphere (which is arctic, cold, and dry), the population is mostly located in the southern part of the country. Its largest exports are to the United States and are often carried over water routes, including the Great Lakes and the St. Lawrence River. (G6a, b)

**Canadian Shield:** A large region in central and northern Canada where a thin layer of topsoil covers a bed of Precambrian rock. The area is rich in natural resources, particularly minerals. Mining makes up a large part of the area's economy, though extraction of minerals is sometimes difficult due to climate and location. The population centers in the north are located mostly around accessible natural resources. (G7a)

**Capital:** The property (buildings, machinery, etc.) and technology that represent the chief investments of a person or business. (E3b)

**Currency exchange:** A business that allows individuals or groups to exchange the currency of one country or place for that of another. This exchange is necessary in a world where trade takes place between nations with different monetary systems. (E2d)

**Embargo:** An official ban, usually on trade with another country. Sometimes the ban is on specific goods. (E2b)

**Entrepreneurship:** The process of starting an organization or business. The economies of many countries are supported by small businesses begun by entrepreneurs. (E3d)

**Great Lakes:** A series of freshwater lakes along the border of the United States and Canada. Factories situated along the lakes were not regulated, and runoff from pesticides and fertilizer has contributed to their pollution. (G7a)

**Hudson Bay:** A large inland sea located in northeastern Canada. (G5a)

**Human capital:** The human knowledge, creativity, and habits that contribute to an economy. (E3a)

**Natural resources:** Land, water, forests, and minerals found in nature that are useful to humans. These contribute to the wealth of a country. (E3c)

**North American Free Trade Agreement (NAFTA):** A trade agreement between Canada, the United States, and Mexico that eliminated most tariffs and trade restrictions on goods and services traded among the countries. (E2c)

**Pacific Ocean:** The largest ocean on Earth. It is bordered by the Arctic Ocean to the north, the Southern Ocean to the south, Asia and Australia to the west, and North and South America to the east. (G5a)

**Rocky Mountains:** The largest and longest mountain chain in North America, extending from Alaska, through Canada, and into New Mexico in the southern United States. (G5a)

**Specialization:** The focusing of a business or a country on the production of one or a relatively small number of products or services. Because most areas can produce only a limited number of goods or services, they must then trade these goods and services for others that they need. Canada specializes in timber and minerals. (E2a)

**St. Lawrence River:** A river that flows from Lake Ontario in Canada, along the boundary between Ontario and New York State, and into the Gulf of St. Lawrence. (G5a)

**Tariff:** A tax or duty that must be paid on a specific import or export. Tariffs are often used by governments to limit imports from other countries. (E2b)

**Timber resources:** One of Canada's largest exports is wood from its ample forests. The timber industry employs over 200,000 people. (G7a)

**Sample Items 15–16****Item 15**

**Where do the majority of Canadians live?**

- A. near the western border with Alaska
- B. near the northern border along the Arctic Ocean
- C. near the southern border with the United States
- D. near the eastern border along the Atlantic Ocean

**Item 16**

**Look at the table.**

**Oil Production in Canada  
(1980-2010)**

Year	Barrels of oil per day
1980	1.8 million
1990	2.0 million
2000	2.8 million
2010	3.4 million

Source: U.S. Energy Information Administration

**Which statement MOST LIKELY explains how the trend shown in the table affected Canada during that time?**

- A. It led to unemployment.
- B. It led to increased trade.
- C. It led to a lower literacy rate.
- D. It led to a command economy.

## Unit 10: Australia

In this unit, you will go down under and study the continent of Australia. You will learn about its history, geography, economy, currency, government, and trade agreements.

### KEY TERMS

**Aborigines:** The original inhabitants of Australia. They are believed to have descended from Europeans and Asians who migrated south between 62,000 and 75,000 years ago. Aboriginal Australians maintain spiritual beliefs that are closely associated with nature and oral tradition. (H8a, G14b)

**Autocracy:** A system in which all of the power is held by one person. In this system of government, the ruler has absolute or unlimited power. (CG6B)

**Capital:** The property (buildings, machinery, etc.) and technology that represent the chief investments of a person or business. (E10b)

**Command economy:** A system in which what is produced, how it is produced, and for whom it is produced is determined by the government. (E8a)

**Confederation:** A group of states or nations that retain most power while granting limited authority to a central government. (CG6a)

**Currency exchange:** A business that allows individuals or groups to exchange the currency of one country or place for that of another. The exchange of currencies is necessary in a world where trade takes place between nations with different monetary systems. (E9c)

**Democracy:** A system of government in which a nation's citizens vote for their leaders. (CG6b)

**Embargo:** An official ban, usually on trade with another country. Sometimes the ban is on specific goods. (E9b)

**Entrepreneurship:** The process of starting an organization or business. The economies of many countries are supported by small businesses begun by entrepreneurs. (E10d)

**Federal system of government:** A system in which individual states share authority with a central government. (CG6a)

**Human capital:** The human knowledge, creativity, and habits that contribute to an economy. (E10a)

**Market economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is based on supply and demand. Producers set prices on their goods based on what individuals are willing to pay. (E8a)

**Mixed economy:** An economy that is part market economy and part command economy. Most countries, including Australia, have a mixed economy. (E8b, c)

**Oligarchy:** A system in which a small and powerful group controls the government. (CG6b)

**Parliamentary system of government:** A democratic form of government in which voters choose representatives to a governing body called a parliament. Australia is governed under a parliamentary system. (CG6c, CG7a)

**Presidential system of government:** A republican form of government in which voters choose a president to lead the executive branch of government, which is separate from other branches. (CG6c)

**Specialization:** The focusing of a business or a country on one or a relatively small number of products or services. Because most areas can produce only a limited number of goods or services, they must then trade these goods and services for others that they need. Australia specializes in coal, bauxite, and various other minerals. (E9a)

**Tariff:** A tax or duty that must be paid on a specific import or export. Tariffs are often used by governments to limit imports from other countries. (E9b)

**Traditional economy:** An economic system in which what is produced, how it is produced, and for whom it is produced is based on the traditions, beliefs, and customs of society. Traditional economies are usually agriculturally based. (E8a)

**Unitary system of government:** A system in which an entire country is ruled by a single government. Power is not shared between the central government and smaller states the way that it is in a federal system. (CG6a)

**Voluntary trade:** An economic market in which individuals and businesses are allowed to buy from and sell to whom they choose. A benefit of such an exchange is that most parties gain something they want from it.

## Sample Items 17–18

### Item 17

**What is the MAIN reason few people live in the interior of Australia?**

- A. The interior has swampy land.
- B. The interior has polluted water.
- C. The interior has a harsh climate.
- D. The interior has high mountains.

### Item 18

**The Commonwealth of Australia has a parliamentary government. Who leads Australia's government?**

- A. a governor
- B. a president
- C. a prime minister
- D. an absolute monarch

## Unit 11: Your Financial Future

In this unit, you will turn to economics and learn about saving, spending, investing, and credit. The focus of the unit is on money and your financial future.

### KEY TERMS

**Credit:** The ability of a consumer to obtain a good or service with the payment to come in the future. (E4)

**Income:** Money earned through work or investment. (E4)

**Investing:** Placing money in a venture with the expectation that it will earn more money in the future, though the possibility always exists that it will be lost. (E4)

**Saving:** Setting aside money so that it will accumulate and/or earn interest. (E4)

**Spending:** Giving money to a producer in order to obtain a good or service. (E4)

### Sample Items 19–20

#### Item 19

Which of these are considered an investment?

- A. stocks
- B. wages
- C. auto loans
- D. credit cards

#### Item 20

Which of these is an example of someone using credit?

- A. Lin buys a television by promising to repay the store over time.
- B. Jennifer places a portion of her paycheck in her savings account.
- C. Marissa buys a new video game by withdrawing money from her bank.
- D. Andrew uses a portion of his paycheck to purchase new school supplies.



## SOCIAL STUDIES ADDITIONAL SAMPLE ITEM KEYS

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
1	SS6G11a	2	B	The correct answer is choice (B) Many different languages are spoken in Europe. Choices (A) and (C) are incorrect because they would not be impacted by the diversity of the continent, and countries in Europe do trade with each other. Choice (D) is incorrect because the various countries in Europe have their own customs.
2	SS6CG4b	2	B	The correct answer is choice (B) Autocracy requires little feedback from citizens, while democracy encourages it. Autocracy is the rule of one powerful person, like a dictator, while a democracy is a system of government where citizens vote for their leaders. Choices (A) and (C) are incorrect because elections and the freedom to disagree with the government are ways that citizens participate in democracies, but not autocracies. While people living in democracies tend to have a higher standard of living than people in autocracies, choice (D) is incorrect because democracy does not require citizens to have a high standard of living.
3	SS6G9a	2	C	The correct answer is choice (C) the nuclear disaster in Chernobyl. The Ukrainian president is referring to the Chernobyl disaster, the worst nuclear accident in history. Although Ukraine was part of the former Soviet Union, choice (A) is incorrect because the passage refers to a disastrous fire, not a political collapse. Choice (B) is incorrect because acid rain, while an environmental disaster, does not involve exposure to radiation. Choice (D) is incorrect because the Nazi Holocaust was an intentional act of genocide, not an accident involving radiation.
4	SS6E7a	3	A	The correct answer is choice (A) investing more in human capital. The chart shows that countries with a higher literacy rate have a higher GDP per capita. Choice (B) is incorrect because the countries in the chart with larger amounts of territory have a higher GDP per capita. Choice (C) is incorrect because the countries in the chart with more people living in urban areas have a higher GDP per capita. While the United Kingdom has a large population, choice (D) is incorrect because Norway has one of the smallest populations, yet still has the highest GDP per capita.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
5	SS6H7a	1	C	The correct answer is choice (C) an economic depression. After World War I, rising inflation and worldwide economic depression plunged Europe into a period of great instability. Choice (A) is incorrect because the Cold War began in the years after World War II, not World War I. While World War I led to devastating losses, choice (B) is incorrect because anti-war protests were not a significant problem that faced Europe during this time. Finally, choice (D) is incorrect because the reunification of Germany occurred in the late 20th century.
6	SS6H6d	2	C	The correct answer is choice (C) How Colonialism in Africa Led to World War. As European empires established colonies in Africa and Asia, this scramble to acquire territory fueled the tensions that led to World War I. Choice (A) is incorrect because the information in the list refers to Africa during the 19th and early 20th centuries, not modern Africa. Although European empires thought that acquiring colonies would benefit them strategically, choice (B) is incorrect because the information in the list shows how these colonies ultimately caused conflict. Choice (D) is incorrect because none of the information in the list tells why European powers wanted to engage in exploration.
7	SS6G4a	2	A	The correct answer is choice (A) It resulted in the blending of ethnic groups. When European settlement of the region began, not only did Europeans move to Latin America but many Africans were brought as well. This resulted in a culture that blends the traditions of European, African, and Latin American countries. Choices (B), (C), and (D) are incorrect because they do not describe a long-term impact of this cultural blending.
8	SS6H3a	2	C	The correct answer is choice (C) decreased trade between Cuba and the United States. After Cuba's Communist revolution, the United States imposed embargoes that forbid most trade with Cuba. Choice (A) is incorrect because the revolution in Cuba did not cause unrest to spread to North American countries. Choice (B) is incorrect because the Cuban revolution changed the government of the country but did not increase its territory. Finally, choice (D) is incorrect because after the revolution, Cuba developed a closer relationship with the Soviet Union and did not threaten war against it.
9	SS6G2a	2	A	The correct answer is choice (A) air pollution in Mexico City. After becoming one of the world's most polluted cities, Mexico City implemented these changes to reduce the amount of smog created by cars and factories. Choices (B), (C), and (D) represent other environmental problems in Latin America, but these problems would not be specifically addressed by the changes listed in the box.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
10	SS6E2c	2	C	The correct answer is choice (C) by removing barriers to trade between these countries. The North American Free Trade Agreement (NAFTA) set rules designed to eliminate trade restrictions between the United States, Canada, and Mexico. Choices (A), (B), and (D) are incorrect because they fail to explain the benefits of being a member of NAFTA.
11	SS6H1b	2	B	The correct answer is choice (B) It caused dramatic population declines among Native Americans. The Columbian Exchange introduced devastating diseases such as smallpox to Native American populations. Choice (A) is incorrect because Native Americans did not migrate between continents as a result of the Columbian Exchange. Answer choice (C) is incorrect because the introduction of horses and increased competition over hunting grounds, both results of the Columbian Exchange, led to increased tensions between tribes, not more peace. While trade led to more wealth for some Europeans, choice (D) is incorrect because Native Americans did not benefit very much from this trade.
12	SS6H2c	1	D	The correct answer is choice (D) Toussaint L'Ouverture. Toussaint L'Ouverture led a rebellion of enslaved people that overthrew French rule on the island of Haiti. Choice (A) is incorrect because Hernán Cortés was a Spanish conquistador, not the leader of an independence movement. While Miguel Hidalgo and Simón Bolívar were both leaders of revolts, choices (B) and (C) are incorrect because these revolts did not take place in Haiti.
13	SS6H4a	1	B	The correct answer is choice (B) France. Before falling under British rule, Quebec was first controlled by the French, whose language and culture still remain important to this region of Canada. While the Netherlands, England, and Spain established colonies elsewhere in North America, choices (A), (C), and (D) are incorrect because these countries did not have a great influence on the culture of Quebec.
14	SS6H4b	3	C	The correct answer is choice (C) Canada gained independence slowly and without the use of much violence. The information in the list shows that Great Britain granted Canada its powers of self-government over a period of more than a century. While this movement toward independence was long, choice (A) is incorrect because Canada did not engage in a revolutionary struggle for independence like the U.S. did. Choices (B) and (D) are incorrect because the information in the list shows that Great Britain voluntarily gave up control over its Canadian colony and did not increase its role in Canadian affairs over time.

Item	Standard/ Element	DOK Level	Correct Answer	Explanation
15	SS6G6a	1	C	The correct answer is choice (C) near the southern border with the United States. About 90% of all Canadians live within 100 miles of this border. Choices (A), (B), and (D) are incorrect because they refer to regions of Canada that are not as heavily populated as the area along the southern border.
16	SS6G6b	3	B	The correct answer is choice (B) It led to increased trade. The chart shows Canada's oil production has steadily increased over many decades. The more oil Canada produces, the more it can engage in beneficial trade with other nations. Choices (A), (C), and (D) are incorrect because these factors are not the most likely effect of Canada producing more oil.
17	SS6G13a	2	C	The correct answer is choice (C) The interior has a harsh climate. Because the interior of Australia is mostly desert, almost all large settlements in Australia are found along the coast. This pattern has developed because the interior of Australia does not readily support settlement, due to its harsh, dry climate. Choices (A), (B), and (D) are incorrect because they refer to landforms that are not common to Australia's interior.
18	SS6CG7a	1	C	The correct answer is choice (C) a prime minister. Australia is a democracy led by a prime minister elected by parliament. Choice (A) is incorrect because Australia has a prime minister, not a governor. Choice (B) is incorrect because Australia is a parliamentary system without a president. While Australia was once part of the British Empire and still respects the British monarch as sovereign, choice (D) is incorrect because the country is not ruled as an absolute monarchy.
19	SS6E4	1	A	The correct answer is choice (A) stocks. Investments can also include bonds, real estate, businesses, collectibles, and other ways to commit money that offer financial returns. Choice (B) is incorrect because wages are a source of income, but they are not a way to commit money to earn a return. Choices (C) and (D) are incorrect because they are forms of credit, not investments.
20	SS6E4	2	A	The correct answer is choice (A) Lin buys a television by promising to repay the store over time. Credit is defined as a deferred payment of a loan or purchase. Promising to repay a store for a purchase over time is an example of this. Choices (B), (C), and (D) are examples of other personal money management choices.

## ACTIVITY

The following activity develops skills in Unit 2: Europe Today.

**Standards:** SS6CG5b, SS6E6

### Debating the European Union

You will need at least two family members or friends for this activity.

To better understand the purpose of the European Union, stage a debate. You need two teams with an equal number of participants.

You will be legislators in a fictional European country that must decide whether or not to join the European Union.

- One team will argue for joining, and the other team will argue against.

Each team will be allowed sufficient time (at least 20 minutes) to conduct research, take notes, meet with teammates (if there is more than one person arguing each side in the debate), and develop arguments to employ in the debate.

Choose a moderator. Each team should be allowed at least 5 minutes to present its side of the argument, followed by a 5-minute rebuttal from the other team. The debate can be structured in any orderly fashion, but one common structure is shown below.

Pro—5 minutes
Con—5 minutes
Pro—5 minutes
Con—5 minutes
Con closing argument—4 minutes
Pro closing argument—4 minutes

If by the end of the debate teams fail to address significant implications of joining the European Union (e.g., economic benefits, loss of national sovereignty), the moderator should ask these questions:

- *What impact could joining the European Union have on a country's trade?*
- *What might a country have to give up in order to join the European Union?*

## ACTIVITY

The following activity develops skills in Unit 5: Latin America Today.

**Standards:** SS6G1, SS6G3, SS6G4

### Creating a Travel Brochure for Latin America

Before beginning, familiarize yourself with examples of travel guidebooks and brochures.

Then, working by yourself, choose a country in Latin America identified in the standards.

- Conduct research about this country to create a travel brochure informing prospective visitors of its physical geography, major cities and attractions, economy (including currency and exchange rates), climate, government, and unique cultural attributes (languages spoken, key historical events, national foods, pastimes, and traditions).

A brochure should contain a few maps and images and may be created on computers or mocked up on poster board. A successful brochure will condense important information about the country in a way that is well organized and attractive to the prospective traveler.

Finally, present your brochure to family members or friends by describing the chosen country and why someone would want to visit it.

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

\* Subsumed by L.7.3a

† Subsumed by L.9-10.1a

‡ Subsumed by L.11-12.3a



## APPENDIX B: CONDITION CODES

The student response is flawed for various reasons and will receive a condition code. Students who receive a condition code have a score of zero (0).

- For the extended writing tasks, both traits receive a score of 0. For Trait 1: Ideas 0 out of 4 possible points and for Trait 2: Language Usage 0 out of 3 points. (Or 0 points out of a possible 7 points.)
- For the narrative item, the score is 0 out of a possible 4 points.

CODE	Performance Scoring: Code Description	Full Description
A	Blank	<ul style="list-style-type: none"> <li>• Blank</li> <li>• Student's response did not contain words.</li> <li>• In some instances, student may have drawn pictures.</li> </ul>
B	Copied	<ul style="list-style-type: none"> <li>• Student's response is not his/her own work.</li> <li>• Student does not clearly attribute words to the text(s).</li> <li>• Student copies from the text(s) that serve as writing stimulus.</li> </ul>
C	Too Limited to Score/Illegible/ Incomprehensible	<ul style="list-style-type: none"> <li>• Student's response is not long enough to evaluate his/her ability to write to genre or his/her command of language conventions.</li> <li>• Response is not able to be deciphered.</li> <li>• An illegible response does not contain enough recognizable words to provide a score.</li> <li>• An incomprehensible paper contains few recognizable English words or it may contain recognizable English words arranged in such a way that no meaning is conveyed.</li> </ul>
D	Non-English/Foreign Language	<ul style="list-style-type: none"> <li>• Written in some language other than English.</li> <li>• The writing items/tasks on the test require the student to write in English.</li> </ul>
E	Off Topic/Off Task/ Offensive	<ul style="list-style-type: none"> <li>• Student may have written something that is totally off topic (e.g., major portion of response is unrelated to the assigned task).</li> <li>• Student response did not follow the directions of the assigned task (i.e., off task).</li> <li>• Student uses inappropriate or offensive language/picture.</li> </ul>





Study/Resource Guide  
for Students and Parents  
Grade 6  
End-of-Grade

