



Grade 6

CRCT



Study



Guide



Reading
English/Language Arts
Mathematics
Science
Social Studies



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Using the CRCT Study Guide

This Study Guide focuses on the knowledge and skills that are tested on the Georgia Criterion-Referenced Competency Tests (CRCT). It is designed for teachers to use with their students and for parents to use with their children. Go to www.gadoe.org/ to find further information about and support for the CRCT.



Use the following section of this guide, *About the CRCT*, for an overview of the CRCT and for test-taking strategies to review with your students.

- The content tested on the CRCT is based on the Georgia Performance Standards, which describe what all students should know, understand, and be able to do.



The chapters of this guide are organized by subject. In each chapter you can explore the skills needed to succeed in a specific, tested domain (grouping of similar content standards). The subject chapters include a snapshot of each domain, instructional **Activities** that address covered skills, and a **Practice Quiz** with annotated **Solutions** to help assess student progress.

Overview of the CRCT

What is the CRCT?

The CRCT is a series of state-mandated achievement tests for students in Grades 1 through 8. In Grades 3 through 8, the subject areas of reading, English/language arts, mathematics, science, and social studies are covered.

What does the CRCT measure?

The CRCT measures how well students have acquired the knowledge and skills covered by the state curriculum for their grade level. A new statewide curriculum, known as the Georgia Performance Standards (GPS), sets academic standards and expectations for all students in Georgia's public schools. The CRCT corresponds to the new standards.

The tests accomplish the following:

- Ensure that students are learning
- Provide data to teachers, schools, and school districts so they can make better instructional decisions
- Measure accountability, including Adequate Yearly Progress (AYP) as measured by the federal No Child Left Behind Act

CRCT results measure the academic achievement of students, classes, schools, school systems, and the state. This information can be used to identify individual student strengths and weaknesses, or, more generally, to measure the quality of education throughout Georgia.

How are CRCT questions scored?

The CRCT currently uses only selected-response (multiple-choice) questions. There are four choices for each question, labeled A, B, C, and D.

Students are not compared to each other. Each student is measured on his or her achievement in meeting the standards. Scores are reported according to three performance levels: Does Not Meet the Standard, Meets the Standard, and Exceeds the Standard. For more information, go to the website www.gadoe.org/ci_testing.aspx?PageReq=CI_TESTING_CRCT and click the link for "2007 CRCT Interpretive Guide."

Since the spring of 2006, performance on the reading portion of the CRCT has been linked to the Lexile scale. Visit www.gadoe.org/lexile.aspx for more information on this national reading measure.

Preparing for the CRCT

Test-Taking Strategies

**Weeks
Before
the Test**

The following are study skills and test-taking tips to share with the student:

Keep on top of material as you learn it in school. Don't leave everything until the last minute!

Ask questions in class when you don't understand something.

Set academic goals for the upcoming weeks and months (short and long term).

Choose a quiet place to work that is free of distractions.

Find out as much as you can about the test.

Build in time to review what you learned in your last study session.

Divide assignments into smaller pieces. It's easier to remember information this way.

Take breaks! Studying for a long time non-stop is not productive.

Consider reviewing materials with others after you've studied on your own. This helps reinforce what you already know and reminds you of things you've forgotten.

Actively take notes while you read. This forces you to think about what you are reading.

Try sample test questions for practice.

At the end of each study session, evaluate what you have accomplished.

Preparing for the CRCT

Day Before the Test

Get a good night's rest.

If you are feeling nervous, talk to a teacher or parent.

Remember that this test is only one measure of your knowledge.

Eat a good breakfast before the test; it will give you energy to stay alert.

During the Test

Remind students of the following strategies to use during the test:

Relax by taking slow, deep breaths.

Make sure you understand the directions. If you are not sure, ask the teacher for clarification.

Read each question carefully.

When you use scratch paper, make sure that you copy the problem correctly from the test onto your paper.

You can underline and make marks on your test to help you while you work, but the only answers that will be scored are those in the correct place on your answer sheet.

Try to come up with your own answer before seeing the choices. This will help in choosing the best answer choice available.

Eliminate answer choices that you know cannot be right.

Leave a question blank if you are unsure of the answer, then return to it at the end.

Manage your time. Don't let the pace of others make you nervous. However, don't spend too much time on one question.

Be sure to answer all of the questions.

Review your answers when you have finished the test.

Try to stay calm during the test. Remember, this is a chance for you to show what you know.

Related Links

Below are links to important resources that contain information related to the CRCT.

Georgia Performance Standards:
www.georgiastandards.org/

CRCT Content Descriptions:
www.gadoe.org/ci_testing.aspx?PageReq=CITestingCRCTDesc

Lexile Framework for Reading:
www.gadoe.org/lexile.aspx

Best practices in education indicate that teachers should first model new skills for students. Next, teachers should provide opportunities for guided practice. Only then should teachers expect students to successfully complete an activity independently.

The activities in this guide are no exception. They are designed to be used by teachers and parents to help students with the skills on the Georgia CRCT.

Since different students have different strengths and needs, the activities in this study guide can be scaffolded for students who need more support, extended to challenge advanced students, or presented as is (with appropriate modeling) for grade-level students.

Reading



Reading

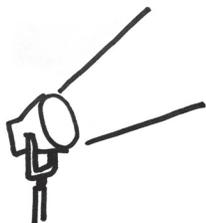
When reading a text closely, students in Grade 6 work carefully to discern the author’s perspective and the particular facts and details that support it. The students read thoughtfully and purposefully, constantly checking for understanding of the author’s intent and meaning, so that the interpretation will be sound.

These Reading activities focus on some of the concepts that are assessed on the Grade 6 CRCT Reading domains. These domains are as follows:

- 1 Reading Skills and Vocabulary Acquisition**
- 2 Literary Comprehension**
- 3 Information and Media Literacy**



Activities



1 Reading Skills and Vocabulary Acquisition

Georgia Performance Standards ELA6R2, ELA6RC3, and ELA6RC4

The Reading Skills and Vocabulary Acquisition domain addresses what students do to become confident, strong readers. Grade 6 students need to know what to do when they encounter unfamiliar words and words that have multiple meanings. To accomplish this task, Grade 6 readers must learn to use context clues (figure out the meaning of words from surrounding sentence and paragraph), word parts (examine prefixes, suffixes, and root words), and reference texts (look up words in a dictionary or thesaurus).

The following activities develop skills in this domain:

- To help students learn to determine the meanings of unfamiliar words using context clues, students should create *Literary Word Banks*. As they read, students “deposit” unfamiliar words in the first of three columns of their “banks.” In the second column, students guess the word meanings in the context of the surrounding sentences and paragraphs. In the third column, students write down the dictionary definitions of the words. On another page students should write new sentences using the words. They should also draw illustrations of these new vocabulary words to display.
- To help students learn common word parts (prefixes, roots, and suffixes) and strategies for figuring out unfamiliar words, students should make charts of common prefixes, suffixes, and root words. On their charts they should write common prefixes such as *trans-* and *re-*. Beneath these terms, students should list words with similar word parts. For example, working with the prefix *im-*, students might list words such as *impossible*, *impatient*, *important*, and *immobile*.
- To help students understand how to use context clues for words with multiple meanings, students should be given a list of ten words with multiple meanings such as *intimate*, *invalid*, *refuse*, *draft*, *gross*, *might*, *rank*, *sole*, *season*, and *conduct*. Next, students write two sentences using the same word in multiple ways. For example, students are given the word *address*. They then write two sentences: *Please send the package to my mailing address* and *The President delivers a monthly address to the nation*. Students should use a dictionary as a reference for this activity, as needed.

Further support can be found in the GPS Reading Framework at www.georgiastandards.org/elaframework.aspx



Activities



2 Literary Comprehension

Georgia Performance Standard ELA6R1

The Literary Comprehension domain addresses students' ability to read closely in order to understand and interpret what they have read. Grade 6 students are expected to know and analyze literary elements such as plot, setting, characterization, tone, and theme. They should be familiar with figurative language such as simile, metaphor, hyperbole, and personification, and with the effects of sound devices, such as onomatopoeia, alliteration, and rhyme schemes.

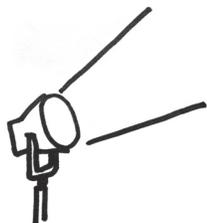
The following activities develop skills in this domain:

- To help students understand characterization (the ways authors portray characters), students should choose characters from stories and role-play them. Students should represent the characters as fully as possible; they should dress in costumes and describe the characters' motivations and experiences. To prepare for this task, students should list each character's traits and find quotations from the story that provide evidence of these traits. Students should also write diary entries from the perspectives of their characters. This activity will help them get to know their characters and better understand the characters' *voices* (the way their characters speak).
- To help students understand the significance of setting (time and place of a story), students should write about places that have been important to them. As a warm up, students should read or listen to passages of stories with clear descriptive passages about their settings. Then, using descriptive and sensory details, students should write about their own special places. These descriptions should include at least two senses.
- To help students identify and appreciate sensory language, read aloud excerpts of stories with sensory details and poems. As students listen to the works being read aloud, students should close their eyes and create pictures in their heads. Then, students should draw or describe, in writing, what they pictured. To further develop sensory and poetic language skills, students should practice naming paper paint chip samples that are readily available at hardware stores. For example, yellow could be called *burnt sun*.
- To help students understand the concept of theme, students should examine several familiar fables such as *The Tortoise and the Hare* or one of the West African Ananse tales. Students could also use Greek myths such as *The Odyssey* and *The Myth of Icarus*. In order to refresh their memory, students should recount the plot details and narrative sequence of the stories. Next, students should discuss ways the protagonists change during the tales and the lessons they learn. Finally, students should discuss the central ideas, or themes, of the tales.

Further support can be found in the GPS Reading Framework at www.georgiastandards.org/elaframework.aspx



Activities



3 Information and Media Literacy

Georgia Performance Standards ELA6R1, ELA6RC2, and ELA6LSV2

Information and Media Literacy refers to the skills required to comprehend and analyze a wide range of informational texts, such as essays, newspaper articles, textbooks, and reference materials. Students in Grade 6 need to recognize and analyze different aspects of these texts, including textual and graphic features, organizational structures, main ideas and supporting details, theme, author's purpose, as well as techniques of persuasion. In addition, students need to know how to follow multi-step instructions.

The following activities develop skills in this domain:

- To help students learn to follow directions and methodically create and complete a series of steps for an end product, prepare a food item together by following a recipe, step-by-step.
- To distinguish opinion writing from factual writing, students should first examine a list of statements about a topic with which they are familiar. Then they should decide which statements are facts and which are opinions. Students should also extract examples of opinions and facts from newspaper articles they read. Finally, they should compare statements included in an editorial from a newspaper to an informational news article in the same newspaper.
- To help students understand persuasive language and the concept of author's purpose, students should choose a controversial topic and write two different paragraphs, one in support of it and the other against it.

Further support can be found in the GPS Reading Framework at www.georgiastandards.org/elaframework.aspx



Practice Quiz



Genre: Fiction

Read the passage below and answer the questions that follow.

Surviving Middle School

Anna was concerned. In a few short weeks, she would be starting middle school. At first, she hadn't worried about it too much. As the summer went on, though, she thought about it more and more. In previous years, Anna had always been a little excited about going back to school. However, this year school seemed like a treacherous jungle full of unknown dangers, and she was standing just on the edge of it. Her mom smiled and told her not to worry. She told Anna that it might seem difficult at first, but in time, she'd get used to it. Anna wasn't so sure. It seemed like she would *never* be ready for middle school, not in a million years!

With just a week to go before the first day of school, Anna had to go with her parents to a barbecue thrown by their neighbors, the Kleins. As she stood in the Kleins' backyard, she found herself thinking about everything that she had heard about middle school. What if her classes were too hard? What if she couldn't keep up with the homework? Plus, she had never had to change rooms for different classes before. She just knew that she would somehow end up lost or in the wrong class, and that everyone would laugh at her. Anna was sure that no one else felt the way that she did.

"Hey," she heard someone say. It was Eric Klein, her next-door neighbor. He was helping his parents by carrying dirty plates into the kitchen. She wondered if he felt like she did about the upcoming year. *No*, she thought to herself, *he never worries about anything*. Eric had always seemed calm and confident about everything—nothing ever seemed to faze him.

"I can't believe summer's over," he said, a note of disgust in his voice. Anna was surprised. Eric rarely ever complained. Today, though, he looked as unhappy as she felt.

Just then Eric's mother walked over to them, leading a man by the arm. Anna didn't recognize him and wondered who it was.

"Kids," Ms. Klein said enthusiastically, "this is Mr. Harrison. He is the new English teacher at Westlake. He just moved in to the Costas' old house."

"Nice to meet you both," Mr. Harrison said. Anna and Eric both mumbled hello.

Ms. Klein smiled at Mr. Harrison. "Eric is so worried about the school year," she said, frowning slightly. "Middle school is such a big change."

"Mom!" Eric said quickly, clearly annoyed. "I'm not worried," he said, turning red.

Anna tried not to laugh, but she couldn't keep from letting out a small snort.



Mr. Harrison gave a quick laugh and then jumped in, “Actually, I’m kind of nervous, too,” he said. “It’s a new school—new students, new teachers to work with.” He paused. “Plus, I have a horrendous sense of direction. I know I’m going to spend the first couple of months getting lost. I guess I’d better keep my cell phone with me.”

Anna laughed. The joke wasn’t especially funny, but she laughed anyway. For the first time in weeks, she felt better. If other people were nervous about the school year, too, even someone like Eric, then she wasn’t alone. If even teachers were anxious before the school year started, then maybe what she was going through wasn’t that unusual. Anna smiled to herself. Maybe it wouldn’t be so bad after all.

1 What is the MAIN conflict in the passage?

- A Anna is sad about the end of summer.
- B Anna is nervous about meeting her neighbors.
- C Anna is worried about the upcoming school year.
- D Anna is unhappy about having to go to a barbecue.

2 Where does the passage MOSTLY take place?

- A in a kitchen
- B in a hallway
- C in a backyard
- D in a classroom

3 Which of these sentences BEST shows that the passage takes place in the present day?

- A “I guess I’d better keep my cell phone with me.”
- B In a few short weeks she would be starting middle school.
- C He was helping his parents by carrying dirty plates into the kitchen.
- D Plus, she had never had to change rooms for different classes before.

4 Which type of figurative language is used in the sentence below?

However, this year school seemed like a treacherous jungle full of unknown dangers, and she was standing just on the edge of it.

- A idiom
- B simile
- C metaphor
- D hyperbole



- 5 **Why does the author MOST LIKELY include the phrase *not in a million years* in the sentence below?**

Anna wasn't so sure. It seemed like she would never be ready for middle school, not in a million years!

- A to show how funny Anna is
B to explain why Anna is tired
C to suggest that Anna is patient
D to emphasize how nervous Anna is
- 6 **Why does the author MOST LIKELY include this sentence?**

"I'm not worried," he said, turning red.

- A to show that Eric is annoyed
B to explain why Eric is scared
C to show that Eric is embarrassed
D to explain why Eric is concerned
- 7 **Which of these BEST describes how Anna feels at the end of the passage?**

- A excited
B relieved
C confused
D impressed
- 8 **Which of these BEST states the theme of the passage?**

- A Adjusting to unfamiliar situations can be difficult.
B Meeting people in a new town can be challenging.
C Spending time with friends and neighbors can be enjoyable.
D Knowing that others share your problems can be comforting.
- 9 **What is the meaning of the word *faze* as it is used in the sentence?**

Eric had always seemed calm and confident about everything—nothing ever seemed to faze him.

- A bother
B confuse
C interest
D persuade



- 10 **What is the meaning of the word *horrendous* as it is used in the sentence?**

“Plus, I have a horrendous sense of direction. I know I’m going to spend the first couple of months getting lost.”

- A terrible
- B unusual
- C valuable
- D practical



Solutions

Number	Correct Answer	Explanation
1	C	<p><i>Identifies and analyzes the elements of setting, characterization, plot, and the resolution of the conflict of a story or play: internal/external conflicts. (ELA6R1e(ii))</i></p> <p>The correct answer is Choice (C) Anna is worried about the upcoming school year. There are many places in the passage that show that Anna is worried about the new school year, such as when she states, "...school seemed like a treacherous jungle..." Choice (A) is incorrect because there is no mention that Anna is sad about the end of summer. Choices (B) and (D) are incorrect since Anna expresses no sadness or unhappiness about meeting her neighbors at the barbecue.</p>
2	C	<p><i>Identifies and analyzes the elements of setting, characterization, plot, and the resolution of the conflict of a story or play: internal/external conflicts. (ELA6R1e(ii))</i></p> <p>The correct answer is Choice (C) in a backyard. In the second paragraph, the second sentence begins, "As she stood in the Kleins' backyard..." Choices (A), (B), and (D) are incorrect, as they are settings that are not part of this story.</p>
3	A	<p><i>Relates a literary work to historical events of the period. (ELA6R1c)</i></p> <p>The correct answer is Choice (A) "I guess I'd better keep my cell phone with me!" Since cell phones are a fairly new invention, this answer is the most indicative of the setting in the present day. Middle school, dirty dishes, and changing classes are not new and could have happened at another time, so Choices (B), (C), and (D) are incorrect.</p>
4	B	<p><i>Identifies and analyzes sensory details and figurative language. (ELA6R1a)</i></p> <p>The correct answer is Choice (B) simile. A <i>simile</i> compares two unlike things using the words <i>like</i> or <i>as</i>. In this sentence, the school is being compared to a jungle. Choice (A) is incorrect because an <i>idiom</i> is an expression that cannot be understood from the ordinary meanings of its words. Choice (C) is incorrect because a <i>metaphor</i> is a comparison that does not use the words <i>like</i> or <i>as</i>. Choice (D) is incorrect because the word <i>hyperbole</i> refers to exaggeration or overstatement.</p>



Number	Correct Answer	Explanation
5	D	<p><i>Responds to and explains the effects of sound, figurative language, and graphics in order to uncover meaning in literature: figurative language (i.e., simile, metaphor, hyperbole, personification). (ELA6R1h(ii))</i></p> <p>The correct answer is Choice (D) to emphasize how nervous Anna is. The saying “not in a million years” is a hyperbole, or exaggeration; it is meant to show that no matter how long Anna waits, she won’t be ready for middle school. Choices (A), (B), and (C) are incorrect since the phrase does not show how funny, tired, or patient Anna is.</p>
6	C	<p><i>Identifies and analyzes the author’s use of dialogue and description. (ELA6R1b)</i></p> <p>The correct answer is Choice (C) Eric is embarrassed. Eric blushes because he feels embarrassed. Choices (A), (B), and (D) are not accurate descriptions of his emotions.</p>
7	B	<p><i>Identifies and analyzes elements of setting, characterization, plot, and the resolution of the conflict of a story or play: internal/external conflicts. (ELA6R1e(i))</i></p> <p>The correct answer is Choice (B) relieved. Anna is <i>relieved</i> when she finds out that both Eric and Mr. Harrison are also nervous about the new school year. Choices (A), (C), and (D) are incorrect, as they do not describe her feelings accurately.</p>
8	D	<p><i>Applies knowledge of the concept that theme refers to the message about life and the world that the author wants us to understand, whether it is implied or stated. (ELA6R1d)</i></p> <p>The correct answer is Choice (D) Knowing that others share your problems can be comforting. Anna feels comforted that Eric and Mr. Harrison share her nervousness about the new school year. Choice (A) is not as accurate an answer, because the theme of this story is a positive message, and this answer choice is negative. Choices (B) and (C) are incorrect because the passage isn’t mostly about being new in a town or enjoying spending time with friends and neighbors.</p>



Number	Correct Answer	Explanation
9	A	<p><i>Determines the meaning of unfamiliar words by using word, sentence, and paragraph clues. (ELA6R2a)</i></p> <p>The correct answer is Choice (A) bother. The second part of the sentence is a contrast to the first part. Therefore, being fazed by something is the opposite of being calm and confident. Choices (B), (C), and (D) are inaccurate since Eric is not <i>confused, interested, or persuaded</i>.</p>
10	A	<p><i>Determines the meaning of unfamiliar words by using word, sentence, and paragraph clues. (ELA6R2a)</i></p> <p>The correct answer is Choice (A) terrible. The second sentence gives a clue to the meaning of <i>horrendous</i>. Because Mr. Harris expects to get lost frequently in the first couple of months, readers know his sense of direction must be very bad. <i>Horrendous</i>, like <i>terrible</i>, is synonymous with very bad.. Choices (B), (C), and (D) don't make sense in the context of the sentence.</p>

English / Language Arts



English/Language Arts

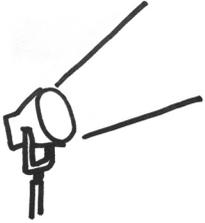
Students entering Grade 6 encounter new experiences and challenges in English Language Arts as they enter middle school. They continue to develop skills in oral and written language, while developing their own voices and style. They analyze and edit their own writing following the basic conventions of Standard English. They also focus on understanding the purposes of research and using a variety of analytical research skills.

The English/Language Arts activities focus on some of the concepts that are assessed on the Grade 6 CRCT English/Language Arts domains. These domains are as follows:

- 1 Grammar/Sentence Construction**
- 2 Research/Writing Process**



Activities



1 Grammar/Sentence Construction

Georgia Performance Standard ELA6C1

Within the Grammar/Sentence Construction domain, students recognize and use the eight main parts of speech and the basic parts of sentences (subjects, verbs, objects, etc.). They demonstrate understanding of simple, compound, complex, and compound-complex sentences, and are able to punctuate a variety of sentence types correctly. Students are also able to spell grade-level words in context, correct sentence fragments and run-ons, and correctly apply rules of capitalization.

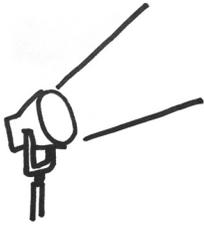
The following activities develop skills in this domain:

- To become familiar with the four different categories of verbs, students create a graphic verb organizer. They will write these four column headings: *Active (Transitive)*, *Active (Intransitive)*, *Linking*, and *State of Being*. In the second row, just below each column heading, students will write the definition. In the third row, students should make up a sentence giving an example of the verb category. They should check to be sure that the verb in the example agrees with the subject of the sentence.
- To focus attention on different types of pronouns and their correct use, partners can conduct a *Favorite Things* silent interview. Instead of asking questions, partners write four questions, beginning each with a different interrogative pronoun. For instance, a student might write, *What sport do you like best?* and *Who is your favorite singer?* Students exchange interview questions and write their answers in full sentences. Then they work together to locate all pronouns in the questions and answers, and decide whether each is a personal, possessive, demonstrative, reflexive, or indefinite pronoun. They also need to make sure that each pronoun agrees with its antecedent.
- To develop skills in detecting and correcting sentence fragments and run-on sentences, students will prepare a script for a two-minute mock podcast. Point out that the final script must contain only complete sentences. These sentences may be simple, compound, or complex, but they may not include sentence fragments or run-on sentences. Students should proofread the script for correct sentence structure, punctuation, capitalization, and spelling.
- For practice using correct capitalization, invite students to write the title and lyrics to the first verse of a favorite song. Students should check the title and lyrics carefully to be sure that their work follows the standard rules of capitalization.

Further support can be found in the GPS English/Language Arts Framework at www.georgiastandards.org/elaframework.aspx



Activities



2 Research/Writing Process

Georgia Performance Standards ELA6W1, ELA6W2, ELA6W3, and ELA6W4

For the writing process, students analyze the organizational structure of paragraphs, choose appropriate transitions between paragraphs, passages, and ideas, and select appropriate closing sentences. They also determine appropriate topic sentences, supporting evidence, and details. Students identify extraneous information and details and reorganize sentences to improve clarity. Finally, students analyze the features of various types of electronic texts (electronic bulletin boards, databases, keyword searches, etc.).

The following activities develop skills in this domain:

- To give practice in selecting appropriate transitional words and phrases, students will examine a one-page, informational article of an appropriate reading level. After the first reading, students go back to the beginning and read the article again, this time focusing on the transitions used in compound and complex sentences. They can copy each transition on a separate index card and label it according to how it has been used (for example, *to show contrast* or *to show cause or effect*).
- In order to become familiar with different organizational patterns and how each is used in writing, students will do some role playing with the fable, *The Boy Who Cried Wolf*. Taking the role of the shepherd boy, students will make up a paragraph to answer each of the following questions:
 - *What events happened, in order, just before you saw the wolf?* (Sequence)
 - *Did the wolf look like a big dog? Tell the similarities and differences.* (Compare/Contrast)
 - *Why did the townspeople eventually ignore the alarm call?* (Cause/Effect)
 - *Describe the steps you think it would take to regain the townspeople's trust.*
- For practice analyzing the relationship between main idea and supporting details in a variety of genres, provide three different types of articles from which the statement of main idea has been deleted: a descriptive article, an informational article, and a persuasive article. Students will read each article and infer its main idea. Then they explain how each detail helped them figure out the main ideas.
- For practice in judging the effectiveness of supporting details, students develop a *Top Ten* list of details to develop a paragraph with this main idea: *Our state is a great place to live*. Students list ten facts, descriptive sentences, quotations, or other ideas that support the main idea. They should arrange these ideas in order of importance, from least to most. For extra practice, they can write out the paragraph, making sure that they use appropriate transitional words or phrases between the supporting details.

Further support can be found in the GPS English/Language Arts Framework at www.georgiastandards.org/elaframework.aspx



Practice Quiz



- 1 **Which word in the sentence is a preposition?**

I am sitting between my uncle and my sister.

- A sitting
- B between
- C my
- D uncle

- 2 **Which sentence uses an intransitive verb?**

- A He ate his apple first.
- B Tamara is reading quietly.
- C She wants a new book for a reward.
- D Amy and Wendy have yellow raincoats.

- 3 **What part of speech is the underlined word in the sentence?**

She brings a pencil to every class.

- A verb
- B subject
- C direct object
- D predicate adjective

- 4 **Which sentence is a compound sentence?**

- A Did you read the story, or were the children asleep?
- B Read us a story from our favorite book of folk tales.
- C The children were ready for bed and a bedtime story.
- D Before bedtime tonight, can you read the children a story?

- 5 **Where should the comma be placed in the sentence?**

Do not forget to open the window Paul.

- A after *not*
- B after *forget*
- C after *open*
- D after *window*

- 6 **Which sentence has a capitalization error?**

- A Last winter was colder than expected.
- B The Doctor spoke to our class yesterday.
- C My mother and I enjoy cooking meals together.
- D Our social studies class is studying the U.S. Constitution.



7 **Which sentence uses a demonstrative pronoun?**

- A Open the door carefully.
- B These berries are so sour.
- C Our homework keeps us busy.
- D Those are the ones I like the most.

8 **Which transition word BEST connects the two sentences?**

Remember to finish your homework, _____ you cannot go outside to play.

- A when
- B instead
- C usually
- D otherwise

9 **Which sentence is unrelated to the paragraph?**

¹One of my favorite books is *The Sweet Kingdom*. ²It is about a king who loves anything that is made with sugar. ³He insists that everyone in his kingdom eat chocolate. ⁴I returned the book to my school's library yesterday.

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

10 **Which would be the BEST way to contact a possible employer?**

- A e-mailing the hiring director of a company
- B searching a database of employers in the state
- C posting a question on a job-related electronic bulletin board
- D entering the keyword *employer* into an Internet search engine



Solutions

Number	Correct Answer	Explanation
1	B	<p><i>Identifies and uses prepositional phrases (preposition, object of the preposition, and any of its modifiers). (ELA6C1a(vii))</i></p> <p>The correct answer is Choice (B) between. <i>Between</i> is a preposition that shows location. Choice (A) is a verb; Choice (C) is a possessive adjective; and Choice (D) is a noun.</p>
2	B	<p><i>Identifies and uses verbs—action (transitive/intransitive), linking, and state-of-being. (ELA6C1a(iv))</i></p> <p>The correct answer is Choice (B) Tamara is reading quietly. The verb <i>reading</i> is followed by an adverb, not a direct object, in this sentence. The verbs in Choices (A), (C), and (D) are transitive; all have direct objects.</p>
3	C	<p><i>Recognizes basic parts of a sentence (subject, verb, direct object, indirect object, predicate noun, predicate adjective). (ELA6C1b)</i></p> <p>The correct answer is Choice (C) direct object. “Pencil” is the direct object of the verb “brings.” Choice (A) <i>verb</i> is the word “brings.” Choice (B) <i>subject</i> is the word “She”; and Choice (D) <i>predicate adjective</i> is part of a prepositional phrase.</p>
4	A	<p><i>Identifies and writes simple, compound, complex, and compound-complex sentences, avoiding fragments and run-ons. (ELA6C1c)</i></p> <p>The correct answer is Choice (A) Did you read the story, or were the children asleep? This sentence is made up of two simple sentences joined with the coordinating conjunction <i>or</i>. Choice (B) is a simple sentence with two prepositional phrases. Choice (C) has a prepositional phrase with a compound object. Choice (D) is a simple sentence beginning with a prepositional phrase.</p>
5	D	<p><i>Demonstrates appropriate comma and semicolon usage (compound and complex sentences, appositives, words in direct address). (ELA6C1d)</i></p> <p>The correct answer is Choice (D) after window. The comma is used to set off a word of direct address. Commas are not needed for any reason in the sentence.</p>



Number	Correct Answer	Explanation
6	B	<p><i>Produces final drafts that demonstrate accurate spelling and the correct use of punctuation and capitalization. (ELA6C1f)</i></p> <p>The correct answer is Choice (B) The Doctor spoke to our class yesterday. The word <i>doctor</i> should not be capitalized here because it is not part of a doctor’s name, such as Doctor Smith. Choices (A), (C), and (D) all follow the guidelines for correct capitalization.</p>
7	D	<p><i>Identifies and uses pronouns—personal, possessive, interrogative, demonstrative, reflexive, and indefinite. (ELA6C1a(ii))</i></p> <p>The correct answer is Choice (D) Those are the ones I like the most. The demonstrative pronoun is <i>those</i>. Choices (A), (B), and (C) do not have pronouns.</p>
8	D	<p><i>Uses appropriate structures to ensure coherence (e.g., transition elements). (ELA6W1d)</i></p> <p>The correct answer is Choice (D) otherwise. In this sentence, the word <i>otherwise</i> is used as a conjunction; it connects both parts of the sentence. It also shows a cause-and-effect relationship between “finishing homework” and “playing outside.” The other answer choices would make the sentence illogical.</p>
9	D	<p><i>Excludes extraneous details and inconsistencies. (ELA6W2e)</i></p> <p>The correct answer is Choice (D) sentence 4. The paragraph tells what <i>The Sweet Kingdom</i> is about. <i>Sentence 4</i> doesn’t tell anything about what happens in the story. Choices (A), (B), and (C) give details that relate directly to <i>The Sweet Kingdom</i>.</p>
10	A	<p><i>Uses organizational features of electronic text (e.g., bulletin boards, databases, keyword searches, e-mail addresses) to locate relevant information. (ELA6W3a)</i></p> <p>The correct answer is Choice (A) e-mailing the hiring director of a company. This would put the prospective employee in contact with a specific person. Choices (B) and (D) would yield too many results that would be hard to narrow down. Choice (C) would not necessarily put the prospective employee in touch with employers.</p>

Mathematics



Chapter 3

Mathematics

By the end of Grade 6, students will understand the four arithmetic operations as they relate to positive rational numbers; convert between and compute with different forms of rational numbers; understand the concept of ratio and solve problems using proportional reasoning; understand and use line and rotational symmetry; determine surface area and volume of solid figures; use variables to represent unknown quantities in formulas, algebraic expressions, and equations; utilize data to make predictions; and determine the probability of given events.

The Mathematics activities focus on some of the concepts that are assessed on the Grade 6 CRCT Math domains. These domains are as follows:

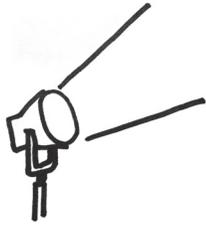
- 1 Number and Operations**
- 2 Measurement**
- 3 Geometry**
- 4 Algebra**
- 5 Data Analysis and Probability**

Mathematical Process Skills are integrated throughout the domains. These are skills used to acquire and apply content knowledge.

Mathematical Process Skills refer to students' dexterity in applying concepts and skills in the context of authentic problems and understanding concepts rather than merely following a sequence of procedures. Process skills are used to acquire and apply content knowledge. Process skills involve solving problems that arise in Mathematics and in other contexts; investigating, developing, and evaluating mathematical arguments; communicating mathematically; making connections among mathematical ideas and to other content areas; and representing mathematical ideas in multiple ways.



Activities



1 Number and Operations

Georgia Performance Standard M6N1

Within the Number and Operations domain, students will learn the meaning of the four arithmetic operations as related to positive rational numbers, and will use these concepts to solve problems. Students will apply factors and multiples, including decomposing numbers into their prime factorization, and determining the greatest common factor (GCF) and least common multiple (LCM) for a set of numbers. They will add and subtract fractions and mixed numbers with unlike denominators, and multiply and divide general fractions and mixed numbers. Students will be able to use fractions, decimals, and percents interchangeably and solve problems using them.

The following activities develop skills in this domain:

- To apply factoring skills, students should find possible perimeters of different rectangles and prisms, given their area or volume. Students should use the perimeter, area, and volume formulas and focus on the application of factors in finding the possible dimensions of:
 - A rectangle with area 24 in^2
 - A rectangle with area 80 in^2
 - A rectangle with area 120 in^2
 - A prism with volume 24 in^3
 - A prism with volume 120 in^3
 - A prism with volume 145 in^3
- Help students gain confidence in adding, subtracting, multiplying, and dividing mixed numbers by shopping for the ingredients of the following cake recipe:

$2 \frac{1}{2}$ cups sugar

$1 \frac{3}{4}$ cups flour

$\frac{3}{4}$ cup cocoa

4 eggs

$1 \frac{3}{8}$ cups of milk

$5 \frac{5}{8}$ tablespoons of frosting

If you are short $\frac{1}{4}$ cup of milk but still want to make a cake using this recipe, how much of each of the other ingredients should be used to maintain the proportions of the original recipe?



Students will practice mixed-number multiplication by calculating how much of each ingredient to buy in order to make 5 cakes for an upcoming parent night event or 7 cakes for the year-end graduation celebration. Students will practice mixed-number division by finding the number of packages needed to make 5 cakes or 7 cakes, using these package sizes:

Sugar comes in $2\frac{1}{4}$ -cup containers

Flour comes in $3\frac{1}{2}$ -cup bags

Cocoa comes in $\frac{1}{2}$ -cup tins

Eggs come 12 to a carton

Milk comes in $1\frac{2}{3}$ -cup cartons

Frosting comes in $20\frac{1}{2}$ -tablespoon containers.

- Students should apply greatest common factor (GCF) and least common multiple (LCM) to make various quadrilaterals. Students will cut straws that are 5 cm, 6 cm, 9 cm, 10 cm, and 15 cm long. To apply GCF skills, students should make the following figures, finding the longest straw possible and using straws of only that length:
 - A rectangle with length 30 cm and width 25 cm
 - A rectangle with length 30 cm and width 20 cm
 - A rectangle with length 30 cm and width 60 cm
 - A cube with length 30 cm, width 45 cm, and height 60 cm

After making the figures, students should answer:

- *Why did it make sense to use the 10-cm straws for the second rectangle even though you could have used the 5-cm straws?*
- *Why did it make sense to use the 15-cm straws for the third rectangle even though you could have used the 10-cm straws?*
- *Why did it make sense to use the 15-cm straws for the cube even though you could have used the 5-cm straws?*

To apply LCM skills, students should:

- Find the least common multiple of 6 and 9, and then:
 - Lay end-to-end the number of 6-cm straws needed to equal the LCM.
 - Next to the line of 6-cm straws, lay end-to-end the number of 9-cm straws needed to equal the LCM.
 - Determine if there is another combination of straws that will produce equal lines shorter than 18.



- In order to gain practice converting between decimals, fractions, and percents, students will use given values to find an unknown amount. The three pizzas listed in the chart are of equal size. The size of each slice is shown as a portion of a whole pizza. Students should use the information in the chart to determine the size of each unlisted portion. They should then use these results to determine which slice is largest.

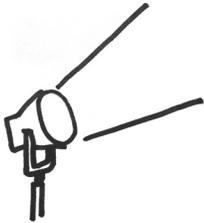
Pizza Number	Slice One	Slice Two	Slice Three	Slice Four
1	$\frac{1}{4}$	0.28	23%	
2	$\frac{1}{8}$	0.165	50%	
3	$\frac{2}{5}$	0.045	0.40%	

Further support can be found in the GPS Mathematics Framework:
Unit 2: *Extending and Applying Number Theory*; and Unit 3: *Fractions, Decimals, Ratios, and Percents*.

The Math Framework documents are available at
www.georgiastandards.org/mathframework.aspx



Activities



2 Measurement

Georgia Performance Standards M6M1, M6M2, M6M3, and M6M4

The Measurement domain addresses students' ability to convert between units within one system of measurement (customary or metric) by using proportional relationships. Students will use appropriate units of measure for finding length, perimeter, area, and volume, and will express each quantity using the appropriate unit. Students will measure length to the nearest half, fourth, eighth, and sixteenth of an inch. Students will select, use, compare, and contrast units of measure for perimeter, area, and volume. Students will determine the volume of fundamental solid figures, including right rectangular prisms, cylinders, pyramids, and cones. Students will determine the formulas for the volume of fundamental solid figures and use them to compute volume using appropriate units of measure. Students will estimate the volume of simple geometric solids, and solve application problems involving the volume of fundamental solid figures. Students will determine the surface area of solid figures, including right rectangular prisms and cylinders. Students will find the surface area of right rectangular prisms and cylinders using manipulatives and constructing nets, or compute it using formulas. Students will estimate the surface areas of simple geometric solids, and solve application problems involving the surface area of right rectangular prisms and cylinders.

The following activities develop skills in this domain:

- In order to develop the link between the dimensions of an object and the units needed to describe its size, give students a piece of string, a piece of paper, and a box (or another combination of multidimensional objects). Students should:
 - Describe in their own words how the objects differ spatially
 - List which measurements will apply to the object
 - Explain why the other measurements do not apply to the object (e.g., why we can't talk about the area of a string or the volume of a piece of paper)
- Surface area and volume are common measures used for solids. To apply both surface area and volume measures, students should choose the cylindrical water storage container that will meet Williamsburg's water storage needs, as outlined in the activity below:
 - The new water storage system Williamsburg is installing must have a capacity (volume) of at least 125π cubic meters. The town would like to keep the surface area of the container as small as possible to minimize the cost of paneling. Which tank should the town choose and why? Be sure to give details comparing the various options.
 - Tank One: radius 8 m, height 3 m
 - Tank Two: radius 8 m, height 2 m
 - Tank Three: radius 3 m, height 8 m
 - Tank Four: radius 3 m, height 3 m
 - Tank Five: radius 7 m, height 2 m
 - Tank Six: radius 7 m, height 3 m



- In order to practice converting within a measurement system, students should find the solution to this riddle:

*As I was traveling to St. Ives,
I passed a man with seven wives,
And every wife had seven sacks,
And every sack had seven hams,
And every ham weighed seven kilograms,
Grams, hams, sacks, wives,
How many milligrams of ham were traveling to St. Ives?*

Further support can be found in the GPS Mathematics Framework:
Unit 5: *Circles and Graphs*; and Unit 8: *Solids*.

The Math Framework documents are available at
www.georgiastandards.org/mathframework.aspx



Activities



3 Geometry

Georgia Performance Standards M6G1 and M6G2

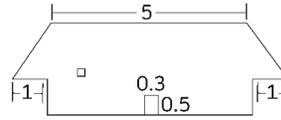
Within the Geometry domain, students develop their understanding of plane figures. They will determine and use lines of symmetry and investigate rotational symmetry, including degrees of rotation. They will use the concepts of ratio, proportion, and scale factor to demonstrate the relationships between similar plane figures. Students will interpret and sketch simple scale drawings, and solve problems involving them. They will also further develop their understanding of solid figures. Students will compare and contrast right prisms and pyramids, as well as cylinders and cones. They will interpret and sketch front, back, top, bottom, and side views of solid figures. Lastly, students will construct nets for prisms, cylinders, pyramids, and cones.

The following activities develop skills in this domain:

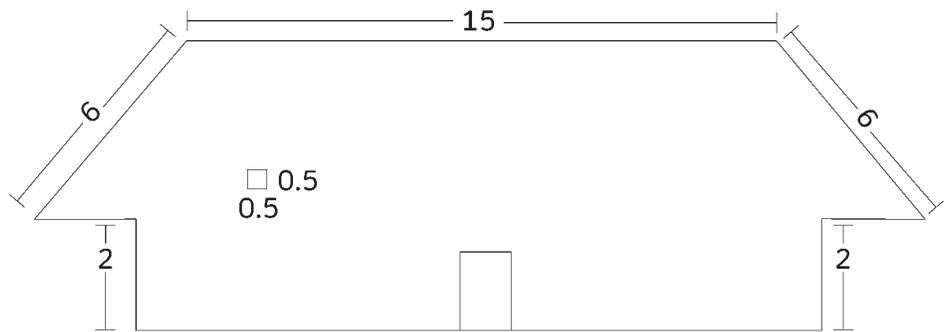
- Symmetry is a fundamental concept that is used often to simplify problems in math and the natural sciences. To develop a sense of reflective symmetry, students should look for and draw any lines of symmetry on a variety of objects such as the letters of the alphabet; off-axis arrows; and polygons, such as isosceles and scalene triangles, trapezoids, hexagons, irregular quadrilaterals, and circles. After finding lines of symmetry students should strengthen their two-dimensional spatial sense by creating plane figures that have:
 - Vertical symmetry
 - Horizontal symmetry
 - Off-axis symmetry
 - More than one kind of symmetry
 - No symmetry
- To develop a sense of rotational symmetry, students will work with regular polygons using these steps:
 - 1** Draw and cut out an equilateral triangle, a square, a regular pentagon, a regular hexagon, and a regular octagon.
 - 2** For each figure, trace an outline of it on a separate piece of paper and, without moving it, place a thumbtack through the center.
 - 3** Rotate the figure once, and count and record the number of times the cutout matches the tracing.
 - 4** Calculate the degree of rotation (degrees the figure must rotate to match the tracing).
 - 5** After performing steps 2–4 for all figures, students should explain in their own words the meaning of rotational symmetry.



- Similarity is a geometric concept that links ratios and proportion with objects in the real world. An example of this can be found in scaled drawings of a house.



Similar Houses



Students should first find the corresponding sides in the two figures, then calculate the ratio of corresponding sides using given lengths. Finally, they should find any missing lengths of sides, doors, and windows using the ratio of corresponding sides.

- Visualizing three-dimensional objects from different perspectives helps students develop spatial-reasoning skills. To develop this ability, students should draw a variety of objects—regular and irregular—from different perspectives. If building blocks are available, students should make a series of block towers of different heights, and draw them from front, back, left, and right. Drawing common objects (stapler, phone, computer mouse, jar) from different perspectives will also develop spatial-reasoning skills. An Internet search for “spatial reasoning” or “drawing blocks from different perspectives” will give useful information about tools.

Further support can be found in the GPS Mathematics Framework:
Unit 5: *Circles and Graphs*; Unit 6: *Symmetry*; and Unit 7: *Scale Factor*.

The Mathematics Framework documents are available at
www.georgiastandards.org/mathframework.aspx

Activities



4 Algebra

Georgia Performance Standards M6A1, M6A2, and M6A3

The Algebra domain addresses relationships between varying quantities, specifically, students' understanding of the concept of ratio and its use in representing quantitative relationships. They will analyze and describe patterns arising from mathematical rules, tables, and graphs. Students will use manipulatives or draw pictures to solve problems involving proportional relationships. They will use proportions ($a/b = c/d$) to describe relationships and solve problems, including percent problems. They will describe and graph proportional relationships of the form $y = kx$, and describe characteristics of the graphs. They will solve problems using the relationships $y = kx$ for one of the variables, given the other two, and use proportional reasoning to solve problems. Students will also evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.

The following activities develop skills in this domain:

- Proportional equations, equations of the form $y = kx$, are used to model situations where quantities vary directly. To gain familiarity and flexibility with the use of these equations, students should find how much soda each guest at Jane's party can have by following the steps outlined below:
 - 1 The total cost for the soda Jane buys for her party is \$12.60. The total Jane paid is given by $c = (1+t)p$, where c is the total cost, t is the tax rate of 0.05, and p is the price before tax. Find the price of the soda before tax.
 - 2 Each bottle of soda was \$1.50. The total price Jane pays is $p = \$1.50b$, where p is the price before tax and b is the number of bottles. Use your answer from Step 1 to find the number of bottles of soda Jane purchased.
 - 3 There are 2.5 liters of soda in each bottle Jane purchased. $l = 2.5b$ gives the total liters she purchased, where l = total liters and b = number of bottles. Use your answer from Step 2 to find how many liters she bought.
 - 4 Jane has 90 friends coming to the party and she wants to serve each guest the same amount of soda. Find how much she should serve each guest using the equation $l = sf$, where l is the total number of liters of soda she has, f is the number of friends coming, and s is the serving each friend gets.
- Finding and using percents is a frequently used algebraic skill. For a real-world application of this concept, students should imagine they are running a music store and calculate a variety of discounts, taxes, percent increases, and percent decreases. Students will use the following information to answer the questions.
 - A CD costs \$16.50. *How much will it cost if you are given a 14% discount?*
 - A customer is buying a portable CD player that costs \$65.00, and the state tax is 5%. *How much does the customer owe?*
 - Your sales were \$4,500 in July and \$4,650 in August. *By what percent did your sales increase from July to August?*



-
- Your costs were \$4,650 in August and \$2,940 in September. *By what percent did your costs decrease from August to September?*

 - Evaluating algebraic expressions is a key skill that supports the development of algebraic thinking and problem solving. One use of substituting values into expressions is finding the centrifugal force on Jeff’s racecar while he makes a turn.
 - 1** When Jeff’s racecar makes a turn it produces what is called a centrifugal force that attempts to push the car out of its turn. This force depends on the mass of the car and the radius of the turn.
 - 2** The mass of Jeff’s car is equal to $4T + 2S + R + E + B$ where $T = 75$ kg is the mass of one tire, $S = 42.5$ kg is the mass of one seat, $R = 5$ kg is the mass of the radio, $E = 245$ kg is the mass of the engine, and $B = 1450$ kg is the mass of the body of the car. Use the equation and the values given to find the mass of Jeff’s car.
 - 3** There are eight lanes on the racetrack, and the radius of the turn depends on what lane you are in. If N is the lane number, the radius of the turn is equal to $80 - 4N$. If Jeff makes the turn in the 5th lane, find the radius of his turn.
 - 4** The force pushing Jeff’s car outward is given by $\frac{MV^2}{R}$ when M = the mass of his car and R = the radius of his turn. If $V = 200$ km per hour, find the force pushing Jeff’s car outward. (NOTE: Don’t worry about the units.)

 - Understanding when to use proportions, how to set up proportion equations, and how to solve proportion equations are important skills in Grade 6. Students should practice these steps with the following activity.
 - 1** Students should estimate the height of the school flagpole.
 - 2** Students should stand a meter stick on the ground and measure the length of the shadow it casts.
 - 3** While the flagpole is much higher than the meter stick, the proportion between the flagpole (f) and its shadow (fs), and between the meter stick (m) and its shadow (ms) is the same.
 - 4** Students should use this concept to create the equation $\frac{f}{fs} = \frac{m}{ms}$.
 - 5** The unknown variable in the equation is the flagpole (f).
 - 6** Student should solve for the length of the flagpole (f).

Further support can be found in the GPS Mathematics Framework:
Unit 3: *Fractions, Decimals, Ratios, and Percents*; Unit 4: *One-Step Equations*;
and Unit 9: *Direct Proportion*.

The Mathematics Framework documents are available at
www.georgiastandards.org/mathframework.aspx

Activities



5 Data Analysis and Probability

Georgia Performance Standards M6D1 and M6D2

Within the Data Analysis and Probability domain, students will pose questions, collect data, represent and analyze the data, and interpret results. They will form questions that can be answered using data collected from samples, or by conducting experiments. They will use data to construct frequency distributions, frequency tables, and graphs. They will choose among pictograms, histograms, bar graphs, line graphs, circle graphs, and line plots to be consistent with the nature of the data (categorical or numerical). Students will use tables and graphs to examine the variation that occurs within a group and between groups. They will relate data analysis to the context of the questions posed. Students will use experimental and theoretical probability, understand the nature of sampling, and make predictions from investigations. Students will determine and use a ratio to represent the theoretical probability of a given event. They will predict the probability of a given event through trials, and discover that experimental probability approaches theoretical probability when the number of trials is large.

The following activities develop skills in this domain:

- Finding the likelihood of an event occurring (given that all outcomes are equally likely) is a key skill in determining probability. To develop this skill, students should determine the probabilities of choosing a red shirt in the following situation:
 - Step One: A drawer starts with only 1 red shirt.
 - Step Two: 4 red shirts and 5 white shirts are added.
 - Step Three: 3 red shirts and 3 white shirts are added.
 - Step Four: 3 red shirts and no white shirts are added.
 - Step Five: No red shirts and 3 white shirts are added.

Students should explain in their own words:

- What the probability of 1 in Step One means
 - What the probability of $\frac{1}{2}$ in Step Two means
 - Why the probability of choosing a red shirt did not change in Step Three
 - Why the probability of choosing a red shirt increased in Step Four
 - Why the probability of choosing a red shirt decreased in Step Five
- Samples are used to estimate answers to real-life questions in all levels of statistical analysis. To understand how sampling works, students should estimate the percentage of vowels in this passage of *The Declaration of Independence*, using the percentage of vowels in:
 - The first line
 - The first two lines
 - The first four lines

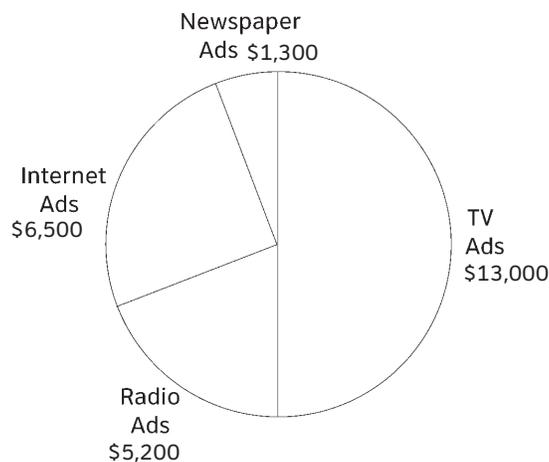


T	H	E		D	E	C	L	A	R	A	T	I	O	N		O	F		I
N	D	E	P	E	N	D	E	N	C	E	:	W	H	E	N		I	N	
T	H	E		C	O	U	R	S	E		O	F		H	U	M	A	N	
E	V	E	N	T	S		I	T		B	E	C	O	M	E	S		N	E
C	E	S	S	A	R	Y		F	O	R		O	N	E		P	E	O	P
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A	S	S	U	M	E		A	M	O	N	G		T	H	E		P	O	W
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P	A	R	A	T	I	O	N	—	T	.	J	E	F	F	E	R	S	O	N

Students should explain, in their own words, why it makes sense that the estimate should get closer to the true percentage as the number of lines sampled increases.

- To practice analyzing data using circle graphs, students will find the ratios of various quantities measured in the graph below:
Students will use ratios to answer these questions:

Big Bear Teddy Bear Advertising Costs



- 1** How many times as much money did Big Bear spend on TV ads than on radio ads?
- 2** What fraction of the amount that they spent on Internet ads did they spend on newspaper ads? How many times as much money did Big Bear spend on newspaper ads than on Internet ads?
- 3** How many times as much money did Big Bear spend on TV ads than on newspaper and Internet ads combined?
- 4** If you used the percentages spent on the different forms of advertisements, would your answers to questions 1–3 be any different? Explain your answer.

- The link between experimental and theoretical probability is fundamental to most applications of probability theory. Students should establish that the experimental probability of an event will approach the event’s theoretical probability as the number of trials increases. To see this, students should roll a number cube 50 times and record the number of 2s and the number of even numbers in the tables below:

After...	A 2 turned up...	Experimental probability of rolling a 2	Theoretical probability of rolling a 2	Difference between experimental probability and theoretical probability
10 trials				
25 trials				
50 trials				

After...	An even number turned up...	Experimental probability of rolling an even number	Theoretical probability of rolling an even number	Difference between experimental probability and theoretical probability
10 trials				
25 trials				
50 trials				

If this activity is being done in a classroom setting, the point can be strengthened by combining all of the students’ results on the blackboard. For instance, if there are 20 students in class, the table below could be used to combine results:

After...	An even number turned up...	Experimental probability of rolling an even number	Difference between experimental probability and theoretical probability
200 trials			
500 trials			
1000 trials			



Students should state, in their own words, what happens to the experimental probability as the number of trials increases.

Further support can be found in the GPS Mathematics Framework:
Unit 1: *Gathering Data*; and Unit 10: *Games of Chance*.

The Mathematics Framework documents are available at
www.georgiastandards.org/mathframework.aspx



Practice Quiz



- The weight specification for a new truck is 1,500 kg. What is the weight of the truck in grams?**
 - 150
 - 15,000
 - 1,500,000
 - 150,000,000

- In Laverne's class, $\frac{4}{5}$ of the students ride the bus to school. What percent of the students in her class ride the bus to school?**
 - 20%
 - 25%
 - 45%
 - 80%

- Dottie needs to learn a total of 24 vocabulary words. She has learned 75% of the words. How many of her vocabulary words did she learn so far?**
 - 3
 - 6
 - 18
 - 21

- A square has a perimeter of 36 inches. What is the perimeter in feet?**
 - 1 foot
 - 3 feet
 - 9 feet
 - 12 feet

- Mike has a cube. The length of each side is 4.8 cm. Which of these is the BEST estimate of the surface area of Mike's cube?**
 - 20 cm^2
 - 60 cm^2
 - 150 cm^2
 - 180 cm^2

- Carlos made a scale model of his house. The actual width is 30 feet, and the actual length is 45 feet. If the model has a width of 3.75 inches, what is the length of his model?**
 - 2.5 inches
 - 5.625 inches
 - 6.75 inches
 - 8 inches



- 7 **A Grade 6 class has 15 boys and 12 girls. What is the ratio of boys to girls in the class?**
- A 4:5
 - B 5:4
 - C 4:9
 - D 5:9
- 8 **A cookie factory produces 325 cookies per hour. On average, 30 are broken. At this rate, if they produce 4,550 cookies, how many can they expect to be broken?**
- A 214
 - B 280
 - C 420
 - D 492
- 9 **A student randomly chooses one pen from a box containing 1 black, 3 red, and 6 blue pens. What is the probability that the student chooses a blue pen?**
- A $\frac{1}{6}$
 - B $\frac{2}{3}$
 - C $\frac{6}{10}$
 - D $\frac{6}{4}$
- 10 **Melanie likes to race miniature cars. Every five seconds, she records the total distance her car travels. Which graph would BEST represent this type of data?**
- A bar graph
 - B circle graph
 - C line plot
 - D line graph

Solutions

Number	Correct Answer	Explanation
1	C	<p><i>Students will convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships. (M6M1)</i></p> <p>The correct answer is Choice (C) 1,500,000. Since there are 1000 grams in a kilogram, multiply $1,500 \text{ kg} \times 1000$ to get $1,500,000$ grams. Choice (A) is incorrect because 150 is the result of dividing 1,500 by 10 rather than multiplying by 1,000. Choice (B) is correct because 15,000 is the result of multiplying 1,500 by 10 instead of 1,000. Choice (D) is incorrect because $150,000,000$ is the result of multiplying by 100,000 instead of 1,000.</p>
2	D	<p><i>Use fractions, decimals, and percents interchangeably. (M6N1f)</i></p> <p>The correct answer is Choice (D) 80%. To find the answer, write the proportion $\frac{4}{5} = \frac{x}{100}$. Multiply both the numerator and denominator by 20: $\frac{4}{5} \times \frac{20}{20} = \frac{80}{100}$. 80% is correct. Choice (A) is the percent of students who do <i>not</i> ride the bus to school, and may result from misreading the problem. Choices (B) and (C) are incorrect, and indicate that the student is unsure how to convert fractions to decimals or percents.</p>
3	C	<p><i>Solve problems involving fractions, decimals, and percents. (M6N1g)</i></p> <p>The correct answer is Choice (C) 18. To find the answer, write a proportion: $\frac{x}{24} = \frac{75}{100}$. To make the problem easier to solve, reduce $\frac{75}{100}$ to $\frac{3}{4}$. Solve $\frac{x}{24} = \frac{3}{4}$ by multiplying the numerator and denominator by 6: $\frac{3}{4} \times \frac{6}{6} = \frac{18}{24}$, so $x = 18$. Alternatively, find $\frac{3}{4}$ of 24: $\frac{3}{4} \times \frac{24}{1} = \frac{72}{4} = 18$. Choice (A) is incorrect, and seems to indicate a combination of misreading and calculation error. Choice (B) is incorrect, because 6 is the number of words she has <i>not</i> learned, and suggests the student misread the problem. Choice (D) is incorrect: 21 is not 75% of 24, and would seem to indicate a calculation error.</p>



Number	Correct Answer	Explanation
4	B	<p><i>Students will convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships. (M6M1)</i></p> <p>The correct answer is Choice (B) 3 feet. There are 12 inches in 1 foot, so set up a proportion: $\frac{12 \text{ in}}{1 \text{ ft}} = \frac{36 \text{ in}}{x \text{ ft}}$. Cross multiply and get $12x = 36$ and then solve for $x = 3 \text{ ft}$. Choice (A) is incorrect, and results from finding the perimeter in yards rather than feet. Choice (C) is incorrect and represents the length of each side of the square in inches. Choice (D) is incorrect and suggests that the student chose it because 12 is the number of inches in one foot.</p>
5	C	<p><i>Estimate the surface areas of simple geometric solids. (M6M4c)</i></p> <p>The correct answer is Choice (C) 150 cm². Since the answer will be an estimate, round 4.8 to 5. Then multiply 5×5 to get the area of one face of the cube. A cube has 6 faces, so 25×6, or 150 cm^2 is the correct estimate. Choice (A) is incorrect, and results from correctly rounding the side lengths to 5 cm, but calculating the <i>perimeter</i> of one side of the cube. Choice (B) is incorrect and suggests the student is uncertain how to find the surface area of a prism. Choice (D) is incorrect and may be a calculation error.</p>
6	B	<p><i>Use the concepts of ratio, proportion, and scale factor to demonstrate the relationships between similar plane figures. (M6G1c)</i></p> <p>The correct answer is Choice (B) 5.625 inches.</p> <p>Use a proportion to solve the problem: $\frac{30}{45} = \frac{3.75}{x}$. To make the problem easier to solve, reduce $\frac{30}{45}$ to $\frac{2}{3}$. Then cross-multiply to get $2x = 11.25$. Divide both sides by 2 to get $x = 5.625$. Choice (A) is incorrect, and results from using the 45-foot length of the house to find the scale ratio, rather than 30-foot width, and suggests a careless error. Choice (C) is incorrect and may be a calculation error. Choice (D) is incorrect, and suggests that the student is unsure how to find and/or use the scale ratio to solve the problem.</p>



Number	Correct Answer	Explanation
7	B	<p><i>Students will understand the concept of ratio and use it to represent quantitative relationships. (M6A1)</i></p> <p>The correct answer is Choice (B) 5:4. The ratio of boys to girls can be written as the fraction $\frac{15}{12}$. Reduce the fraction by dividing both the numerator and denominator by 3 to get $\frac{5}{4}$. Then write it as a ratio, 5:4. Choice (A) is incorrect and results from finding the ratio of girls to boys. Choice (C) is incorrect and results from finding the ratio of girls to the total number of students. Choice (D) is incorrect and results from finding the ratio of boys to the total number of students.</p>
8	C	<p><i>Use proportions ($a/b = c/d$) to describe relationships and solve problems, including percent problems. (M6A2c)</i></p> <p>The correct answer is Choice (C) 420. To find the answer, write a proportion: $\frac{30}{325} = \frac{x}{4550}$. To make the problem easier to solve, reduce $\frac{30}{325}$ to $\frac{6}{65}$. Cross-multiply to get $27,300 = 65x$. Divide both sides by 65 to get $x = 420$. Choices (A) and (D) are incorrect, and suggest the student is unsure how to solve the problem. Choice (B) is incorrect and could be a calculation error.</p>
9	C	<p><i>Determine, and use a ratio to represent, the theoretical probability of a given event. (M6D2b)</i></p> <p>The correct answer is Choice (C) $\frac{6}{10}$. There are a total of 10 pens and 6 of them are blue. Choice (A) is incorrect because it shows one blue pen chosen from a total of 6 pens. Choice (B) is incorrect and shows no relationship between the number of blue pens and the total number of pens. Choice (D) is incorrect because a probability cannot be greater than 1.</p>



Number	Correct Answer	Explanation
10	D	<p><i>Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots. (M6D1c)</i></p> <p>The correct answer is Choice (D) line graph. <i>Line graphs</i> are best used to view changes in numbers over time, such as the increase in the distance a car has traveled. Choice (A) is incorrect. <i>Bar graphs</i> are useful for comparing sizes of groups, but are not ideal for viewing trends or changes over time. Choice (B) is incorrect, because <i>circle graphs</i> are useful for comparing percentages and visualizing proportional amounts of a whole, not for viewing trends. Choice (C) is incorrect. <i>Line plots</i> are useful for viewing the distribution of numerical data that falls into ranges, which is not what Melanie is interesting in seeing.</p>

Science



Science

Students in Grade 6 will study Earth Science concepts through an inquiry-based approach. They will investigate how the Earth's surface is formed, recognize the significant role of water in Earth processes, and how the distribution of land and oceans affects climate and weather. Students then go beyond the study of the Earth to explore current scientific views of the solar system and the universe, and how those views evolved. Students are also expected to describe various sources of energy, their uses, and conservation.

The Science activities focus on some of the concepts that are assessed on the Grade 6 CRCT Science domains. These domains are as follows:

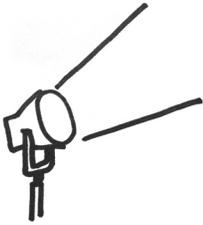
- 1 Astronomy**
- 2 Hydrology and Meteorology**
- 3 Geology**

The *Characteristics of Science* skills are integrated throughout the domains. These skills are co-requisites for understanding the content of each science domain.

Characteristics of Science refer to understanding the process skills used in the learning and practice of science. These skills include testing a hypothesis, record keeping, using correct safety procedures, using appropriate tools and instruments, applying math and technology, analyzing data, interpreting results, and communicating scientific information. *Characteristics of Science* also refer to understanding how science knowledge grows and changes, and the processes that drive those changes.



Activities



1 Astronomy

Georgia Performance Standards S6E1 and S6E2

Grade 6 students are expected to have knowledge of and scientific theories of the solar system and universe and should understand how these have changed. This includes describing gravity as the force that shapes and drives the universe. Students will identify the solar system's place in the Milky Way. They will investigate different models and theories found in astronomy. Students should understand that objects in the solar system move in a regular and predictable manner. Those motions explain such familiar phenomena as days, years, phases of the moon, eclipses, and the solar system's place in the Milky Way. Students will understand how the movement of the Earth and moon cause seasons and eclipses; how gravity keeps planets, comets, and asteroids in their orbits; and how scientists have developed different models (geocentric, heliocentric) and theories (such as the Big Bang theory) over time.

The following activities develop skills in this domain:

- To demonstrate the composition of the solar system, students will compare and contrast planets by doing research at a local library or on the Internet. First, students should create a simple chart that lists each planet's size, distance from the sun, type of atmosphere, ability to support life, and whether it is an inner or outer planet. Then students will use the information in their chart to play a game of *Guess My Planet*. The adult will choose one planet. The students will then ask yes or no questions about the planet such as, *Is the planet farther from the sun than Earth?* Based on the answers to their questions, students should eliminate planets until they are able to determine the correct planet.
- To help students understand that the tilt of the Earth affects climate, not the Earth's distance from the sun, place thermometers in two hollow toilet paper tubes. Point one tube toward the sun at a 90° angle and the other tube at a 45° angle. Students should record the temperatures in the two tubes at different times during the day. Using the results of the experiment, students should be able to answer such questions as:
 - *Was there any difference between the two tubes? If so, at what times are the differences the largest?*
 - *Which tube received the sun's rays at an angle most similar to the angle that the sun hits the United States during the winter?*
 - *Which tube received the sun's rays at an angle most similar to the angle that the sunlight hits the Earth at the equator?*
 - *Using the results, explain how the angle of the Earth affects the climate at different times of the year.*
- Students will better understand eclipses via this simple demonstration using a flashlight as the sun, a basketball as Earth, and an orange as the moon. Students will rotate the moon around the Earth to find the point at which the sun, moon, and Earth are aligned, and the light from the sun (flashlight) is

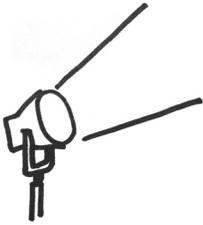
blocked by the moon to create a *solar eclipse*. Students should also find the alignment that causes the shadow of the Earth to block the moon, creating a *lunar eclipse*. Students should then draw the alignment that creates each type of eclipse, and write a paragraph explaining the causes of the each.

Further support can be found in the GPS Science Framework: *Inside the Earth, Universe and the Solar System*, and *Earth, Sun and Moon*.

The Science Framework documents are available at
www.georgiastandards.org/scienceframework.aspx



Activities



2 Hydrology and Meteorology

Georgia Performance Standards S6E3, S6E4, and S6E6

Within this domain, students should understand the important role that water plays in wind systems, weather patterns, and weather events. This includes tornados, hurricanes, and thunderstorms. They should understand the causes of waves, tides, and currents. They are also expected to know that water covers most of the Earth and be able to describe the topography of the ocean. Students will also compare and contrast Earth's interior and surface, as well as describe the formation of rocks, soils, and fossils. Finally, students will identify renewable and nonrenewable resources, and understand how scientific knowledge is achieved and organized.

The following activities develop skills in this domain:

- To demonstrate that there are many sources of water on Earth, students should create a water source guide for their area. Students will do research at the library, on the Internet, and/or by interviewing people from the area. Good resources include geographical atlases, tourism sites, and encyclopedias, as well as field trips, illustrations, and photographs. Students should answer the following questions for each body of water included in their guides:
 - *Are the water sources fresh or salt water?*
 - *Are the water sources standing or running water?*
 - *Are the water sources moving away from or towards another body of water?*

Finally, students will publish their documents and share with friends, family, or students.

- To explain renewable, alternative forms of energy, students will research solar, wind, and geothermal energy. Students should use their research to create three-dimensional models of at least one type of renewable, alternative energy. A cardboard box or shoebox should be used to create a diorama. Students will use clay and household materials to create the model. For instance, a windmill can be created by using plastic knives, and modeling clay can be used to make a fan. After students create the diorama, they will become tour guides for the sources of energy and present their dioramas to an audience of friends, family, or students.
- To explain how climate affects the formation of hurricanes, students will create a mock public service announcement about hurricanes. Students should answer the following questions:
 - *When is the typical hurricane season?*
 - *What parts of the Northern Hemisphere have the highest occurrence of hurricanes?*
 - *How are hurricanes classified?*
 - *What causes hurricanes to form?*

- *Pick one major hurricane of the past three years and discuss the effects of the hurricane on human life.*
- *How does global warming affect hurricanes?*

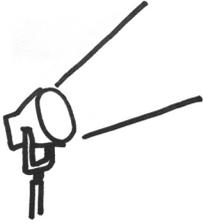
After completely answering the questions, students should create a 3–5 minute mock public service announcement. They should practice the announcement, then present it in front of an audience. At the end of the announcement, students should take questions from the audience.

Further support can also be found in the GPS Science Framework: *Water in Earth's Processes, Climate and Weather, and Human Impact*.

The Science Framework documents are available at
www.georgiastandards.org/scienceframework.aspx



Activities



3 Geology

Georgia Performance Standards S6E5 and S6E6

Students studying Geology in Grade 6 will investigate how the Earth's surface is formed. They should know the layers of the Earth, describe processes that change the Earth, and explain the physical effects of these processes. They should describe how rocks and fossils are formed, and the composition of soil. They should also explain how human activity causes erosion and describe methods of conservation.

The following activities develop skills in this domain:

- To better understand the processes which form metamorphic, sedimentary, and igneous rock, students will use baking to demonstrate how these processes work. For safety purposes, students should be monitored at all times when working in the kitchen. For sedimentary rocks, students will make a simple granola recipe. Oats, nuts, raisins, canola oil, and maple sugar should be combined in a bowl and then pressed onto a baking sheet. The ingredients represent the composition of sedimentary rock, and the pressing demonstrates how sedimentary rocks are formed over thousands of years due to pressure. For igneous rocks, students will make a simple caramel from sugar and water. Heat the solution to boiling for four minutes. When completed, the adult should pour the caramel into a greased baking pan. After cooling, the caramel will represent igneous rock, which has formed from melted rock that has solidified. Finally, students should select a favorite cake recipe to model how metamorphic rock forms. The cake represents how different ingredients, when heated and under pressure, have a new composition, similar to how rocks under extreme heat and pressure become metamorphic rocks. After completing the exercise, students will create a chart for the three types of rocks. The chart should include drawings, names, and examples for each of the three processes. Students should also use the chart to compare the processes observed in the activity with descriptions of the formation of different types of rock found on the Internet or in a textbook.
- To demonstrate the layers of the Earth, students should boil an egg. For safety purposes, students should be monitored at all times when working in the kitchen. Each part of the egg represents one of Earth's layers. First students should do research on the different layers of the Earth by looking at relative sizes and densities in a textbook. After research, students will boil an egg to study. Each of Earth's layers should be matched with a corresponding part of the egg. At the end of the comparison, students will create a diagram of the Earth's layers, including a key and the following information:
 - A list of the Earth's layers in order of density.
 - A list of the Earth's layers in order of size.
 - Which of the layers can support life?

- Have students identify renewable and nonrenewable resources important to human survival. Students will make posters showing how renewable resources can be replaced and conserved in a short period of time, and how nonrenewable resources, such as oil and coal, can take millions of years to replace. Finally, students should create poster board *bumper stickers* to promote the conservation of natural resources.

Further support can also be found in the GPS Science Framework: *Rocks and Minerals, Weathering and Erosion, and Human Impact*.

The Science Framework documents are available at
www.georgiastandards.org/scienceframework.aspx



Practice Quiz



- 1 Lisa is looking at a current model of the solar system in her classroom. Which of these statements BEST describes what she sees?**
 - A The model is geocentric, which means Earth is at the center.
 - B The model is geocentric, which means the sun is at the center.
 - C The model is heliocentric, which means Earth is at the center.
 - D The model is heliocentric, which means the sun is at the center.

- 2 In Georgia, July is in the summer and January is in the winter. Which of these statements BEST describes the difference between January and July?**
 - A Earth is closer to the sun in July than in January.
 - B Earth is closer to the sun in January than in July.
 - C In July the Northern Hemisphere is tilted toward the sun.
 - D In January the Northern Hemisphere is tilted toward the sun.

- 3 Which of these is the MOST LIKELY cause of tides?**
 - A gravitational pull of Jupiter
 - B gravitational pull of the moon
 - C movement of water in the ocean
 - D wind near the surface of the ocean

- 4 A landmass is located near an ocean. Which of these statements would MOST LIKELY compare the temperature of the landmass to the temperature of the ocean?**
 - A The landmass would be cooler at noon and cooler at midnight.
 - B The landmass would be cooler at noon and warmer at midnight.
 - C The landmass would be warmer at noon and cooler at midnight.
 - D The landmass would be warmer at noon and warmer at midnight.

- 5 Ivan is studying the layers of Earth. Which of these layers is the MOST dense?**
 - A crust
 - B mantle
 - C outer core
 - D inner core

- 6 Which of these BEST describes how an igneous rock forms?**
 - A cooling of magma
 - B weathering of other rocks
 - C colliding of tectonic plates
 - D pressing together of smaller rocks



-
- 7 **Latisha is making a poster about conserving nonrenewable resources. Which of these resources is nonrenewable?**
- A wind
 - B sunlight
 - C oak trees
 - D natural gas
- 8 **Ms. Martin tells her class about an upcoming solar eclipse. Which of these statements BEST describes a solar eclipse?**
- A Earth, the moon, and the sun form a right angle with Earth in the middle.
 - B Earth, the moon, and the sun form a right angle with the moon in the middle.
 - C Earth, the moon, and the sun form a straight line with Earth in the middle.
 - D Earth, the moon, and the sun form a straight line with the moon in the middle.
- 9 **A new shopping mall is being built near Beth's house. Many plants are removed from the area while construction is completed. Which of these describes the MOST LIKELY effect of removing the plants from the area?**
- A The population of animals nearby will increase.
 - B More soil will be washed away during heavy rains.
 - C Animals in the area that used to feed on plants will now eat other animals.
 - D The soil will have more nutrients to grow new plants after the mall is finished.
- 10 **Which of these features of a planet is LEAST LIKELY to affect the planet's ability to support life?**
- A the distance of the planet from the sun
 - B the number of moons that orbit the planet
 - C the temperature on the surface of the planet
 - D the gases that make up the planet's atmosphere



Solutions

Number	Correct Answer	Explanation
1	D	<p><i>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 theory as it describes the formation of the universe. (S6E1a)</i></p> <p>The correct answer is Choice (D) The model is heliocentric, which means the sun is the center. Scientific observation has confirmed the Copernican theory of a heliocentric universe. Choices (A) and (B) are incorrect because the current model of the solar system is called <i>heliocentric</i>. Choice (C) is incorrect because the sun is the center of the solar system.</p>
2	C	<p><i>Relates the tilt of the Earth to the distribution of sunlight throughout the year, and its effect on climate. (S6E2c)</i></p> <p>The correct answer is Choice (C) In July the Northern Hemisphere is tilted toward the sun. When a hemisphere is tilted toward the sun, it receives more direct sunlight and becomes warmer. Choices (A) and (B) are incorrect because the Earth remains the same distance from the sun throughout the year. Choice (D) is incorrect because it is the opposite of the correct answer.</p>
3	B	<p><i>Explain the causes of waves, currents, and tides. (S6E3d)</i></p> <p>The correct answer Choice (B) gravitational pull of the moon. Tides are caused by the gravitational interaction between the moon and Earth. Choice (A) is incorrect because the <i>gravitational pull of Jupiter</i> has no impact on the tides. Choices (C) and (D) are incorrect because both <i>movement of the ocean</i> and <i>wind near the surface of the ocean</i> have no discernible effect on tides.</p>
4	C	<p><i>Demonstrate that land and water absorb and lose heat at different rates, and explain the resulting effects on weather patterns. (S6E4a)</i></p> <p>The correct answer is Choice (C) The landmass would be warmer at noon and cooler at midnight. Land warms up faster in the sun and cools off faster at night than water. Choices (A) and (B) are incorrect because land absorbs heat more quickly than water, so it would be warmer than the water at noon. Choice (D) is incorrect because land loses heat quickly at night, so it would be cooler than the water at night.</p>



Number	Correct Answer	Explanation
5	D	<p><i>Compare and contrast the Earth's crust, mantle, and core, including temperature, density, and composition. (S6E5a)</i></p> <p>The correct answer is Choice (D) inner core. The <i>inner core</i> of the Earth is densest, consisting of nickel and iron. Choices (A), (B), and (C) are incorrect because the <i>crust</i>, <i>mantle</i>, and <i>outer core</i> are not as dense as the inner core. The layers of the Earth get progressively less dense, with the <i>crust</i> being the least dense.</p>
6	A	<p><i>Classify rocks by their process of formation. (S6E5c)</i></p> <p>The correct answer is Choice (A) cooling of magma. Igneous rocks are formed when melted rock, called magma, cools and becomes solid. Choice (B) is incorrect because <i>weathering of rocks</i> has no relationship to the formation of rocks; it is a part of erosion. Choice (C) is incorrect because it describes metamorphic rock formation. Choice (D) is incorrect because it describes sedimentary rock formation.</p>
7	D	<p><i>Identify renewable and nonrenewable resources. (S6E6b)</i></p> <p>The correct answer is Choice (D) natural gas. <i>Natural gas</i> is created over millions of years from organic material. Choices (A), (B), and (C) are incorrect because they are renewable resources.</p>
8	D	<p><i>Explain the alignment of the Earth, moon, and sun during solar and lunar eclipses. (S6E2b)</i></p> <p>The correct answer is Choice (D) Earth, the moon, and the sun form a straight line with the moon in the middle. A solar eclipse occurs when the light from the sun is blocked from our vision when the moon passes between the Earth and the sun. The moon's shadow obscures the sun from our view. Choices (A) and (B) are incorrect because the three solar bodies need to be in a straight line for an eclipse to occur. Choice (C) is incorrect because it describes a lunar eclipse.</p>



Number	Correct Answer	Explanation
9	B	<p><i>Explain the effects of human activity on the erosion of the Earth's surface. (S6E5i)</i></p> <p>The correct answer is Choice (B) More soil will be washed away during heavy rains. Roots of plants hold soil in place and keep erosion from occurring when it rains. Choice (A) is incorrect because changes to the animals' natural habitat will cause a decrease in animal population rather than an increase. Choice (C) is incorrect because habitat changes do not lead to major dietary changes, such as from plant-eating to meat-eating. Choice (D) is incorrect because there will be fewer nutrients in the soil due to fewer plants decaying (less organic matter) in the soil.</p>
10	B	<p><i>Compare and contrast the planets in terms of:</i></p> <ul style="list-style-type: none">– <i>Size relative to the Earth</i>– <i>Surface and atmospheric features</i>– <i>Relative distance from the sun</i>– <i>Ability to support life. (S6E1c)</i> <p>The correct answer is Choice (B) the number of moons that orbit the planet. The number of moons does not have any connection to life on a planet. Choices (A), (C), and (D) are incorrect because they directly relate to the possibility of life on a planet. If a planet is too close or too far from the sun, then the temperature is too hot or too cold to support life. The mixture of gases that make up the atmosphere of a planet has direct impact on whether a planet can support life.</p>

Social Studies



Social Studies

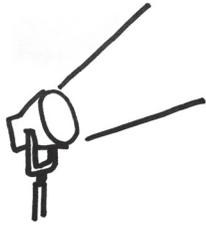
Grade 6 begins the study of world cultures with a focus on the cultures of Europe, Latin America, Canada, Australia, and Oceania. The four domains (History, Geography, Government/Civics, and Economics) are integrated, with History and Geography the primary domains. The History domain, after focusing on the recent history of a region, examines specific historical developments essential to understanding the region today. The Geography domain relates the importance of both human and physical geography to each region's development. The Government/Civics domain examines selected modern political structures in each region. The Economics domain continues to build basic economic concepts and introduces students to the economic issues in each region.

The Social Studies activities focus on some of the topics that are assessed on the Grade 6 CRCT Social Studies domains. These domains are as follows:

- 1 History**
- 2 Geography**
- 3 Government/Civics**
- 4 Economics**



Activities



1 History

Georgia Performance Standards SS6H1, SS6H2, SS6H3, SS6H4, SS6H5, SS6H6, SS6H7, and SS6H8

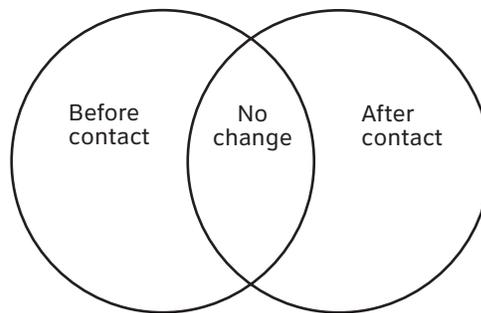
Grade 6 is a student's first formal introduction to the world beyond the United States. Students want to know more about how they fit into the larger global picture. The History domain provides students with relatively recent history of the region, generally from the late 19th century through the 20th century. The History domain also examines how specific historical events prior to modern times shaped a region. The History domain is not a chronological history; rather it attempts to help students understand why things are the way they are within a specific region. Through the History domain, students will examine many of the important events and people who influenced modern times throughout Latin America and the Caribbean, Canada, Europe, Australia, and Oceania. The goal in the History domain is for students to begin to understand the people and major events that have shaped the modern era.

The following activities develop skills in this domain:

- Creating lists to compare and contrast modern independence movements in the regions being studied will help students understand the historic roots of independence movements. First, students should find Internet and periodical articles that highlight reasons for and against independence in the regions studied. Next, as students read, they should make two lists: one describing arguments for independence; the other describing arguments against independence. Divide students into small research teams or pairs to gather information from the Internet and textbooks that trace the historic roots of each side of the issue. Finally, in the same groups, students will use the information they have come up with to debate each side of the issue.
- Students will discuss changes in art over time to improve their understanding of the Renaissance period. First, students will discuss how art is celebrated and studied in their communities today (art museums, exhibits, festivals, etc.). Next, students should research the Renaissance and its lasting effects on European and World history. Discuss how conflict in students' lives has changed the way they look at situations or treat people. Then discuss how conflict during the Renaissance may have led to a change in the way artists of this time period expressed themselves and how they viewed important issues. Ask students questions such as, *How was this new way of looking at the world shown through the works of artists like Michelangelo and Leonardo da Vinci?* Finally, connect these historical events to art and culture as we know it today by answering the following:
 - *What influence did these artists have on art and culture that has lasted to this very day?*
 - *Why do you think Renaissance art is still celebrated and studied today?*
 - *What works of art have you seen that caused you to feel happy, sad, angry, etc.?*



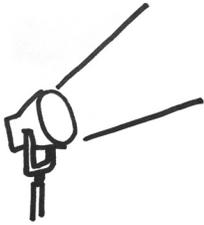
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- To help students understand the effects that colonization has on native peoples, students will create a visual organizer comparing conditions over time. Students will choose a particular group in one of the studied regions and compare the current lifestyles and living conditions of natives with the way these people lived before contact with newcomers. Students should compare homes, weapons, food sources, disease, communication, transportation, and religion. Use the following questions to help students complete a Venn diagram illustrating the changes in lifestyle and living conditions before and after contact with newcomers. The overlapping area represents lifestyle and living conditions that remained the same.
 - *How has life changed?*
 - *How has life remained the same?*
 - *What factors brought about change?*
 - *How has life improved after the arrival of newcomers?*
 - *How did the newcomers negatively affect the natives?*



The Social Studies Framework documents are available at
www.georgiastandards.org/socialstudiesframework.aspx



Activities



2 Geography

Georgia Performance Standards SS6G1, SS6G2, SS6G3, SS6G4, SS6G5, SS6G6, SS6G7, SS6G8, SS6G9, SS6G10, SS6G11, and SS6G12

The Geography domain of Grade 6 Social Studies introduces students to important physical and human characteristics of specific regions in the world (Latin America and Canada, Europe, and Australia and Oceania). Students will also interpret the impact of government policies and individual behaviors on each region's development. This domain will help students better understand the relationship of geography to culture, history, and economics. Students will also begin to understand their interdependence with other peoples of the world. Students should be able to analyze and evaluate the role of geography, both physical and human, in shaping the region under study.

The following activities develop skills in this domain:

- To help students understand the importance of geography to the region under study, students will locate and label the major physical features of the land (rivers, deserts, mountains, etc.) on maps as identified in the appropriate Georgia Performance Standards. Students will then explain how these physical features affect human geography. Students should consider such factors as trade, where people live, and economic activities (farming, mining, fishing, manufacturing, etc.). Finally, working in small groups or individually, the students should answer the following questions:
 - *How might location, climate, and natural resources prompt the growth of the cities and major civilizations?*
 - *What impact might major bodies of water have on the development of trade and industry in the regions studied?*
 - *What geographical features are found near many major cities? Why is that the case?*
 - *How does the physical environment in your area affect the way you live?*
- To help students understand customs, religions, traditions, and lifestyles of people from different cultures, students should prepare a collage. Students will work independently or in small groups to select cultural groups from the regions studied. Each student or group should work with a different cultural group. Each student or group will prepare a collage related to the religions, customs, traditions, and other features that make each cultural group unique. Students or groups will share their collage presentations with classmates or family members, who will ask questions of the student artists. Questions that students should be able to answer about their chosen cultural group include:
 - *What cultural characteristics make the region you studied different from your own?*
 - *What similarities exist across many cultures, including the one you studied?*



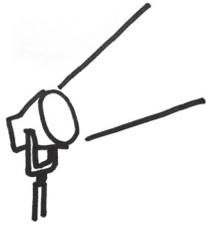
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- *What long-established cultural customs and traditions exist today in the region you explored? How do they impact the region?*
 - *What cultural characteristics does the United States have that are different from the region of the world that you studied?*
- To help students more easily recognize the consequences resulting from major disasters, students should examine particular examples (such as hurricanes, earthquakes, typhoons, nuclear accidents, or the impact of global warming) and answer questions about those examples and about the issues surrounding them. Students should explore major disasters and environmental issues that have occurred or are taking place within the regions being studied, and use the following questions to guide their research:
- *How did/do humans use their natural environment? What changes have occurred/are occurring in the environment as a result?*
 - *What is the environmental cost resulting from this major disaster or environmental issue?*
 - *What can we learn from this disaster or environmental issue?*
 - *How do human activities currently impact the environment in the region being studied, in your community, and in the larger global community?*

Once each student has researched major disasters using the previous questions, students should write a one-page paper on a particular disaster or environmental issue from one of the regions being studied. Students should use the paper to examine causes and effects, as well as draw generalizations and present ideas about how to more effectively deal with the disaster. Students should also consider ways in which a disaster could have been prevented or an environmental issue could be dealt with.

The Social Studies Framework documents are available at
www.georgiastandards.org/socialstudiesframework.aspx



Activities



3 Government/Civics

Georgia Performance Standards SS6CG1, SS6CG2, and SS6CG3

Within the Government/Civics domain of Grade 6 Social Studies, students will learn that there is diversity in political systems and governments in Latin America and the Caribbean, Canada, Europe, Australia, and Oceania. Students will also learn that unique and special political relationships sometimes exist between nations, and that countries may experience political transition or change over the course of time. Through the study of the Government/Civics domain in Grade 6 Social Studies, students will be able to describe and compare political systems and modern national structures of government within the regions studied.

The following activities develop skills in this domain:

- To help students understand the structure of different national governments, they will complete a grid. Students should create four columns and label each with one of the following: Jamaica, Cuba, Brazil, and Mexico. Next they should create four rows and label each of them with one of the following: Type of government, Form of leadership, Type of legislature, and Role of the citizens. Students will complete the chart by filling in the appropriate information for each country. Students should use the information on the chart to explain to a partner or parent how the governments are similar, how they are different, and why that is the case. Finally, students should try to persuade a partner or parent to live under one of the listed systems of government, explaining the benefits of the chosen type of government.
- Students will better understand different democratic government systems by comparing and contrasting systems using a chart like the example shown below. Students will use the spaces provided in the chart to answer the five questions for each democratic system of government. Next, using the information gathered in the chart students should discuss the major similarities and differences in these systems of government.

	Parliamentary (e.g., U.K.)	Presidential (e.g., U.S.A.)	Dual (e.g., France)
What is the official title of the head of government?			
Who elects the head of government?			
How do the legislative and executive branches work together?			
How does each system propose and vote on new laws?			
How, and by whom, is the chief executive removed from office?			

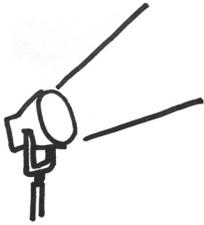


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- To help students understand conflict and change, students will explore the reasons for and consequences of the transition of central European countries from authoritarian to democratic governments. After completing the study of central European transitions, students should write a newspaper article explaining the changes that occurred as a result of political transition. Reporters should use the five *W* question words—*who*, *what*, *where*, *when*, and *why*. Examples of important questions include:
 - *When did the change occur?*
 - *Why did the change occur?*
 - *What were some benefits and some problems that came with transition?*

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Activities



4 Economics

Georgia Performance Standards SS6E1, SS6E2, SS6E3, SS6E4, SS6E5, SS6E6, SS6E7, SS6E8, SS6E9, and SS6E10

Throughout the Economics domain of Grade 6 Social Studies, students will build upon previously-learned concepts. The emphasis will ensure that students understand the processes of national and international economic growth and the nature of global economic systems and interdependence. A study of the economic development of Canada, Latin America and the Caribbean, Europe, Australia, and Oceania will be introduced during Grade 6. By the end of Grade 6, students should be able to demonstrate the understanding of factors that influence economic growth. Students will recognize factors such as human and capital investments and the benefits of trade. Students will also understand the various physical and economic factors that influence the movement of goods and services across international and regional boundaries.

The following activities develop skills in this domain:

- To help students illustrate and understand how international trade requires a system for exchanging currency between and among nations, students will create and play a game. (This activity works best with groups of students.) Students will explore currency exchange, trade unions, and the balance of trade as each student writes four quiz questions for each of these topics. Each question and its answer should be written on a separate note card. The four questions should increase in difficulty. Point values of 10, 20, 30, and 40 should be assigned according to difficulty. Have four cardboard boxes or other containers available, one for questions of each point value. Once students complete their questions, they will give them to a teacher or parent who will place them in the appropriate container. Students will take turns choosing a point value and the teacher or parent will pull a random question out of the appropriate box for the student to answer. After students have answered the questions, they will add up their points to get a final score. Examples of effective questions might include:
 - *What is the term used to describe a country that exports more than it imports?* (10 points)
 - *What is one benefit to having a system for exchanging different currencies?* (20 points)
 - *What is the impact of the Euro on European trade?* (30 points)
 - *Name two Latin American countries that have chosen the U.S. Dollar and explain why.* (40 points)
- To help students identify different economic systems and how they answer basic economic questions, students should compare and contrast features of economic systems. After studying four different types of economic systems (traditional, command, market, and mixed) students will label each of four posters with the names of one country being studied: Canada, Mexico, Cuba, and Argentina. Students should write the answers to the following questions on each poster and report their findings:



-
- *What type of economic system does the country function under?*
 - *What are three goods or services the country will produce?*
 - *How does the government control what is produced?*
 - *What are citizens allowed to privately own or have total control over?*
 - *What rights do people have under each economic system?*
- To help students understand different types of trade barriers—both physical and economic—students will create lists drawn from specific examples. Students should come up with a list of physical and economic trade barriers that the countries studied might face or impose. Next, students should choose at least two physical and two economic barriers from the lists and write a paragraph on each explaining why they are considered barriers and what consequences they might have on the countries being studied. Finally, students should answer the following questions to help gain an understanding of the effects these barriers have on buyers and sellers in different countries.
- *How can a physical barrier affect the value of particular goods for buyers and sellers?*
 - *What is an example of a man-made barrier, and why might this type of barrier be imposed on international trade?*
 - *What economic barrier might the government of a country put in place to limit foreign trade?*
 - *Why would a country want to impose an economic trade barrier on imports when the goods being traded are also produced in their own country? How might this type of barrier affect the progress of a country?*
 - *How do trade barriers influence which countries become trade partners with one another?*

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Practice Quiz



- 1 **How did the British colonization of Australia affect the Aborigines?**
 - A It led to the discovery of gold, which made the Aborigines wealthy.
 - B It resulted in an outbreak of disease, which reduced the Aborigine population.
 - C It made the land difficult to farm, which caused the Aborigines to have less food.
 - D It introduced a new system of laws, which made it easier for the Aborigines to own land.

- 2 **Why do some people in Quebec want independence from Canada?**
 - A Taxes are higher in Quebec.
 - B The standard of living is better in Quebec.
 - C Quebec's language and culture are different.
 - D Quebec's industries import and export more goods.

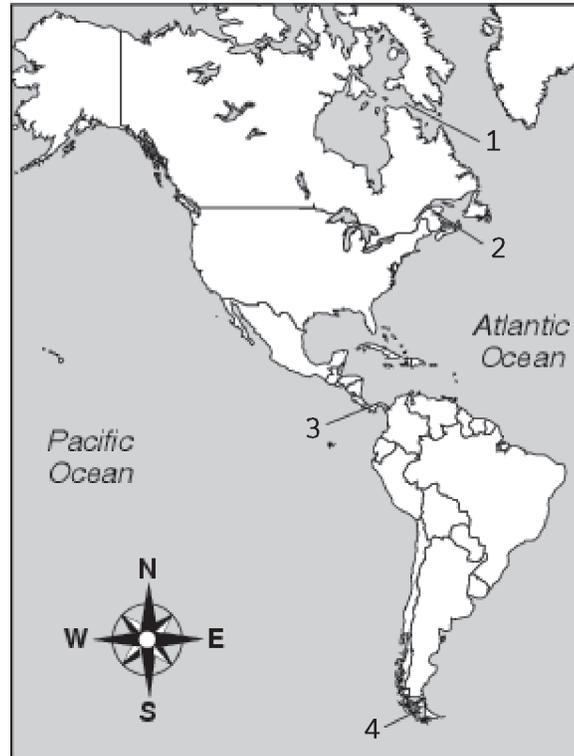
- 3 **How did Michelangelo MOST contribute to the Renaissance?**
 - A by leading soldiers in battle
 - B by creating paintings and sculptures
 - C by composing classical music for royal courts
 - D by making scientific discoveries and inventions

- 4 **Which environmental consequence resulted from the Chernobyl disaster?**
 - A Glaciers began to melt.
 - B Radiation polluted the area.
 - C Rain forests were destroyed.
 - D Oil was spilled into the ocean.



- 5 Which number points to the location of the Panama Canal?

North and South America



- A 1
B 2
C 3
D 4
- 6 Why are many of Canada's industrial regions located near the Great Lakes and the St. Lawrence Seaway?
- A They offer scenic views to tourists.
B They create a cool climate in the region.
C They contain oil and other mineral resources.
D They provide an easy way to transport and trade goods.
- 7 Which of these BEST describes Jamaica's government?
- A theocracy
B dictatorship
C communist state
D parliamentary democracy



- 8 **What impact did Pizarro have on Latin America?**
- A With small Spanish forces, he defeated the Inca Empire.
 - B By creating alliances with their enemy, he conquered the Aztecs.
 - C With the Spanish mission system, he converted people to Christianity.
 - D By appealing to the working class, he created nationalism in Argentina.
- 9 **How is Australia a market economy?**
- A It has very few trading partners.
 - B Farmers grow crops for themselves only.
 - C The government decides how to distribute services.
 - D Consumers determine which goods should be produced.
- 10 **Which of these BEST describes how the Euro has affected members of the European Union?**
- A Trading is easier because there is a common currency.
 - B Taxes on imported and exported products have increased.
 - C Limits are placed on the number of products that can be sold.
 - D Transporting products is more difficult because of border restrictions.



Solutions

Number	Correct Answer	Explanation
1	B	<p><i>Explain the impact of European diseases and weapons on the indigenous people of Australia and Oceania. (SS6H7b)</i></p> <p>The correct answer is Choice (B) It resulted in an outbreak of disease, which reduced the Aborigine population. Diseases that were introduced by Europeans devastated the native populations of Australia, mainly because natives had no immunity to the diseases. Choice (A) is incorrect because gold was discovered by British explorers during the 1800s, but the discovery did not make the Aborigines rich. It made the British wealthier. Choice (C) is incorrect because the Aborigines were not a farming society; they acquired food by hunting, gathering, and changing location seasonally to follow herds. Choice (D) is incorrect because eventually a new system of laws was introduced, making it more difficult for Aborigines to own land.</p>
2	C	<p><i>Describe Quebec's independence movement. (SS6H3d)</i></p> <p>The correct answer is Choice (C) Quebec's language and culture are different. Quebec has a majority French-speaking as opposed to English-speaking population, and has a culture that is very different from much of Canada. Choice (A) is incorrect because taxes in Quebec are average compared to the other provinces in Canada. Choice (B) is incorrect because the standard of living in other provinces is similar to that of Quebec. Choice (D) is incorrect because there are other provinces that import and export more than Quebec.</p>
3	B	<p><i>Explain how artists such as Michelangelo and Leonardo da Vinci contributed to the Renaissance. (SS6H4a)</i></p> <p>The correct answer is Choice (B) by creating paintings and sculptures. Michelangelo had great influence on Western art through his sculptures, such as the statue of <i>David</i>, and through paintings, such as the ceiling of the Sistine Chapel. Choice (A) is incorrect because Michelangelo was not a soldier. Choices (C) and (D) are incorrect because Michelangelo was a visual artist who created paintings and sculptures.</p>



Number	Correct Answer	Explanation
4	B	<p><i>Describe the environmental consequences resulting from the nuclear disaster in Chernobyl, Ukraine. (SS6G6c)</i></p> <p>The correct answer is Choice (B) Radiation polluted the area. The explosion sent up a plume of radioactive material that polluted a vast area in the surrounding countries. Choice (A) is incorrect because the radioactive cloud caused by the explosion did not cause glaciers to melt. Choice (C) is incorrect because dangerous levels of radioactive material did not reach any rain forests. Choice (D) is incorrect because the pollution caused by this disaster came from a cloud of radioactive material and no oil was spilled in relation to this disaster.</p>
5	C	<p><i>Describe and locate major physical features; include the Pacific Ocean, Gulf of Alaska, Hudson Bay, Caribbean Sea, Gulf of Mexico, the Great Lakes, Panama Canal, Amazon River, Andes Mountains, Rocky Mountains, Sierra Madre Mountains, St. Lawrence River, Patagonia, Atacama Desert, and Rio de la Plata. (SS6G1a)</i></p> <p>The correct answer is Choice (C) 3. This choice points directly to the country of Panama. Choice (A) is incorrect because 1 points to the Hudson Strait. Choice (B) is incorrect because 2 points to the St. Lawrence Seaway. Choice (D) is incorrect because 4 points to the Strait of Magellan.</p>
6	D	<p><i>Describe how Canada's location, climate, and natural resources have affected where people live and where agricultural and industrial regions are located, and describe their impact on trade, especially the importance of the St. Lawrence Seaway and the Great Lakes. (SS6G3a)</i></p> <p>The correct answer is Choice (D) They provide an easy way to transport and trade goods. The St. Lawrence Seaway and the Great Lakes allow people to transport goods great distances inland from the Atlantic coast of Canada. Choice (A) is incorrect because beautiful scenery is not vital to industrial regions. Choice (B) is incorrect because the St. Lawrence Seaway and the Great Lakes are beneficial due to the fact that they are an accessible waterway, not because they affect the overall climate of this region. Likewise, choice (C) is incorrect because the St. Lawrence Seaway and the Great Lakes are beneficial due to the fact that they are an accessible waterway, not because they contain oil or other minerals.</p>



Number	Correct Answer	Explanation
7	D	<p><i>Explain the basic structure of the national governments of Brazil, Cuba, Jamaica, and Mexico; include the type of government, form of leadership, type of legislature, and role of the citizen. (SS6CG1a)</i></p> <p>The correct answer is Choice (D) parliamentary democracy. Jamaica is ruled by a prime minister along with a parliament. Choice (A) is incorrect because a <i>theocracy</i> is a government ruled by a religious authority. Choice (B) is incorrect because under a <i>dictatorship</i>, the government has absolute rule. Choice (C) is incorrect because, in a <i>communist state</i>, the government has control of the economy and a single political party holds all power.</p>
8	A	<p><i>Describe the encounter and consequences between the Spanish and the Aztec and Incan civilizations; include how small Spanish forces defeated large empires, and the roles of Cortes, Pizarro, Montezuma, and Atahualpa. (SS6H1b)</i></p> <p>The correct answer is Choice (A) With small Spanish forces, he defeated the Incan Empire. With an army of about 200 soldiers, Pizarro met the Incan ruler, Atahualpa, who arrived with several thousand unarmed men. The Spaniards waited in ambush, crushed the Incan force with far superior weapons (guns, cannons, etc.), and kidnapped Atahualpa. Pizarro later killed Atahualpa, which demoralized the remaining Incan forces, and convinced them to retreat. Choice (B) is incorrect because it was Hernando Cortes who conquered the Aztecs, not Francisco Pizarro. Choice (C) is incorrect because Pizarro was not involved in the Spanish mission system established to convert indigenous people to Christianity and to create a literate and taxpaying population in the New World. Choice (D) is incorrect because Pizarro was involved in the colonization of Central America, not South America which is where Argentina is located.</p>



Number	Correct Answer	Explanation
9	D	<p><i>The student will describe different economic systems (traditional, command, market, mixed) and how they answer the basic economic questions (What to produce? How to produce? For whom to produce?), and explain the basic types of economic systems found in Australia and the Federated States of Micronesia. (SS6E8)</i></p> <p>The correct answer is Choice (D) Consumers determine which goods should be produced. Choice (A) is incorrect because in a market economy, a country has numerous trading partners. Choice (B) is incorrect because in a market economy, farmers grow crops for distribution to others. Choice (C) is incorrect because the government manages distribution in a command economy, rather than a market economy.</p>
10	A	<p><i>Illustrate how international trade requires a system for exchanging currency between and among nations and how the European Union and the Euro facilitate trade. (SS6E6c)</i></p> <p>The correct answer is Choice (A) Trading is easier because there is a common currency. The countries within the European Union have adopted the use of the Euro as a common currency, which avoids exchange rate instability and is much more efficient. Choice (B) is incorrect because a common currency has not increased taxes on imported and exported products; trade has become cheaper because there is no need for currency exchange fees. Choice (C) is incorrect because the number of products sold has increased and trade has become more efficient. Choice (D) is incorrect because the adoption of the Euro has not led to border restrictions making the transport of products more difficult.</p>
