

# Grade 6

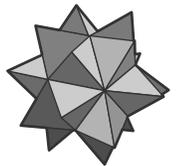


Criterion-Referenced Competency Tests

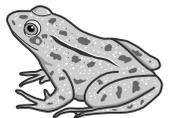
# CRCT



# Study



# Guide



Reading  
English/Language Arts  
Mathematics  
Science  
Social Studies





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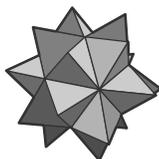
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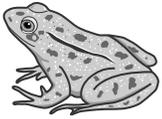
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# Using the CRCT Study Guide

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/](http://www.gadoe.org/) to find further information about and support for the CRCT.



The following section of this guide, “About the CRCT,” contains an overview of the CRCT and test-taking strategies to review with your students.

- The content tested on the CRCT is based on Georgia’s state-mandated content 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.



This document is intended as a student resource. Photocopying is allowed as needed for student use.

# Overview of the CRCT

## What is the CRCT?

The Grade 6 CRCT is a state-mandated achievement test that measures the subject areas of Reading, English/Language Arts, Mathematics, Science, and Social Studies.

## What does the CRCT measure?

The CRCT is designed to measure student acquisition and understanding of the knowledge, concepts, and skills set forth in the state-mandated content 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
- Provide data for use in Georgia's accountability measures and reports.

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. They are measured on their 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 CRCT website [www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT.aspx](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT.aspx).

Since the spring of 2006, performance on the Reading portion of the CRCT has been linked to the Lexile® Framework for Reading. Visit **[www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Lexile-Framework.aspx](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Lexile-Framework.aspx)** for more information on this national reading measure.

# Preparing for the CRCT

## Test-Taking Strategies

**Weeks  
Before  
the Test**

Set academic goals with students for the upcoming weeks and months (short and long term). Write down and post students' goals where they can be seen at least once a day.

Help students gather study materials ahead of time.

Set up a place to work that is free of distractions.

Build in time to review what was learned in the last study session.

Divide assignments into manageable chunks. Studying for a long time non-stop is not productive!

Model and have students mark the main idea of each paragraph with a pencil as they read. This will help them focus on what they are reading.

Have students ask questions that arise while they are studying and encourage them to find the answers.

At the end of each study session, review what they have learned.

**Day Before  
the Test**

Remind students to get a good night's rest.

Remind students that they can talk to a teacher or parent if they are feeling nervous about the test.

Assure students that this test is only one measure of their knowledge.

**During  
the Test**

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

Relax by taking slow, deep breaths.

Read the directions carefully. Make sure you understand what you need to do. If you are not sure, ask the teacher.

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 locations on your answer sheet.

Fill in the corresponding circle fully when you choose your answer. Erase any marks outside of the circle.

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

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. This is a chance for you to show what you know. Do the best you can!

## **Related Links**

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

CCGPS/GPS Resources:

**[www.georgiastandards.org](http://www.georgiastandards.org)**

CRCT Content Descriptions:

**[www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT.aspx](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT.aspx)**

CCGPS/GPS Frameworks:

**[www.georgiastandards.org](http://www.georgiastandards.org)**

Lexile Framework for Reading:

**[www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Lexile-Framework.aspx](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Lexile-Framework.aspx)**

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The Study Guides are intended to serve as a resource for parents and students. They contain a few activities and short practice quizzes for each content area. They also provide teachers an additional tool for student practice. The standards identified in the Study Guides address a sampling of the state-mandated content standards. For the purposes of day-to-day classroom instruction, teachers should consult the wide array of resources that can be found at **[www.georgiastandards.org](http://www.georgiastandards.org)**.

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

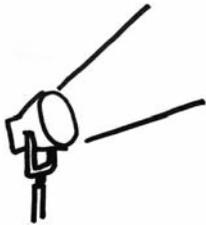
When reading a text closely, students in Grade 6 work carefully to discern the author's perspective and the particular facts and details that support it. The students read thoughtfully and purposefully, constantly checking for understanding of the author's intent and meaning, so that the interpretation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

- ❶ **Reading Skills and Vocabulary Acquisition**
- ❷ **Literary Comprehension**
- ❸ **Information and Media Literacy**



## Activities



### 1 Reading Skills and Vocabulary Acquisition

Common Core Georgia Performance Standards ELACC6.L.4 and ELACC6.L.5

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 the surrounding sentence and paragraph), word parts (examine common Greek and Latin roots and affixes), and reference materials (look up words in a dictionary or thesaurus). In addition to figuring out word meanings, students should use these words within different contexts (e.g., subject areas). Additionally, they should demonstrate understanding of figurative language (e.g. figures of speech), word relationships, and nuances in word meanings (connotations).

The following activities develop skills in this domain:

- To help students 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 to clarify the meaning of unfamiliar words, students should make charts of common Greek and Latin prefixes, suffixes, and root words. On their charts they should write common prefixes such as *trans-* and *im-*. 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.



- To help students demonstrate understanding of figurative language, students will develop a figurative language bank. Begin by giving students a list of examples of figurative language (e.g., simile, metaphor, personification, hyperbole). On a 3 by 5 card, the students should use one side to write the type of figurative language, the example, and its meaning or connotation. On the other side, the student should include a drawing or description showing the figurative language's literal meaning and a second drawing or description showing the true meaning. The students should add to their figurative language bank as they encounter more examples in their reading. This figurative language bank could be used by the students when they are writing to demonstrate understanding of the use of figurative language.



## Activities



### ② Literary Comprehension

*Common Core Georgia Performance Standards ELACC6.RL.1, ELACC6.RL.2, ELACC6.RL.3, ELACC6.RL.4, ELACC6.RL.5, ELACC6.RL.6, and ELACC6.RL.9*

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 describe how characters respond or change as the plot unfolds, 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' motivation.
- To help students analyze the impact of specific word choice on meaning and tone, read aloud stories or poems that are rich in figurative language or connotative meanings. As the students listen, they should concentrate on how the words are used to form a picture. After the reading, the students should describe the picture presented. In small groups, the students should analyze how the author's word choice impacted the meaning or tone of the reading.
- To help students compare and contrast texts in different forms or genres in terms of their approaches to similar themes, the students should examine several familiar fables such as *The Tortoise and the Hare* or one of the West African Anansi tales. Students could also use Greek myths such as *The Odyssey* and *The Myth of Icarus*. Reading a story and watching a short film or movie with the same title would also be a good way to compare and contrast texts in different forms. In order to refresh their memories, students should recount the plot details and narrative sequence of the stories. Next, students should compare and contrast the plots, characters, and the lessons they learned. Finally, the students should discuss the central ideas, or themes of the tales in terms of their approach to similar themes or topics.



## Activities



### ③ Information and Media Literacy

*Common Core Georgia Performance Standards ELACC6.RI.1, ELACC6.RI.2, ELACC6.RI.3, ELACC6.RI.4, ELACC6.RI.5, ELACC6.RI.6, ELACC6.RI.7, ELACC6.RI.8, and ELACC6.RI.9*

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, reference materials, and different types of media. Students in Grade 6 need to recognize and analyze different aspects of these texts. Students need to be able to quote accurately from a text and use evidence to draw inferences, determine main ideas, and explain relationships between individuals, events, or ideas. Students need to be able to summarize texts and be able to integrate and draw from information across texts to increase their understanding of a topic. In addition, they are able to trace and evaluate how an author presents and develops an argument, as well as, analyze how different authors present information differently.

The following activities develop skills in this domain:

- To evaluate the argument and specific claims in a text, the students should first examine a list of statements about a topic with which they are familiar. Then they should decide which claims are supported by reasons and evidence from claims that are not. They should write one ad that uses supported claims and one that includes unsupported claims. Finally, they should present these to the class and have the class compare and contrast the claims in each ad.
- To help students determine an author’s point of view or purpose, the students should choose a controversial topic and write two different paragraphs, one in support of it and the other against it.
- To help students integrate information presented in different media formats, the students should gather information on one topic from three types of media such as print, video, and Internet. They should document their sources and information on note cards or in a notebook. They should then integrate this information into a written essay that shows a coherent understanding of the topic.



## 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 he 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 **Which of these BEST summarizes the main conflict of the story?**

- 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 **How would the connotation of the sentence be changed if the author replaced *mumbled* with *grunted*?**

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

- A the attitude of the characters would be more energetic
- B the tone of the sentence would be more confusing
- C the tone of the sentence would seem humorous
- D the attitude of the characters would seem ruder

3 **Which sentence BEST supports the conclusion that the setting is in the present day?**

- A In a few short weeks, she would be starting middle school.
- B He was helping his parents by carrying dirty plates into the kitchen.
- C “He just moved in to the Costas’ old house.”
- D “I guess I’d better keep my cell phone with me.”



- 4 **Why does the author MOST LIKELY choose to use figurative language in this sentence from the story?**

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

- A to show what Anna is doing
- B to show how Anna is feeling
- C to show how dangerous school is for Anna
- D to show where Anna will be going to school

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

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

- A to show that Anna is funny
- B to explain why Anna is tired
- C to suggest that Anna is patient
- D to emphasize how Anna is nervous

- 6 **Why does the author MOST LIKELY include this sentence from the story?**

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

- A to illustrate that Eric is hot
- B to explain why Eric is scared
- C to show that Eric is embarrassed
- D to demonstrate why Eric is concerned

- 7 **Which of these BEST describes how Anna changes after the barbecue?**

- A She becomes confused by how calm the adults are.
- B She becomes impressed by how many people were there.
- C She becomes excited that there is a new teacher at the school.
- D She becomes relieved that others feel the same way as she does.

- 8 **Which of these BEST states the theme of the story?**

- A Adjusting to unfamiliar situations can be fun.
- B Meeting people in a new town can be interesting.
- 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 relax
- B bother
- C interest
- D persuade

10 **Based on the sentences, what is the meaning of *horrendous*?**

“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



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## Solutions

Number	Correct Answer	Explanation
1	<b>C</b>	<p><i>Provides a summary distinct from personal opinions or judgments. (ELACC6.RL.2)</i></p> <p>The correct answer is <b>Choice (C) Anna is worried about the upcoming school year.</b> 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	<b>D</b>	<p><i>Distinguish between the connotation of words. (ELACC6.L.5c)</i></p> <p>The correct answer is <b>Choice (D) the attitude of the characters would seem ruder.</b> The connotation of the word grunted would be more negative and therefore imply a different attitude for both of the characters than a quiet and shy mumble. Choice (A) is incorrect because the word grunted does not imply a higher level of energy. Choices (B) and (C) are incorrect because the change in word choice would not impact the tone of the sentence by making it more confusing or humorous.</p>
3	<b>D</b>	<p><i>Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. (ELACC6.RL.1)</i></p> <p>The correct answer is <b>Choice (D) "I guess I'd better keep my cell phone with me."</b> Since cell phones are a fairly new invention, this answer is the most indicative of the setting in the present day. Choices (A), (B), and (C) are incorrect because middle school, dirty dishes, and moving homes are not new and could have happened at another time.</p>



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Number	Correct Answer	Explanation
4	B	<p><i>Analyzes the impact of figurative language on meaning. (ELACC6.RL.4)</i></p> <p>The correct answer is <b>Choice (B) to show how Anna is feeling</b>. In this sentence, the school is being compared to a jungle because Anna fears going to a new school. Choice (A) is incorrect because the figurative language is not alluding to what Anna is doing. Choices (C) and (D) are incorrect because the figurative language is not literally showing that the school is unsafe or where Anna is going to school.</p>
5	D	<p><i>Analyzes the impact of figurative language on tone. (ELACC6.RL.4)</i></p> <p>The correct answer is <b>Choice (D) to emphasize how Anna is nervous</b>. 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>Analyzes how a particular sentence contributes to the development of the plot. (ELACC6.RL.5)</i></p> <p>The correct answer is <b>Choice (C) to show that Eric is embarrassed</b>. Eric blushes because he feels embarrassed. This moment advances the plot of the story by allowing Anna to relate to another character. Choices (A), (B), and (D) are not accurate descriptions of what the sentence contributes to the story.</p>
7	D	<p><i>Describes how a character responds as the plot moves towards a resolution. (ELACC6.RL.3)</i></p> <p>The correct answer is <b>Choice (D) She becomes relieved that others feel the same way as she does</b>. 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), (B), and (C) are incorrect, as they do not describe how Anna changes after the barbecue.</p>

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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
8	<b>D</b>	<p><i>Determines the theme of a text. (ELACC6.RL.2)</i></p> <p>The correct answer is <b>Choice (D) Knowing that others share your problems can be comforting</b>. Anna feels comforted that Eric and Mr. Harrison share her nervousness about the new school year. Choice (A) is incorrect because Anna demonstrates in the story that changes can be difficult and not fun. Choices (B) and (C) are incorrect because the passage isn't mostly about being new in a town or enjoying time spent with friends and neighbors.</p>
9	<b>B</b>	<p><i>Determines the meaning of an unknown word, using context clues. (ELACC6.L4a)</i></p> <p>The correct answer is <b>Choice (B) bother</b>. 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 (A), (C), and (D) are inaccurate since <i>faze</i> does not mean <i>relax, interest, or persuade</i>.</p>
10	<b>A</b>	<p><i>Determines the meaning of an unknown word, using context clues. (ELACC6.L4a)</i></p> <p>The correct answer is <b>Choice (A) terrible</b>. 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>

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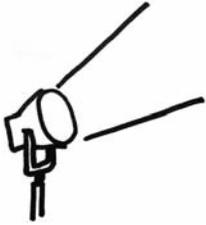
# English/Language Arts

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

*Common Core Georgia Performance Standards ELACC6.L.1, ELACC6.L.2, and ELACC6.L.3*

Within the Grammar/Sentence Construction domain, students demonstrate understanding of Standard English grammar, usage, capitalization, punctuation, and spelling. They are able to apply their understanding to ensure that pronouns are in the proper case, to use intensive pronouns correctly, to correct shifts in pronoun number and person, and to eliminate vague pronoun use. In addition, they understand how to use punctuation to set off nonrestrictive modifiers and to spell grade-level words in context. Finally, they are able to apply knowledge of language and its conventions to vary sentence patterns for meaning, reader interest, and style, as well as to control consistency in style and tone.

The following activities develop skills in this domain:

- 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. 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 they decide whether each personal pronoun is written in the proper case and has a clear referent. They also check to see that sentences within a paragraph do not contain inappropriate shifts in number or person. They also need to make sure that each pronoun agrees with its antecedent.
- To practice understanding of restrictive and nonrestrictive clauses and appositives, students work together in small groups. Each group constructs a table with four columns and three rows like the one below:

Modifier Type	Definition	Commas Needed? (Yes or No)	Examples
Restrictive			
Nonrestrictive			

First, ask students to work together to fill out the Definition and Commas Needed sections of the table. Once this activity is complete, have student groups share what they have done with the class. List questions the students may have on the board and provide further clarification where needed.

Provide each group with a stimulus of two to three paragraphs. The stimulus should be designed to model student-level writing and should have all commas around restrictive or nonrestrictive modifiers removed. (Commas

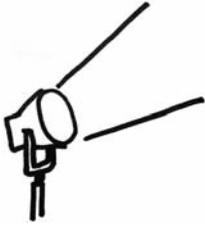


used for other reasons should be retained.) Finally, ask students to fill out the Examples section of the table, using sentences from the stimulus and punctuating the examples correctly.

- To practice the ability to vary sentence patterns for meaning, reader interest, and style, have students write a paragraph about something they enjoy doing and ask them to write the paragraph just as they would a casual letter or email to a friend. Do point out that the writing will be shared with the class, so students should consider this as they write. Then ask students to work in groups to revise the paragraphs, concentrating on a new audience: perhaps a student they have never met, perhaps a principal, or perhaps a general and distant audience (e.g., readers of a newspaper editorial or a blog). Follow the activity with a class discussion about how the new audience prompted writers to change the wording and sentences in the original paragraphs. This is also a good time to address how different audiences have different degrees of tolerance for variations from standard English.



## Activities



### ② Research/Writing Process

*Common Core Georgia Performance Standards ELACC6.W.1, ELACC6.W.2, ELACC6.W.3, ELACC6.W.4, ELACC6.W.7, and ELACC6.W.8*

Under the Research/Writing domain, students write texts for varying purposes and audiences, including arguments, informative/explanatory texts, and narratives. Within each of these modes, students produce well-developed, purposeful, organized, coherent writing. They understand the principles of argument, including claims and reasons and the relationship between the two. They attend to formatting elements (e.g., headings) and the use of graphics in informational writing. They use techniques such as dialogue, pacing, and description to create engaging narratives with well-developed characters and logical sequencing. In all writing modes, students control tone as appropriate to purpose and audience. They understand the role of transitional elements to tighten coherence and apply that understanding to their writing. In addition, students engage in research using multiple sources, evaluating those sources to determine credibility and relevance to their purpose and incorporating these sources into their work through summary, paraphrase, and documentation while avoiding plagiarism.

The following activities develop skills in this domain:

- For 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 should go back to the beginning and read the article again, this time focusing on the transitions used in and between 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.* (Process)
- For practice in 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 will explain how each detail helped them figure out the main ideas.



- For practice in judging the effectiveness of supporting details, students will develop a *Top Ten* list of details to develop a paragraph with this main idea: *Our state is a great place to live*. Students will 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.
  
- To practice revising narratives to include effective techniques such as pacing, dialogue, description, plot sequence, and character development, have students work with a narrative piece that they have previously written and submitted. This activity will give them practice in going back to a story or personal narrative they have written and improving it, using the narrative techniques identified above. Students work in pairs, exchanging their stories. After reading one another's work, students confer with their partners and tell which two techniques they think would most improve the story. Students can approach the task by writing down the two most important questions they thought of when they read their peer's narrative. The questions should be about character or what something looked like or felt like, etc. (e.g., Why did Joshua decide to forgive his little sister for playing with his baseball glove in the bathtub?) The writer then revises the narrative so these weaker parts of the story are improved. Finally, students share their revised stories with the class.



## Practice Quiz



- 1 **Which sentence uses both underlined pronouns correctly?**
- A Shannon selected both him and I to work on the science project.
  - B Them and me decided to organize the annual class field trip this year.
  - C The principal told we class presidents that we had done a very good job.
  - D No one explained to us that we should lock the door after practice was over.

- 2 **Which sentence should be revised because it contains an inappropriate shift from third to second person?**

<sup>(1)</sup>Learning to ride a bicycle safely is a very important skill. <sup>(2)</sup>In the first place, everyone riding a bike needs to wear a helmet. <sup>(3)</sup>Helmets are designed to help riders stay safe even if they accidentally fall off their bikes. <sup>(4)</sup>In addition, you need to learn which streets in your neighborhood have a special bicycle zone marked off for you. <sup>(5)</sup>These zones help cyclists and automobiles travel safely on the same street.

- A sentence 2
  - B sentence 3
  - C sentence 4
  - D sentence 5
- 3 **Which sentence uses the underlined words correctly according to Standard English usage?**
- A Some of the students in my class hardly never forget to finish their homework.
  - B My dog is so well behaved that it don't never seem to matter much if I put him on a leash or not.
  - C Every summer my family be taking a trip to visit my grandparents who live on a big, beautiful farm.
  - D Most nights the actors in the play felt as if all the hard work that had gone into rehearsals was completely worthwhile.
- 4 **Which sentence uses commas correctly?**
- A The book, that I liked most, had an exciting plot and very interesting characters.
  - B Only the cheerleaders, who were wearing rain gear, stayed reasonably dry during the game.
  - C Our band conductor, who was the best trumpet player I have ever heard, decided to retire last year.
  - D The zoo exhibit, that everyone found most exciting this summer, was the one with the brand new tiger cub.



- 5 **Which of these is BEST to add after sentence 5 to maintain the tone of the report?**

<sup>(1)</sup>Until 2006, scientists said that there were nine planets in our solar system. <sup>(2)</sup>However, scientists changed their minds about Pluto. <sup>(3)</sup>Pluto is much smaller than the other eight planets. <sup>(4)</sup>In fact, scientists finally found other objects far out in the solar system that are somewhat larger than Pluto is. <sup>(5)</sup>Therefore, they decided that Pluto is not special enough to be called a planet.

- A Textbooks that still call Pluto a planet just go to show that people cannot trust everything they read.
- B Pluto is a good example of how new discoveries can change the way scientists think about the universe.
- C Think about it this way: at least students here on Earth do not have to worry about learning about Pluto anymore.
- D As far as scientists go, it looks as if Pluto is now just another lonely object flying around out there far away in space.

- 6 **Which sentence should the writer add to the paragraph to BEST support the claim made in sentence 4?**

<sup>1</sup>I think that the sixth grade class at our middle school should have a class president. <sup>2</sup>Right now, only seventh and eighth grade classes are allowed to elect a class president. <sup>3</sup>That does not seem fair. <sup>4</sup>In addition, there are many reasons that having a class president would be as good for sixth graders as for older students. <sup>5</sup>Holding an election for class president would be a great learning opportunity. <sup>6</sup>Students who are interested in running for office would learn how to make speeches and listen to the concerns their classmates have. <sup>7</sup>Students who are not interested in running for office would learn how to select a good leader.

- A Students look up to their class presidents as much as they look up to students who are good at sports.
- B Some people say that holding an election for class president would give students another way to get attention.
- C The class president would have to bring student concerns to the principal of the school in a respectful and useful way.
- D Most students would benefit because they would have a chance to find out how important it is to get involved and vote.



7 **Which heading would BEST introduce the paragraph?**

Imagine that you have an English test coming up in one week. While you know you need to study for the exam, you are not sure exactly how to go about it. In the past, you have often put off studying until the night before the test. However, you have learned by experience that that approach does not work very well, and you are now determined to change those habits! So how exactly are you going to set yourself up for success this time? The best answer is to learn how to meet your needs for both recreation and work. First, plan your time so that you know you will set aside one hour each evening to do something you truly enjoy doing: play video games, take the dog for a walk, spend time with friends. Second, plan the same amount of time (one hour) each evening to study. Some people prefer to relax first and work second. Others would rather get their studying done first so that fun time is free of worries. You need to find out which type of person you are.

- A Balance is the Key to Self-Motivation
- B Why You May Find it Difficult to Study
- C Some Friendly Advice about Test-Taking
- D Why You Need to Learn How to Plan Your Time

8 **Which order of the sentences BEST creates a logical sequence of events?**

1. The last thing she had thought about doing that day was cleaning her room, and she hoped that was not what her mother might want her to do.
2. She sighed and went back into the house and followed her mother into the kitchen.
3. Sharron was sitting on her front porch, enjoying the first morning of the first day of summer vacation.
4. Suddenly, Sharron's mother came to the door and said she needed Sharron's help with something.
5. The past school year had been challenging in some ways, and Sharron was ready for a break.
6. To her surprise, Sharron saw a beautiful cake sitting on the counter with "Welcome to Summer!" piped in bright red frosting on the top.

- A 4, 3, 2, 6, 1, 5
- B 3, 5, 4, 1, 2, 6
- C 5, 3, 1, 4, 2, 6
- D 4, 6, 2, 1, 5, 3



- 9 **Which sentence should be removed because it does NOT support the purpose of the letter?**

Dear Fellow Band Members,

<sup>1</sup>As you all know, our state school band competition is coming up in just one month. <sup>2</sup>Everyone has been great about showing up for our daily, one-hour practice session! <sup>3</sup>Still, I am not sure that this practice schedule will be enough to prepare us for the state competition. <sup>4</sup>As a result, I think that for the next three weeks we should hold a two-hour practice session every night right after school. <sup>5</sup>I have already checked with the school principal, and she has okayed our use of the soccer field for these practices. <sup>6</sup>Some of the soccer players were disappointed with the plan, but I think they will obey the principal. <sup>7</sup>Please discuss this plan with your parents tonight. <sup>8</sup>In our meeting tomorrow, I will see how many of you would be able to make these new practice session times. <sup>9</sup>Remember, it is only for three weeks, and I know we all want to win at state!

Thank you very much,

The Marching Chief Band Leader

- A sentence 2  
B sentence 5  
C sentence 6  
D sentence 7
- 10 **Samuel is writing a research paper on the benefits of music education for middle school students. Which resource would be the BEST for him to use and why?**
- A a book about the impact that music education has on students' creativity, because it focuses on a positive cause-and-effect relationship  
B a student blog about the way school budget cutbacks often limit classes in music education, because the student is personally affected  
C a magazine article about successful approaches to music programs over the past twenty years, because it provides historical information  
D a school website dedicated to schedules and information about musical performances sponsored by the school, because it provides examples of several musical events



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## Solutions

Number	Correct Answer	Explanation
1	D	<p>Ensure that pronouns are in the proper case (subjective, objective, possessive). (ELACC6.L.1a)</p> <p>The correct answer is <b>Choice (D) No one explained to us that we should lock the door after practice was over.</b> The object of the preposition <i>to</i> must be in the objective case, so <i>us</i>, the objective form of the pronoun, must be used. The pronoun <i>we</i> is the subject of the dependent clause <i>that we should lock the door</i>, so subjective case must be used. Choice (A) is incorrect because <i>I</i> is the subjective form of the pronoun, and objective case must be used instead as the word functions as an object of the preposition <i>both</i>. Choice (B) is incorrect because both <i>Them</i> and <i>me</i> are in the objective case, but subjective case must be used as the pronouns function as the subject of the verb <i>decided</i>. Choice (C) is incorrect because <i>us</i> would be required as the pronoun functions as the object of the verb <i>told</i>.</p>
2	C	<p>Recognize and correct inappropriate shifts in pronoun number and person. (ELACC6.L.1c)</p> <p>The correct answer is <b>Choice (C) sentence 4.</b> The use of the words <i>you</i> and <i>your</i> in sentence 4 creates an inappropriate point of view shift to second person. Since the rest of the paragraph is written in third person, that point of view should be maintained in all sentences. Choices (A), (B), and (D) are all incorrect responses to the question as the point of view in each of these sentences is consistently third person.</p>

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Number	Correct Answer	Explanation
3	D	<p>Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language. (ELACC6.L.1e)</p> <p>The correct answer is <b>Choice (D) Most nights the actors in the play felt as if all the hard work that had gone into rehearsals was completely worthwhile.</b> The words <i>as if</i> function as a subordinating conjunction introducing the dependent clause that follows. Nonstandard (or colloquial) English usage often misuses the word <i>like</i> as a subordinating conjunction in this type of structure: <i>like</i> is a preposition not a subordinating conjunction and should not be used to introduce a dependent clause. This correct response models appropriate Standard English usage. Choices (A) and (B) are incorrect because each contains double negatives. Choice (C) is incorrect because <i>be taking</i> is a verb form error in Standard English usage.</p>
4	C	<p>Use punctuation (commas, parentheses, dashes) to set off nonrestrictive/parenthetical elements. (ELACC6.L.2a)</p> <p>The correct answer is <b>Choice (C) Our band conductor, who was the best trumpet player I have ever heard, decided to retire last year.</b> The clause <i>who was the best trumpet player I have ever heard</i> is a nonrestrictive clause and should be set off by commas. The clause is nonrestrictive because it provides only additional, not essential, information about the band conductor. Choices (A), (B), and (D) are incorrect because in each of these answer choices commas are incorrectly placed around restrictive rather nonrestrictive elements in the sentence.</p>

<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
5	<b>B</b>	<p><i>Maintain consistency in style and tone. (ELACC6.L.3b)</i></p> <p>The correct answer is <b>Choice (B) Pluto is a good example of how new discoveries can change the way scientists think about the universe.</b> The tone of the report is formal and objective, and only this answer choice maintains that tone. Choice (A) is incorrect because it contains the informal phrase <i>just go to show</i>. This answer choice also introduces a negative and critical tone about textbooks and people. Choice (C) is incorrect because it contains an informal shift to second person point of view, and the comments create an offhand, dismissive tone. Choice (D) is incorrect because it begins with the informal phrase <i>As far as scientists go</i>. In addition, this answer choice includes a descriptive phrase that would introduce an emotional and informal tone to the report: <i>just another lonely object flying around out there far away in space.</i></p>
6	<b>D</b>	<p><i>Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. (ELACC6.W.1b)</i></p> <p>The correct answer is <b>Choice (D) Most students would benefit because they would have a chance to find out how important it is to get involved and vote.</b> This is the best answer choice because it provides a reason that directly, strongly, and clearly supports the claim made in sentence 4. Choice (A) is incorrect because it introduces a comparison that is not directly relevant to the claim in sentence 4. Choice (B) is incorrect because it provides a weaker support for the claim in sentence 4 than the correct answer does. Choice (C) is incorrect because it is not relevant to the claim made in sentence 4.</p>



<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
7	<b>A</b>	<p><i>Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g. headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. (ELACC6.W.2a)</i></p> <p>The correct answer is <b>Choice (A) Balance is the Key to Self-Motivation</b>. This answer choice most fully captures the content and purpose of the paragraph. Choice (B) is incorrect because the paragraph does not detail multiple reasons why someone might find it difficult to study. Choice (C) is incorrect because the paragraph does not address test-taking strategies. Choice (D) is incorrect because the paragraph does not address the broad issue of benefits of planning time.</p>
8	<b>B</b>	<p><i>Engage and orient the reader by establishing a context and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically. (ELACC6.W.3a)</i></p> <p>The correct answer is <b>Choice (B) 3, 5, 4, 1, 2, 6</b>. This is the answer choice that best creates a logical sequence of all the events. Choice (A) is incorrect because sentence 1 cannot logically follow sentence 6. Choice (C) is incorrect because sentence 1 cannot logically follow sentence 4. Choice (D) is incorrect because sentence 2 cannot logically follow sentence 6.</p>

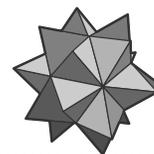
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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
9	<b>C</b>	<p><i>Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (ELACC6.W.4)</i></p> <p>The correct answer is <b>Choice (C) sentence 6</b>. The purpose of the letter is to inform band members that the leader is planning to schedule new, additional practices for the band. Sentence 6 is irrelevant to that purpose. Choice (A) is incorrect because praising the band members helps the leader show that he is not scheduling new practices because he has concerns about their dedication. Choice (B) is incorrect because here the leader is assuring the band that they have an approved location for the new practices, and the band members need to know where the practices will be held. Choice (D) is incorrect because the leader needs to know if the parents of the band members are willing to accommodate the new practice schedule.</p>
10	<b>A</b>	<p><i>Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources. (ELACC6.W.8)</i></p> <p>The correct answer is <b>Choice (A) a book about the impact that music education has on students' creativity, because it focuses on a positive cause-and-effect relationship</b>. Since Samuel's research paper is focused on the benefits of music education on middle school students, credible sources that address positive benefits of music education are most relevant to his research. Choice (B) is incorrect because testimonials about one person's experience are not necessarily credible and because this blog addresses issues of budget limitations rather than the benefits of music education. Choice (C) is incorrect because a review of twenty years of history about music education will provide much information that is irrelevant to Samuel's research paper. Choice (D) is incorrect because the schedules and information included on the website will not directly address the benefits of music education for middle school students.</p>

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## Chapter 3

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# Mathematics

By the end of Grade 6, students will understand how to apply and extend previous understandings of multiplication and division to divide fractions by fractions; compute fluently with multi-digit numbers and find common factors and multiples; apply and extend previous understandings of numbers to the system of rational numbers; apply and extend previous understandings of arithmetic to algebraic expressions; reason about and solve one-variable equations and inequalities; represent and analyze quantitative relationships between dependent and independent variables; understand ratio concepts and use ratio reasoning to solve problems; solve real-world and mathematical problems involving area, surface area, and volume; develop understanding of statistical variability; summarize and describe distributions.

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

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

The Standards for Mathematical Practices are integrated across the four domains.

*Mathematical Practices are listed with each grade's mathematical content standards to reflect the need to connect the mathematical practices to mathematical content in instruction.*

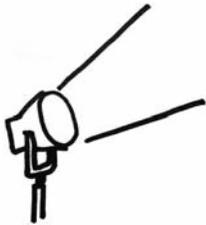
The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations, and relations),

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procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently, and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).



## Activities



### 1 Number and Operations

*Common Core Georgia Performance Standards MCC6.NS.1, MCC6.NS.2, MCC6.NS.3, MCC6.NS.4, MCC6.NS.5, MCC6.NS.6, MCC6.NS.7, MCC6.EE.1, MCC6.RP.3b, and MCC6.RP.3c*

Within the Number and Operations domain, students will apply and extend previous understandings of multiplication and division to divide fractions by fractions. They will compute fluently with multi-digit numbers, find common factors and multiples, and extend previous understandings of numbers to the system of rational numbers.

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  $24 \text{ in.}^2$
  - A rectangle with area  $80 \text{ in.}^2$
  - A rectangle with area  $120 \text{ in.}^2$
  - A prism with volume  $24 \text{ in.}^3$
  - A prism with volume  $120 \text{ in.}^3$
  - A prism with volume  $144 \text{ in.}^3$
- Help students gain confidence in adding, subtracting, multiplying, and dividing mixed numbers, converting within a system, and using proportional relationships by shopping for ingredients and adjusting a recipe. This *Summer Slushy* recipe will create one bowl of slushy to serve about twenty people.

#### *Summer Slushy*

5 cups water

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

4 ripe bananas, peeled

48-oz can unsweetened pineapple juice

$1 \frac{1}{2}$  pints frozen orange juice concentrate, thawed

$\frac{3}{4}$  pint frozen lemonade concentrate, thawed

$2 \frac{1}{4}$  quarts ginger ale

If you are short by  $1 \frac{1}{4}$  cups of ginger ale but still want to make the slushy using this recipe, how much of each of the other ingredients should be used to maintain the proportions of the recipe?



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Students will practice mixed-number multiplication by calculating how much of each ingredient to buy in order to make five bowls of slushy for an upcoming parent night event and seven bowls for the year-end graduation celebration.

Students will practice mixed-number division by finding how much of each ingredient they need to buy to make five bowls or seven bowls using these container sizes:

2-cup boxes of sugar

32-oz cans of pineapple juice

$\frac{3}{4}$ -pint containers of juice concentrates

$\frac{1}{4}$ -quart cans of ginger ale

- To conceptualize the absolute value of a number as the distance it is from zero on a number line, each student will create a timeline with 0 as the year of his or her birth, then record various events in American history. The date of each event will be rewritten as the number of years before or after the student's birth. Students can use  $|Event\ Year - Birth\ Year|$  to find the new dates. Dates before their births will be labeled B.M. (Before Me) and dates after their births will be labeled A.M. (After Me).

1776: The Declaration of Independence is written.

1788: On January 2, the Constitution is unanimously ratified by Georgia.

1789: George Washington is inaugurated as America's first president.

1803: The Louisiana Purchase doubles the size of the United States for three cents an acre.

1969: American Neil Armstrong becomes the first person to walk on the moon.

1996: The XXVI (26th) Summer Olympics are held in Atlanta, Georgia.

2004: One of NASA's Mars Rovers lands on Mars and begins collecting detailed information about the planet.

2005: George W. Bush begins his second term as the President of the United States.

2007: Barry Bonds hits his 756th home run to beat Hank Aaron's all-time record, set in 1976.

2008: On November 4, Barack Obama is elected to be the 44th President of the United States.

After making the relabeled timeline, students will answer these questions:

- 1** How many years before your birth was the Constitution ratified by the State of Georgia?
- 2** How many years passed between Georgia ratifying the Constitution and the Louisiana Purchase?
- 3** How many years passed between the Louisiana Purchase and Armstrong’s walk on the moon?
- 4** How many years passed between the XXVI Summer Olympics and the beginning of George W. Bush’s second term as president?
- 5** Which operations with absolute value could be used to find the answer when both dates are B.M. or both are A.M.? Which could be used when one date is B.M. and the other is A.M.?

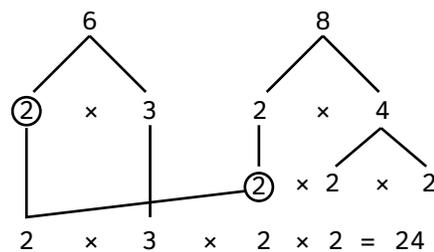
- Students will use two different techniques—listing and prime factorization—to find the least common multiple of two numbers.

Demonstrate to the class how to use prime factorization and listing to find the least common multiple of 6 and 8.

Listing: Take turns listing the multiples of each number until a common multiple is found.

6, 12, 18, 24  
 8, 16, 24

Prime factorization: Break down the numbers into factors until the factors are all prime numbers. Circle the common prime factors and then multiply the common factor(s) by the remaining factors.



Divide the class in two groups. Have one group use listing and the other group use prime factorization to determine the least common multiple of number pairs such as 12 and 15, 9 and 12, 7 and 20, or others of your choice.

Have the two groups switch strategies for determining the least common multiple for more number pairs such as 18 and 24, 6 and 10, 5 and 32, or others of your choice.

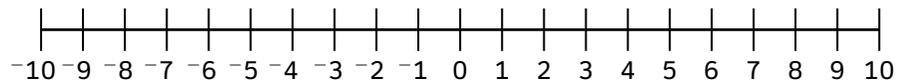


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Have the students discuss the pros and cons of each strategy. When is listing easier? When is prime factorization easier?

- Students will describe situations in which positive and negative numbers can be used. They will explain the meaning of 0 in each situation they describe.

Show the students a number line of positive and negative numbers and discuss the role of 0 on that number line.



Ask students if they can think of a situation in real life where positive and negative numbers are used. Use their example to discuss what the 0 point means. For example, in the Celsius scale, a temperature of 0 degrees is freezing, so positive numbers are above freezing and negative numbers are below freezing.

Have students get together in groups of four to six and brainstorm different situations where there are positive and negative numbers. Have them list different situations and explain what the 0 point means in each case. A reward can be given for the group that comes up with the most situations.

If the groups get stuck, the teacher may give small hints.

Some possible situations:

- Tides above and below sea level
- City elevations above and below sea level
- Frog jumping contest with 0 as starting line: frogs who jump in the correct direction get positive points and those who jump in the other direction get negative points
- Credits and debits in a business
- Withdrawals and deposits in a bank account

At the end, have the groups share their different situations with the entire class.



## Activities



### ② Geometry and Measurement

*Common Core Georgia Performance Standards MCC6.G.1, MCC6.G.2, MCC6.G.3, MCC6.G.4, and MCC6.RP.3d*

The Geometry and Measurement domain addresses students' ability to solve real-world and mathematical problems involving area, surface area, and volume and to understand ratio concepts and use ratio reasoning to solve problems.

The following activities develop skills in this domain:

- Students will build upon their knowledge of area, determine the formula for finding the volume of fundamental solid figures, and compute the volumes using appropriate units of measure.

Distribute to each student a rectangle of construction paper or cardboard that measures 2 in.  $\times$  4 in. Assist students in recalling that the formula for the area of a rectangle is  $l \times w$ . Then, students will determine the area of the given rectangle.

Next, inform the class that the formula for the volume of some solid figures, such as a rectangular prism, can be determined by building upon the area formula.

Prepare beforehand a stack of 2 cm  $\times$  4 cm paper rectangles with a height of 2 cm. Show the stack to the class and elicit suggestions for how the volume of this rectangular prism can be determined. Guide the discussion so that students see a rectangular prism as a stack of rectangular planes. Students will use the formula  $l \times w$  and amend it to include the third dimension of height, thus producing the formula  $l \times w \times h$ . Students will suggest other possible ways to write the formula. Guide the discussion towards  $l \times w$  being the base ( $B$ ) of the rectangular prism. Students will see that the formula can be written as (Area of base)  $\times$  (height). Record on the board or chart paper the alternative formula for the volume of a rectangular prism:  $V = (\text{Area of base}) \times (\text{height})$ . Finally, students will compute the volume of the rectangular prism.

- Students can use the layout of a house or other building to develop skills for finding the area of regular and irregular polygons by dividing them into squares, rectangles, and triangles. Copy or print from a magazine page or Internet site a floor plan of a one-story house that gives dimensions for each of the rooms. Discuss with students which rooms should be carpeted and which should be tiled, based on their own experience. Students will create a chart listing each room, type of floor covering, and area. For rooms and spaces with an unusual shape, students should break the full area up into recognizable shapes and add up the areas to find the total. If any measurements are not listed, students will estimate using given measurements. After calculating the area for each room and space, students



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should add the carpeted areas to figure out the total square feet of carpeting needed and then repeat the steps for the tiled areas.

- 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?*

- Students will apply real-world urban planning skills, design park playground areas, and determine the least common multiple (LCM) of pairs of numbers.

Distribute rulers, pencils, and two sheets of  $\frac{1}{4}$ -inch grid paper to each student (grid paper can be downloaded from a number of Internet websites).

Students will design two possible plans for a new playground using the materials provided and the following assignment from a local municipality:

- *Use a different sheet of grid paper for each playground plan.*
- *Each square on the grid represents one square yard.*
- *The playground will include different sections for swings, water play, slides, sandboxes, jump rope, and picnic tables.*
- *All sections of the playground will be rectangles.*
- *Each section, on both plans, will have the same but smallest possible area.*
  
- *The swings section will be designed in rows of 3 or 4 square yards.*
- *The water play section will be designed in rows of 4 or 5 square yards.*
- *The slides section will be designed in rows of 5 or 6 square yards.*
- *The sandbox section will be designed in rows of 7 or 4 square yards.*
- *The jump rope section will be designed in rows of 2 or 9 square yards.*
- *The picnic table section will be designed in rows of 3 or 4 square yards.*

List on the board or chart paper the two possible areas for each section of the playground. Students will discover that each section not only has the same area as requested but that they have applied the LCM. For example, the swings section is made up of 4 rows of 3 yards or 3 rows of 4 yards, both 12 square yards in total.



## Activities



### 3 Algebra

*Common Core Georgia Performance Standards MCC6.EE.2, MCC6.EE.3, MCC6.EE.4, MCC6.EE.5, MCC6.EE.6, MCC6.EE.7, MCC6.EE.8, MCC6.EE.9, MCC6.NS.8, MCC6.RP.1, MCC6.RP.2, and MCC6.RP.3a*

The Algebra domain addresses the student’s ability to apply and extend previous understandings of arithmetic to algebraic expressions. They will reason about and solve one-variable equations and inequalities and represent and analyze quantitative relationships between dependent and independent variables. They will also understand ratio concepts and use ratio reasoning to solve problems.

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 is 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.
  
- Students will investigate simple algebraic expressions by substituting numbers for the unknown, using the scenario of a scuba diving trip. Tell students that they are going to plan a trip to go scuba diving with friends. The group will share one boat. Each person has to rent diving equipment for the day. Ask the students to write an expression that represents the total cost of a scuba diving trip, where  $n$  = the number of people. Give them the information in the table below. Students should evaluate their expression to find the total cost for a group of two people and then for a group of eight people.

<b>Captain’s Dive Shop</b>	
Boat	\$200
Diving Equipment	\$40 per person



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- 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 race car while he makes a turn.
    - 1** When Jeff’s race car 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,  $R = 0.5$  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 which 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.)
  
  - Extending sequences and writing equations to represent them may be used as students make fictional train schedules for the Atlanta–Athens commuter rail. Students will make the schedule for the Atlanta-bound trains by assuming the following information:
    - 1** The first train leaves at 6:30 A.M.
    - 2** A train leaves every 42 minutes.
    - 3** For trains that leave before 9:00 A.M., there are exactly 13 minutes between each stop.
    - 4** For trains that leave after 9:00 A.M., there are exactly 16 minutes between stops.



**Atlanta-bound**

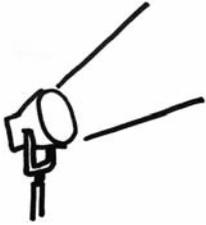
Athens	6:30
Bogart	
Winder	
Cedars Road	
Lawrenceville	
Reagan Pkway	
Lilburn	
Tucker	
Emory	
Atlantic Station	
Atlanta	

Students will then write out and number the terms of the following:

- The sequence that gives the times that trains leave Athens
- The sequence that gives the times of station stops for the 3<sup>rd</sup> train to leave Athens
- The sequence that gives the times of station stops for the 7<sup>th</sup> train to leave Athens

Students will make an equation that represents the time it takes to get to a stop on the Atlanta-bound train. Equations will be of the form  $T = bS$ , where  $S$  is the stop number,  $b$  is the time between each stop, and  $T$  is time. They then use the equation to find the time it takes to get from Athens to Cedars Road, Athens to Tucker, and Athens to Atlanta. Students also verify their equation using the schedules they've created.

## Activities



### ④ Data Analysis and Probability

*Common Core Georgia Performance Standards MCC6.SP.1, MCC6.SP.2, MCC6.SP.3, MCC6.SP.4, and MCC6.SP.5*

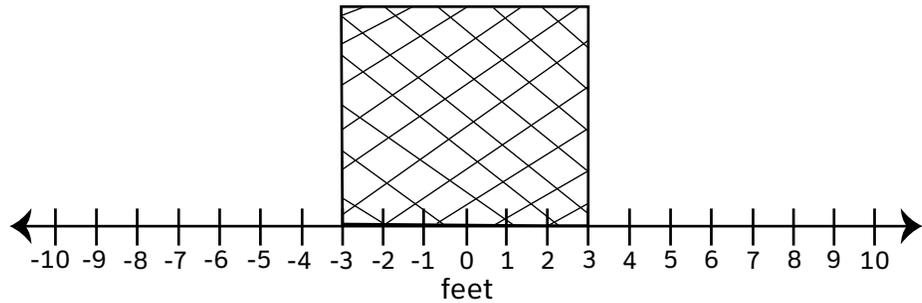
Within the Data Analysis and Probability domain, students will develop understanding of statistical variability and summarize and describe distributions.

The following activities develop skills in this domain:

- Students will display data using the appropriate graph when they regularly ask questions about displays of data they encounter. Gather examples of simple graphs found in newspapers or through Internet searches. The graphs may represent data from a survey or study in a number of simple formats, including bar graphs, circle graphs, line graphs, and pictographs. Choose examples that will be interesting and meaningful for students. Regularly analyze one of these graphs with students so they are able to ask questions about the graph: *Why was the data represented in this form? Can you think of another way to present the data that would also be successful? If not, why do you think these data cannot be presented in another way?* To effectively gather, organize, and display data, give students an exercise in thinking critically about the steps involved. Write the following five questions on index cards:
  - *What is the main question posed (the reason for the experiment or survey)?*
  - *How can I decide who should take my survey or participate in my experiment?*
  - *How can I best organize my data as I collect them?*
  - *What characteristic do the data have which will help me to decide which type of graph to use? (Why shouldn't I choose other types?)*
  - *Is my final display clear and easy to read?*

Mix up the cards and have students put them in the correct order. Students should try to connect the questions to surveys and information-gathering they have done in the past.

- To see the significance of the range of a data set, students will study two data sets with identical means but different ranges. Students should plot the locations of Kevin's and Darryl's shots-on-goal during a hockey game on the figure below:



The middle of the goal is 0 on the number line. The measures given in the following table correspond to the distance to the left (negative) or right (positive) from the middle of the goal for each of ten shots.

Shot	Kevin (feet from the center)	Darryl (feet from the center)
1	-7	-2
2	2	2
3	6	1
4	0	0
5	-5	2
6	4	2
7	5	-4
8	4	2
9	-8	-1
10	-1	-2

Students will plot Kevin's shots and Darryl's shots and then answer the following questions:

- 1 Calculate the mean distances from the center of the net for both Kevin and Darryl. What does this tell you?
- 2 How many goals did Darryl make? How many goals did Kevin make?
- 3 Calculate the range of Kevin's and Darryl's distances from the center. What does this tell you about each player's shots?
- 4 Although he made fewer goals, Kevin's average distance from the center of the goal is the same as Darryl's. How does the range help explain this?
- 5 What do you think the range of a data set tells you?
- 6 Calculate the interquartile range and the mean absolute deviation of Kevin's and Darryl's distances from the center. What does each tell you about Kevin's and Darryl's shots?

**7** Now consider James and Skyler; both shoot with an average distance of 1 foot from the middle of the goal. However, Skyler’s shots have a range of 13 feet, and James’ have a range of 4 feet. Who is more accurate? How does the range tell you this without the need to look at their shots as we did with Kevin and Darryl?

- Students will further their understanding of the measures of central tendency by comparing the mean and median to visually locate data centers. For each data set, students will plot the data points on a number line and then answer the questions.

**Age of 10 Randomly Chosen People at Local HS Basketball Game**

Person	1	2	3	4	5	6	7	8	9	10
Age	15.2	14.1	17.7	17.4	15.5	16.4	18.0	16.2	16.2	16.9

- *Where is the approximate center of this data set? Circle that point or area on the number line.*
- *Calculate the mean and median, and locate them on your number line.*
- *Compare the mean and median to the center that you visually estimated.*

**Age of 10 Randomly Chosen People at a Local Music Store**

Person	1	2	3	4	5	6	7	8	9	10
Age	26	35	32	24	21	18	32	29	28	19

- *Where is the approximate center of this data set? Circle that point or area on the number line.*
- *Calculate the mean and median, and locate them on your number line.*
- *Compare the mean and median to the center that you visually estimated.*

**Age of 10 Randomly Chosen People at a Local Grocery Store**

Person	1	2	3	4	5	6	7	8	9	10
Age	26	82	31	79	25	94	25	33	21	20

- *Where is the approximate center of this data set? Circle that point or area on the number line.*
- *Calculate the mean and median, and locate them on your number line.*
- *Compare the mean and median to the center that you visually estimated.*

Students should first answer questions 1–4:

- 1** What do you think the center of a data set is?
- 2** What do the mean and median of a data set tell you? (Hint: The mean and median are called measures of central tendency.)



- 3** In which of the three data sets were there outliers?
- 4** For which kind of data set is the median a better measure of central tendency? (Hint: Use your answer from No. 3.)

Then students should make box-and-whisker plots for each data set and answer questions 5–7:

- 5** What does the middle line in a box-and-whisker plot tell you?
- 6** What do the boxes tell you?
- 7** Use your answers from No. 5 and No. 6 to explain how a box-and-whisker plot can give you information about the center of a data set without requiring you to look at the actual numbers.

- To enhance understanding of box-and-whisker plots, students will compare them to histograms of the same data set. First students will create histograms for three temperature data sets using the following ranges:
  - Values greater than 5 and less than or equal to 10
  - Values greater than 10 and less than or equal to 15
  - Values greater than 15 and less than or equal to 20
  - Values greater than 20 and less than or equal to 25
  - Values greater than 25 and less than or equal to 30

**Temperature on 15 Days in City A (in Celsius)**

13	19	16	11	21	23	16	6	29	18	12	23	17	28	9
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**Temperature on 15 Days in City B (in Celsius)**

7	14	13	9	12	27	12	8	11	21	6	11	17	14	13
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**Temperature on 15 Days in City C (in Celsius)**

27	22	22	16	24	23	13	27	7	24	23	28	22	29	21
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Students will then use the histograms they've created to answer questions 1 and 2:

- 1** The temperature data set for City A is known as a symmetric data set. What do you think it means to say that a data set is symmetric? (What does it say about the location of the data values? Are the numbers evenly spread out?)
- 2** The temperature data sets for City B and City C are known as asymmetric data sets. What do you think it means to say that a data set is asymmetric?

Students should then create box-and-whisker plots for each data set and answer questions 3 and 4:

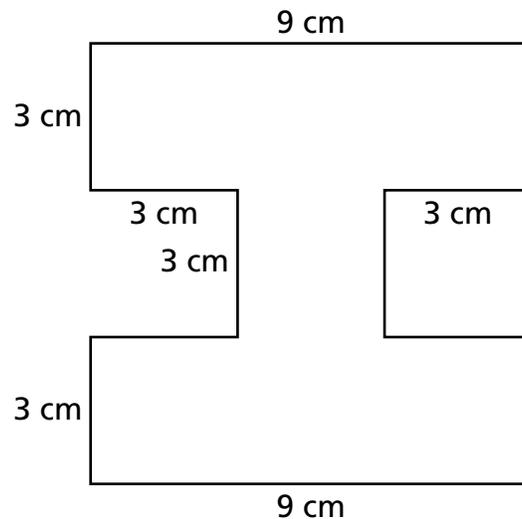
- 3** If you were given only the box-and-whisker plots, would you be able to tell whether the data sets were symmetric or asymmetric? If so, describe what a symmetric data set's box-and-whisker plot would look like and what an asymmetric data set's box-and-whisker plot would look like.
- 4** In the histograms, the taller the bar, the more values that fall into that range. In a box-and-whisker plot, does a wider box mean more values fall into that range? If not,
  - a. What does it mean?
  - b. Can you tell how many data values fall into a range on a box-and-whisker plot?



## Practice Quiz



- 1 **Edgar drew the shape on his Spirit Day poster.**



**What is the area of this shape?**

- A  $21 \text{ cm}^2$
  - B  $54 \text{ cm}^2$
  - C  $63 \text{ cm}^2$
  - D  $81 \text{ cm}^2$
- 2 **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?**
- A 20%
  - B 25%
  - C 45%
  - D 80%
- 3 **Veronica is  $x$  years old. Dustin's age can be found using the expression.**

$$2x + 3$$

**If Veronica is 8 years old, how old is Dustin?**

- A 13
- B 16
- C 19
- D 31



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- 4 **A recipe uses 12 cups of mashed raspberries to make raspberry jam.**

**How many quarts of mashed raspberries are needed to make the raspberry jam?**

**(2 cups = 1 pint) (2 pints = 1 quart)**

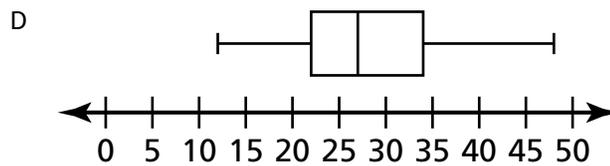
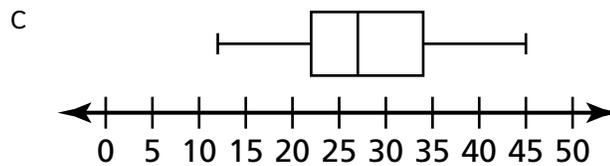
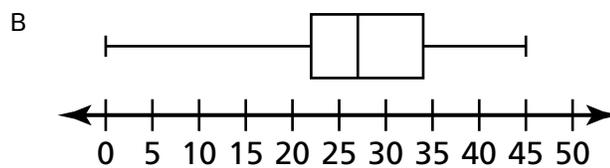
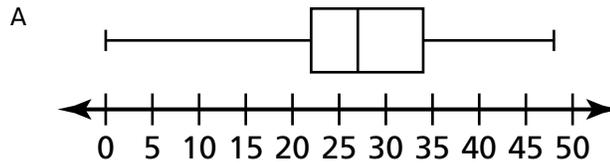
- A 3 quarts
  - B 4 quarts
  - C 6 quarts
  - D 8 quarts
- 5 **Which list shows the numbers in ascending order?**
- A  $|-3.5|, -3.25, 3.75$
  - B  $-3.25, -3.5, |3.75|$
  - C  $-3.5, |-3.75|, 3.25$
  - D  $-3.25, |-3.5|, 3.75$



- 6 **The list represents the gas mileage of 15 different vehicles.**

**31, 27, 12, 23, 45, 24, 48, 19, 34, 17, 29, 22, 29, 24, 39**

**Which box-and-whisker plot BEST represents this list?**



- 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



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- 8 **The cost to rent a boat is \$10. There is also a charge of \$2 for each person.**

**Which expression represents the total cost to rent a boat for  $p$  persons?**

- A  $10 + 2p$
- B  $10 - 2p$
- C  $2 + 10p$
- D  $2 - 10p$

- 9 **The list shows the ages of 8 people.**

**23, 33, 35, 27, 38, 25, 24, 19**

**What is the median age?**

- A 25
- B 26
- C 27
- D 28

- 10 **Tyra's family went on a trip to Canada. Tyra had \$25 in United States currency to exchange for Canadian dollars. For every one U.S. dollar, Tyra received 1.17 Canadian dollars.**

**How many Canadian dollars did Tyra receive for her 25 U.S. dollars?**

- A \$21.36
- B \$23.83
- C \$26.17
- D \$29.25



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## Solutions

Number	Correct Answer	Explanation
1	<b>C</b>	<p><i>Find the area of a polygon (regular and irregular) by dividing it into squares, rectangles, and/or triangles and find the sum of the areas of those shapes. (MCC6.G.1)</i></p> <p>The correct answer is <b>Choice (C) 63 cm<sup>2</sup></b>. Begin by dividing the shape into 2 rectangles (each 9 cm × 3 cm) and 1 square (3 cm × 3 cm). To find the area of each rectangle, use the formula <math>A = bh</math>, where <math>A</math> is area, <math>b</math> is base, and <math>h</math> is height: <math>9 \text{ cm} \times 3 \text{ cm} = 27 \text{ cm}^2</math>. To find the area of the square, use the same formula: <math>3 \text{ cm} \times 3 \text{ cm} = 9 \text{ cm}^2</math>. To find the total area, add the areas of the two rectangles and the square: <math>27 + 27 + 9 = 63</math>. Choice (A) is incorrect because if the shape is broken down into 7 squares, each <math>3 \times 3</math> square has an area of 9, not 3. Choice (B) is incorrect because 54 square centimeters is the area of the two rectangles without the central square. Choice (D) is incorrect because 81 is the result of multiplying <math>9 \times 3 \times 3</math>, not the sum of the areas of the rectangles and square.</p>
2	<b>D</b>	<p><i>Find a percent of a quantity as a rate per 100. (MCC6.RP.3c)</i></p> <p>The correct answer is <b>Choice (D) 80%</b>. To find the answer, write the proportion <math>\frac{4}{5} = \frac{x}{100}</math>. Multiply both the numerator and denominator by 20: <math>\frac{4}{5} \times \frac{20}{20} = \frac{80}{100}</math>, so 80% is correct. Choice (A) is incorrect because it is the percent of students who do not ride the bus to school and may result from misreading the problem. Choices (B) and (C) are incorrect, and they indicate that the student is unsure how to convert fractions to decimals or percents.</p>
3	<b>C</b>	<p><i>Investigate simple algebraic expressions by substituting numbers for the unknown. (MCC6.EE.2c)</i></p> <p>The correct answer is <b>Choice (C) 19</b>. Replace the <math>x</math> in the expression with 8, which is the value given for Veronica's age, and evaluate: <math>2x + 3 = 2(8) + 3 = 16 + 3 = 19</math>. Choice (A) is incorrect because 13 is the result of substituting 8 for <math>x</math> in the expression <math>2x - 3</math>. Choice (B) is incorrect because 16 is the result of substituting 8 for <math>x</math> in the expression <math>2x</math>. Choice (D) is incorrect because 31 is the result of writing the expression as <math>28 + 3</math> rather than <math>2(8) + 3</math>.</p>



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Number	Correct Answer	Explanation
4	A	<p>Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. (MCC6.RP.3d)</p> <p>The correct answer is <b>Choice (A) 3 quarts</b>. It uses a proportion of <math>\frac{1}{2} = \frac{6}{12}</math> to find the number of pints in 12 cups then <math>\frac{1}{2} = \frac{3}{6}</math> to find the number of quarts in 6 pints. Choice (B) is incorrect because it combines the given proportions to find the number of cups in one quart. Choice (C) is incorrect because it only uses <math>\frac{1}{2} = \frac{6}{12}</math> to find the number of pints in 12 cups. Choice (D) is incorrect because it does not use proportions but subtracts 2 cups and 2 pints from the given conversions from the 12 cups.</p>
5	D	<p>Understand ordering and absolute value of rational numbers. (MCC6.NS.7)</p> <p>The correct answer is <b>Choice (D) –3.25,  –3.5 , 3.75</b>. The larger the absolute value of a negative number, the smaller the number. Choices (A), (B), and (C) are incorrect and result from ordering the decimals separately by absolute value and confusing ascending and descending order.</p>
6	D	<p>Display numerical data in plots on a number line, including dot plots, histograms, and box plots. (MCC6.SP.4)</p> <p>The correct answer is <b>Choice (D)</b>. The minimum is 12 and the maximum is 48. The only box-and-whisker plot that shows this is Choice (D). Choice (A) is incorrect, showing a correct maximum of 48 but showing an incorrect minimum. Choice (B) is incorrect, showing both an incorrect minimum and an incorrect maximum. Choice (C) is incorrect, showing a correct minimum of 12 but showing an incorrect maximum.</p>

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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
7	<b>B</b>	<p><i>Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. (MCC6.RP.1)</i></p> <p>The correct answer is <b>Choice (B) 5:4</b>. The ratio of boys to girls can be written as the fraction <math>\frac{15}{12}</math>. Reduce the fraction by dividing both the numerator and denominator by 3 to get <math>\frac{5}{4}</math>. 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	<b>A</b>	<p><i>Write expressions that record operations with numbers and with letters standing for numbers. (MCC6.EE.2a)</i></p> <p>The correct answer is <b>Choice (A) <math>10 + 2p</math></b>. The rental cost is constant, at \$10. The additional \$2 per person charge will vary depending on the number of people, <math>p</math>, for a variable charge of <math>2p</math> that would need to be added to the initial cost of \$10. Choice (B) is incorrect because it subtracts <math>2p</math> from 10 when it should be adding it to get the total cost of the boat rental for <math>p</math> people. Choices (C) and (D) are incorrect because they multiply the variable number of people, <math>p</math>, by the constant, 10.</p>



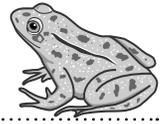
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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
9	<b>B</b>	<p><i>Give quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), and describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. (MCC6.SP.5c)</i></p> <p>The correct answer is <b>Choice (B) 26</b>. When there is an even number of values in a data set, the median is the mean of the two middle numbers when the values are in order. The two middle numbers here are 25 and 27, and the median is <math>\frac{25 + 27}{2}</math>. Choices (A) and (C) are incorrect and result from choosing either the lower or upper middle numbers, rather than finding the mean of the two. Choice (D) is incorrect and results from confusing the mean of the data set with the median.</p>
10	<b>D</b>	<p><i>Solve unit rate problems, including those involving unit pricing and constant speed. (MCC6.RP.3b)</i></p> <p>The correct answer is <b>Choice (D) \$29.25</b>. Since each U.S. dollar is worth 1.17 Canadian dollars, multiply the amount in U.S. dollars by the exchange rate: <math>25 \times 1.17 = 29.25</math>. Choice (A) is incorrect because 21.36 is the result of <math>25 \div 1.17</math>. Choice (B) is incorrect because 23.83 is the result of <math>25 - 1.17</math>. Choice (C) is incorrect because 26.17 is the result of <math>25 + 1.17</math>.</p>

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# Science

Students in Grade 6 will study Earth Science concepts through an inquiry-based approach. They will investigate how 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 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* standards are integrated throughout the domains. These standards are co-requisites for understanding the content of each science domain.

The *Characteristics of Science* standards refer to the understanding of 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. The *Characteristics of Science* standards 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 the progression of scientific explanations (geocentric and heliocentric models) for the formation of the solar system. Students should also be able to explain how the Big Bang theory describes the formation of the universe. Students will identify the solar system's place in the Milky Way Galaxy. 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 Galaxy. Students will understand how gravity governs the motion of planets, comets, and asteroids in the solar system. Students will also be able to compare and contrast the features (i.e., physical characteristics, atmospheric conditions, distance from the Sun, and the ability to support life) of the eight planets in the solar system.

The following activities develop skills and understandings 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*. 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 Earth affects climate, not Earth's distance from the Sun, take two pieces of white cardboard. Tape a thermometer, centered, onto each piece of cardboard. Using a compass to determine direction, place one piece of cardboard flat on the ground, with the bulb of the thermometer facing south. The other piece of cardboard should be placed so it is tilted up from the ground at about a  $45^\circ$  angle, with the thermometer's bulb at the bottom, also facing south. Students should record the temperatures shown by the two thermometers 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 cardboard sheets? If so, at what times are the differences the largest?*
  - *Which cardboard sheet received the Sun's rays at an angle most similar to the angle that the Sun hits the United States during the winter?*
  - *Which cardboard sheet received the Sun's rays at an angle most similar to the angle that the Sun hits Earth at the equator?*



- *Using the results, explain how the angle of Earth affects the climate at different times of the year.*
  
- Students will better understand eclipses via this simple demonstration in a darkened room using a flashlight as the Sun, a basketball as Earth, and an orange as the Moon. Students will rotate the Moon around Earth, keeping the Moon's path horizontal, 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*. Since the Moon's path is not always horizontal, a solar eclipse rarely occurs. Students should also find the alignment that causes the shadow of Earth to fall on 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 each. Using the results of the demonstration, students should be able to answer such questions as:
  - *What phase of the moon would be visible from Earth at a lunar eclipse? At a solar eclipse?*
  - *The moon takes about 28 days to go around Earth. Can you think of a reason why there is not an eclipse every month? (Hint: Tilt the path of the Moon around Earth so it is no longer horizontal. Does the shadow of the Moon still fall on Earth, or the shadow of Earth still fall on the Moon?).*

## 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 Earth and be able to describe the topography and composition of the ocean. Finally, students will understand the role of the Sun as the major source of energy and its relationship to wind and water energy.

The following activities develop skills and understandings in this domain:

- To understand the distribution of water on Earth, in its various forms and sources, students should create a visual representation of proportions that uses areas or volumes. First, students will hypothesize as to the proportion of Earth’s water that exists as liquid (oceans, lakes and rivers, groundwater), solid (glaciers, ice floes), and gas (water vapor). Students will record their conjectured estimates. Using library resources, websites (.edu, .gov, .org), textbooks, or other grade-appropriate reading materials, students will check and, if necessary, adjust their estimates. Next, students will create a visual model, using the correct proportions, of Earth’s water that shows the percentage of each type or source of water. For example, students may use graph paper and colored markers to represent the area of different amounts (e.g., on a 10-square by 10-square piece of graph paper, each of the 100 squares can represent one percent of Earth’s water). Students could also fill labeled containers with different volumes of clear or colored water in proportion to actual volumes on Earth. Next, students will explain their models and, as a class, discuss the importance of protecting freshwater sources. Using the following steps, students will conclude the activity by writing a position paper about water conservation.

### Step 1

Create an introduction. Clearly present the main idea of your position paper.

### Step 2

Explain your view. Tell why you are taking the position you’ve chosen. Provide evidence to support your opinion. Make your audience understand why you think the way you do.

### Step 3

Pick a problem that someone against your views would bring up, and then present a counter-argument. Give the reasoning behind your counter-argument, including why your ideas are better.



#### Step 4

End with a concluding paragraph. Restate and summarize the main ideas of your position. Make sure that you rewrite your ideas so that you're not just repeating your introduction.

- To better understand that land and water absorb heat at unequal rates, students will conduct a data-collecting investigation. Provide equal volumes of sand and water, two containers of equal volume (use containers, such as paper cups, that will not affect the results by absorbing heat themselves), lamps with incandescent bulbs of equal watts, thermometers, and a two-column chart in which to keep track of data. Students will prepare the investigation as follows:
  - Fill the containers. One with water and the other with the sand.
  - Place the thermometers in each container. Ensure that the thermometer in the sand is not placed so deeply that it cannot be read.
  - Place the lamps over the containers so that the heat source will warm the sand and water. Make sure that the lamps are at the same from their respective containers.

Students will record the starting temperatures of the sand and water and place the two substances under the lamps. They will then record the temperature every two minutes for the next twenty minutes. Next, students should turn off the lamps and repeat the procedure. The activity continues with students graphing, analyzing, and explaining their results. Students' explanations should include the observation that sand heats up more quickly than water and also loses heat more quickly. As a class, discuss the following analysis questions. The teacher will use class and individual responses to determine conceptual understanding:

- *Imagine that you plan to swim in warm ocean water. When would be the best time of year to do this at a Georgia beach?*
  - *What do you think causes the wind to blow?*
  - *If you were at the beach at mid-afternoon on a bright, warm, sunny day, would the wind be blowing from the land or from the ocean? Explain your answer.*
  - *How would the unequal heating of land and water surfaces affect wind systems?*
- To explain how climate affects the formation of hurricanes, students will create a mock public service announcement about hurricanes. Assign students to groups of three or four. In preparation for this activity, each group will research and record answers to the following questions:
    - *When is the typical hurricane season?*
    - *What parts of the Northern Hemisphere have the highest occurrences of hurricanes? Can you explain why?*
    - *How are hurricanes classified?*



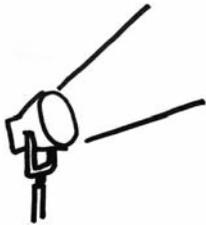
- 
- *What causes hurricanes to form?*
  - *Pick one major hurricane of the past three years and discuss its effects on human life.*
  - *How does climate change affect hurricanes?*

After completely answering the questions, groups will create three- to five-minute mock public service announcements about hurricanes. They should practice the announcements, and then present them to their classmates. At the end of their announcement, each group should take questions from the audience. The activity will conclude with students writing short essays about what they have learned and how the information could directly affect their lives. For example, students might describe how their families could be better prepared if they know when hurricanes are likely to occur, how the negative impact of future hurricanes upon human lives could be decreased if people apply knowledge about the history of past hurricanes, or how the things humans do impact climate, which could affect hurricanes and the hurricane season. Students should be expected to include in their public announcement explanations of how climate change may affect the number and intensity of hurricanes, the season in which hurricanes are more likely to occur, and other possible effects.

Teachers will assess conceptual understanding from each student's preparation materials, information presented during the public service announcement, and answers to audience questions.



## Activities



### **3 Geology**

*Georgia Performance Standards S6E5 and S6E6*

Students studying Geology in Grade 6 will investigate how Earth's surface is formed, describe processes that change Earth, and explain the physical effects of these processes. Grade 6 students should be able to compare the physical and chemical composition of the crust, mantle, and core. They should describe the formation of rocks and fossils and the composition of soil. They should also explain how human activity causes erosion and describe methods of conservation. Finally, students will identify renewable and nonrenewable resources.

The following activities develop skills and understandings in this domain:

- To better understand the processes that 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.
- Students will identify renewable and nonrenewable resources important to human survival, from a teacher-guided discussion. As a class, create a poster 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 be replaced. Finally, students should create poster board bumper stickers to promote the conservation of natural resources.

Students will explore how nonrenewable energy resources (such as petroleum, coal, peat, and natural gas) are created. First, each student will use prior knowledge and record their answers to the following questions, which have been posted on the board or chart paper:

- *What was the original material that was changed to form fossil fuel?*
- *Where did the energy to make this material come from?*
- *What caused it to change?*
- *How long did these changes take?*
- *Where and how can fossil fuels be found and obtained?*
- *Why should we conserve fossil fuels?*

Students will then use grade-level appropriate library materials, websites (.edu, .gov, .org), or classroom resources and make posters describing what they have learned.

Conclude the activity with a class discussion of nonrenewable energy sources, comparing and contrasting student-researched information, and revisiting the preceding six questions. The discussion will include that, although the materials may be similar, changes have taken different amounts of time, are found in different locations, and are obtained by various methods.

- Students can better understand the causes of tectonic plate movements by creating and observing a model of Earth’s mantle and crust. Fill a clear cooking pot, heat-proof canning jar, or heat-resistant glass measuring cup with water and place it over low to medium heat on a stovetop or hot plate. Distribute a handout, similar to the following one, on which students will record their observations, their educated guesses, and conclusions:

**Geology: Tectonic plates**

My observations of the movement of the dye:

My observation of the movement of the foam pieces:

**What I think the model represents**

The heat source:

The water:

The foam pieces:

I believe that Earth’s crust moves because

Once the water has heated, add several drops of food dye near one side of the pot.

Students will observe that the dye moves due to convection currents in the water. Have students break up several disposable cups or plates made of foamed polystyrene and place the flat pieces on top of the water. Students will observe what happens to the foam pieces. Next, ask students to make educated guesses about what each part of the model represents.



(The heat source represents Earth's core, the water represents the mantle, and the foamed polystyrene pieces represent the crust.) The class will have a discussion regarding what makes the tectonic plates of Earth's crust move. (Convection currents in the mantle drive the motion of the tectonic plates.)



## Practice Quiz



- 1 **A student is looking at a current model of the solar system.**

**Which of these BEST describes the model she sees?**

- A a geocentric model, which means Earth is the center of the solar system
- B a heliocentric model, which means Earth is the center of the solar system
- C a geocentric model, which means the Sun is the center of the solar system
- D a heliocentric model, which means the Sun is the center of the solar system

- 2 **In Georgia, summer occurs in July and winter occurs in January.**

**Which of these BEST describe 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 The Northern Hemisphere is tilted toward the Sun in July.
- D The Northern Hemisphere is tilted toward the Sun in January.

- 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 **Which of these BEST describes how the air temperature of the ocean compares to the air temperature of land next to the ocean?**

- A The land will be cooler than the ocean at noon and at midnight.
- B The land will be warmer than the ocean at noon and at midnight.
- C The land will be warmer than the ocean at noon and cooler than the ocean at midnight.
- D The land will be cooler than the ocean at noon and warmer than the ocean at midnight.

- 5 **A student 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 **A student is making a poster about conserving nonrenewable resources.**

**Which of these resources should she put on her poster?**

- A wind
- B sunlight
- C oak trees
- D natural gas

8 **Which of these will be the Moon phase during a solar eclipse?**

- A full Moon
- B new Moon
- C first quarter Moon
- D third quarter Moon

9 **A new shopping mall is being built. 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 is MOST LIKELY to affect a planet's ability to support life?**

- A the presence of water on the planet
- B the distance of the planet from the Sun
- C the number of moons that orbit the planet
- D the gases that make up the planet's atmosphere

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## Solutions

Number	Correct Answer	Explanation
1	<b>D</b>	<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 <b>Choice (D) is a heliocentric model, which means the Sun is the center of the solar system.</b> Scientific observation has confirmed the Copernican theory of a solar system universe. Choices (A) and (C) are incorrect because the heliocentric model is the currently accepted model of the solar system. Choice (B) is incorrect because the Sun is at the center of our solar system.</p>
2	<b>C</b>	<p><i>Relate 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 <b>Choice (C) The Northern Hemisphere is tilted toward the Sun in July.</b> When a hemisphere is tilted toward the Sun, it receives more direct sunlight and becomes warmer. Choices (A) and (B) are incorrect because Earth's distance from the Sun does not change significantly throughout the year. Choice (D) is incorrect because the Northern Hemisphere is tilted away from the Sun in January.</p>
3	<b>B</b>	<p><i>Explain the causes of waves, currents, and tides. (S6E3d)</i></p> <p>The correct answer is <b>Choice (B) gravitational pull of the Moon.</b> Tides are caused by the gravitational interaction between the Moon and Earth. Choice (A) is incorrect because the gravitational pull of Jupiter has no impact on the tides. Choices (C) and (D) are incorrect because both the movement of water in the ocean and wind near the surface of the ocean have no discernible effect on tides.</p>



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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
4	<b>C</b>	<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 <b>Choice (C) The land will be warmer than the ocean at noon and cooler than the ocean at midnight.</b> Land warms up faster in the Sun and cools off faster at night. Choice (A) and (D) are incorrect because land will gain more heat than water by noon. Choice (B) is incorrect because land will lose more heat than water by midnight.</p>
5	<b>D</b>	<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 <b>Choice (D) inner core.</b> The inner core of the Earth is densest, consisting of nickel and iron. Choices (A), (B), and (C) are incorrect because the crust, mantle, and outer core are not as dense as the inner core.</p>
6	<b>A</b>	<p><i>Classify rocks by their process of formation. (S6E5c)</i></p> <p>The correct answer is <b>Choice (A) cooling of magma.</b> Igneous rocks are formed when melted rock, called magma, cools and becomes solid. Choice (B) is incorrect because weathering of rocks 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	<b>D</b>	<p><i>Identify renewable and nonrenewable resources. (S6E6b)</i></p> <p>The correct answer is <b>Choice (D) natural gas.</b> Natural gas is created over millions of years from organic material. Choices (A), (B), and (C) are incorrect because they are renewable resources.</p>

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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
8	<b>B</b>	<p><i>Explain the alignment of the Earth, Moon, and Sun during solar and lunar eclipses. (S6E2b)</i></p> <p>The correct answer is <b>Choice (B) new Moon</b>. A new Moon is required in order for a solar eclipse to occur. Choices (A), (C), and (D) are incorrect because a solar eclipse can only occur during the new Moon phase.</p>
9	<b>B</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 <b>Choice (B) More soil will be washed away during heavy rains</b>. 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>A</b>	<p><i>Compare and contrast the planets in terms of:</i></p> <ul style="list-style-type: none"> <li>– Size relative to the Earth</li> <li>– Surface and atmospheric features</li> <li>– Relative distance from the sun</li> <li>– Ability to support life (S6E1c)</li> </ul> <p>The correct answer is <b>Choice (A) the presence of water on the planet</b>. Water must be present for life to exist on a planet. Choices (B), (C), and (D) may or may not affect a planet's ability to support life.</p>







# Social Studies

Beginning in Grade 6, students will start to focus their studies on the world outside of the United States. They will study the cultures, geographies, economics, and histories of Latin America and the Caribbean, Canada, Europe, and Australia. All four of the domains (Geography, Government/Civics, Economics, and History) are integrated into each region with a special emphasis placed on Geography. In the Geography domain, students will see the correlation between human and physical geography and each region's development. They will examine reasons for population distribution in each region and also the effect that geography has on the culture developed by people. In the Government/Civics domain, students will be introduced to various types of governments—many of which are different from what is established in the United States. They will see how governments distribute power and also how citizens participate in the political process. Through their study in the Economics domain, students will be introduced to the economies of each region and analyze their effectiveness in relation to overall standard of living. They will also evaluate the effectiveness of investments in both human capital and capital goods. In the History domain, students will explore the milestone events of each region's past, beginning with European exploration and ending at the present day. They will be able to make connections between events in history and a region's current conditions.

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



## Activities



### 1 Geography

*Georgia Performance Standards SS6G1, SS6G2, SS6G3, SS6G4, SS6G5, SS6G6, SS6G7, SS6G8, SS6G9, SS6G10, SS6G11, SS6G12, SS6G13, and SS6G14*

While studying Geography in Grade 6 Social Studies, students will be introduced to both the physical and human characteristics of Latin America and the Caribbean, Canada, Europe, and Australia. They will be asked to locate specific topographical features (mountain ranges, deserts, bodies of water, etc.) along with major countries in the region on a world map. They will also evaluate the causes and effects of various environmental issues such as deforestation, pollution, desertification, acid rain, and the impact of nuclear power plant disasters. Students will be able to explain why people choose to live in specific areas based on climate, natural resource distribution, and physical geographic locations. Students will also be able to describe various cultural characteristics of a region.

The following activities develop skills in this domain:

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*Latin America-SS6G1a, b; Canada-SS6G5a; Europe-SS6G8a, b; Australia-SS6G12a*

- Students will successfully locate selected world features and countries. First, students will complete an individual study map with a partner and then demonstrate their geographic knowledge in a class game, *Where in the World Is...?* Distribute blank outline maps of the world. Students will work with a partner to mark the following locations:

**Latin America and the Caribbean:** Amazon River, Caribbean Sea, Gulf of Mexico, Pacific Ocean, Panama Canal, Andes Mountains, Sierra Madre Mountains, Atacama Desert, Bolivia, Brazil, Colombia, Cuba, Haiti, Mexico, Panama, and Venezuela

**Canada:** St. Lawrence River, Hudson Bay, Atlantic Ocean, Pacific Ocean, the Great Lakes, Canadian Shield, and the Rocky Mountains

**Europe:** Danube River, Rhine River, English Channel, Mediterranean Sea, European Plain, the Alps, Pyrenees, Ural Mountains, Iberian Peninsula, Scandinavian Peninsula, Belgium, France, Germany, Italy, Poland, Russia, Spain, Ukraine, and United Kingdom

**Australia:** Great Barrier Reef, Coral Sea, Ayers Rock, and Great Victoria Desert

Before playing the game, allow students, pairs, or groups time to review and study their completed maps.

*Where in the World Is...?*



- 
- Write each of the above locations on separate slips of paper.
  - Hang two outline wall maps of the world on the board—one for each team.
  - Divide the class into two teams.
  - Have a person from each team come up to their wall map.
  - Draw a slip, and tell the two students to imagine that a person from their class is in this particular location.
  - Tell them the name of the place. Then, when you ask *Where in the world is (student’s name)?*, they will each immediately go to their team’s map and mark the location.
  - Check their answers. If they are both correct, they both earn a point.
  - If a team is incorrect, subtract a point from that team’s score.
  - Continue playing the game until all features and countries have been correctly identified.

Numerous plays of the game, throughout the year, will assist students in reviewing their knowledge of geographic locations.

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*Latin America-SS6G2a; Canada-SS6G7a; Europe-SS6G9a*

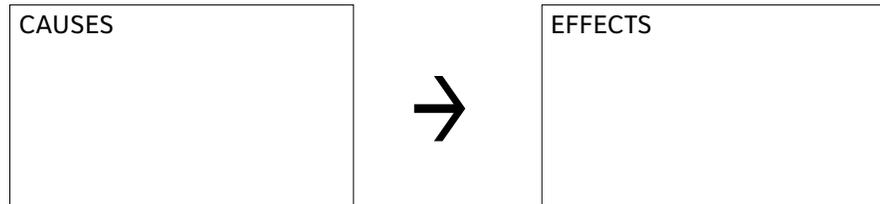
- Students will more easily recognize the major environmental concerns of Latin America, Europe, and Canada by examining the causes and effects of one of the following: air pollution in Mexico City, Mexico, the destruction of the rainforest in Brazil, oil-related pollution in Venezuela, acid rain and pollution of the Great Lakes, the extraction of natural resources on the Canadian Shield, the depletion of timber resources in Canada, acid rain in Germany, air pollution in the United Kingdom, or the nuclear disaster in Chernobyl, Ukraine. They will use the following questions to guide their research:
  - *How have location (e.g., at the base of mountains), population (e.g., overcrowding), and/or industrialization (e.g., factories) contributed to the problem?*
  - *How have human needs (e.g., lumber, power, transportation) contributed to the problem?*
  - *How has the issue impacted humans (e.g., health issues, contamination of drinking water)?*
  - *How has the issue impacted the environment (e.g., land contamination, air quality)?*
  - *How has the issue affected wildlife (e.g., vegetation, aquatic life)?*
  - *How has the issue affected buildings and monuments?*
  - *How has the issue affected neighboring countries?*



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Next, students will create a poster similar to the one below. They will draw or find pictures that illustrate the causes and effects of the environmental issue.

**ENVIRONMENTAL ISSUE**



Finally, students will write a one-page paper on the environmental issue. The paper will examine the causes and effects of the issue, as well as draw generalizations and present ideas about how to more effectively deal with the issue.

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*Latin America-SS6G3a, b; Canada-SS6G6a, b; Europe-SS6G10a, b;  
Australia-SS6G13a, b*

- By completing a country information chart and making comparisons with other countries, students will better understand how location, climate, and natural resources affect population distribution and trade.

Assign pairs of students one of the following pairs of countries:

- Mexico and Venezuela
- Brazil and Cuba
- United Kingdom and Russia
- Germany and Italy



Distribute a chart similar to the chart that follows:

<b>Assigned Country</b>	<b>Location</b>	<b>Climate</b>	<b>Natural Resources</b>	<b>Where People Live</b>	<b>How People Trade</b>

Pairs will decide who is assigned which country. Then, students will use age-appropriate Internet resources, library reference materials, grade-appropriate texts, atlases (including population density maps, climate maps, natural resources maps, and physical maps), and almanacs to complete their charts. After the research is completed, pairs will come together and share their information. The discussion will focus on how each student believes location, climate, and natural resources affect where people live and how they trade. Pairs will collectively write a short essay about their findings and share their conclusions with the class. Allow time for the class to discuss similarities and differences in the findings of pairs that were assigned the same countries. Conclude the activity with a discussion about Canada and Australia. Share with the class the location, climate, and natural resources of each country. The class will suggest how the information would affect where people live and how it would impact trade in each country.

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*Latin America-SS6G4a, b and SS6H2a, b*

- Students will understand and be able to describe the cultural characteristics of people who live in Latin America by preparing a display of pictures and words on poster board or chart paper. Students will work independently or in small groups to select pictures and words cut from used magazines and newspapers that reflect the blending of ethnic groups, the languages, and the religions of Latin America. Students or groups will share their displays with classmates or family members, who will ask questions of the student artists. Students will be able to answer the following questions about the culture of Latin America:



- 
- *What impact did European colonization and the African slave trade have on Latin American ethnic groups?*
  - *What languages are spoken in Latin America?*
  - *Where are those languages spoken?*
  - *What influence did the Spanish and Portuguese have on the language and religions of Latin America?*



## Activities



### 2 Government/Civics

*Georgia Performance Standards SS6CG1, SS6CG2, SS6CG3, SS6CG4, SS6CG5, SS6CG6, and SS6CG7*

In the Government/Civics domain, Grade 6 students will learn about the various types of governments established in Latin America and the Caribbean, Canada, Europe, and Australia. They will be introduced to the ways that these governments distribute power and the ways that citizens are allowed to participate (or not participate) in the political process. Students should already be familiar with the democratic form of government in the United States. Through this course of study they'll gain an understanding of the other types of democratic systems that are established in these regions.

The following activities develop skills in this domain:

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*Latin America-SS6CG1a; Europe-SS6CG4a; Australia-SS6CG6a*

- Students will better comprehend how governments distribute power through a teacher-directed mini-lesson and by playing *Facts Identification Bingo*. Define the terms *federal*, *unitary*, and *confederation*. Explain and describe how governments distribute power in each system. Prepare for the game by making fact cards, including anything mentioned in the lesson, for each power distribution method. Make at least eight cards for each government system. Each student will create a 5 × 5 bingo card similar to the one that follows:



**Sample Bingo Card**

		<b>FREE</b>		

Distribute to each student twenty-five colored paper tiles to be used as markers. (For each play of the game, one marker is placed on the “FREE” space). Students will create their cards by randomly writing the words *federal*, *unitary*, and *confederation* eight times each until all spaces are filled. The goal is to get bingo: five markers either across the row, diagonally through the center, or down a column.

To play the game, draw the top card from the pile and read a fact. The students will place a marker on the appropriate square on their cards. For example, if you read “This type of government is a union of states for a common purpose,” the students should put a marker on one of their “confederation” squares. Keep reading the fact cards until someone yells out “bingo!” Check that there is indeed a winner by reading through the facts and having the student identify which fact belonged to each word in the bingo line. This will ensure that he or she matched the correct term with the correct fact, as well as provide review time. To play additional rounds, students can keep their own cards, rotate their cards around the room, or distribute them randomly.

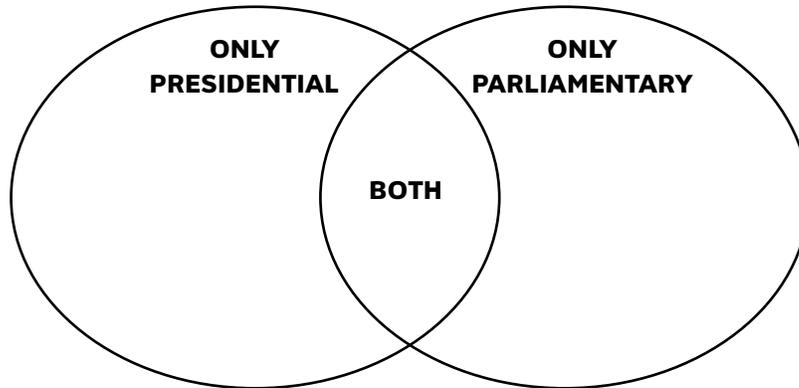
This activity and the bingo game can also be adapted for oligarchic, autocratic, and democratic forms of citizen participation or the two predominant forms of democratic governments.



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*Latin America-SS6CG1c; Europe-SS6CG4c; Australia-SS6CG6c*

- Students will better comprehend the two different types of democracies (parliamentary and presidential) by designing informational posters and completing a Venn diagram similar to the one below:



Group students into pairs to research the two predominant forms of democratic governments. Pairs will decide who will research which type and use library resources, grade-appropriate texts, and age-appropriate Internet sites to gather facts. First, each student will complete one half of the diagram. Then, the pair will come back together to examine their entries and complete the overlap with common facts.

Conduct a class review and create a composite diagram. First, draw a large Venn diagram on the board. Students will make suggestions for the completion of the class diagram with facts from their own research or charts. The activity will conclude with students designing a poster that features facts about each type of democracy in pictures. Students will use their own drawings and current event pictures from newspapers, magazines, and Internet printouts. Display the Venn diagrams and posters in a school Democracy Exhibit.

*Latin America-SS6CG2a; Canada-SS6CG3a; Europe-SS6CG5a; Australia-SS6CG7a*

- Students will better understand the structures of different national governments by completing a chart similar to the following:

	<b>Form of leadership</b>	<b>How the leader is selected</b>	<b>Role of the citizen in terms of voting rights and personal freedoms</b>
<b>Brazil</b>			
<b>Mexico</b>			
<b>Cuba</b>			
<b>Canada</b>			
<b>United Kingdom</b>			
<b>Germany</b>			
<b>Russia</b>			
<b>Australia</b>			

Students will work in groups to complete the chart doing necessary research to fill in the appropriate information for each country. Once every group has completed its chart, the class will discuss the results of each group’s research.

Following the discussion, allow individuals, pairs, or groups time to review and study their charts prior to playing a class game. To set up the game, write questions about each of the countries on 3 × 5 cards. Use facts, such as the examples below, from the charts students created:

- *Australia is a parliamentary democracy. How is the leader selected?*
- *Brazil has a presidential democracy, and Cuba has a dictator. In which country do citizens have more voting rights and personal freedoms?*

Write the answers on the backs of the cards. To play the game, divide the class into two teams. A student from each team will come to the front of the class. Choose a card from the stack, and read the question aloud. Each player will write a short answer to the question on the chalkboard or chart paper. A point is awarded to each team that correctly answers the question. Continue with the game until all students have had a chance to play. Charts will be used throughout the year for review.



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*Europe-SS6CG5b*

- Students will gain a basic understanding of the European Union through research, participation in a classroom discussion, and composition of a response paper. Divide the class into groups, or have students research individually. Write the following questions on an appropriate number of note cards and distribute to the class. You may decide to assign more than one question to a group or individual.
  - *Which countries are members of the European Union?*
  - *Why did the European Union form?*
  - *What things changed when the European Union formed?*
  - *What are the positives of the European Union?*
  - *What are the negatives of the European Union?*
  - *How do the nations of Europe now relate to each other economically?*
  - *How did the nations of Europe relate to each other, economically, before the formation of the European Union?*
  - *How do the nations of Europe now relate to each other politically?*
  - *How did the nations of Europe relate to each other, politically, before the formation of the European Union?*
  - *How do the nations of Europe now relate to each other in military defense?*
  - *How did the nations of Europe relate to each other, in military defense, before the formation of the European Union?*
  - *How has the formation of the European Union affected the rest of the world?*
  - *What is the Euro and what is its purpose?*

Students will find the answers to their questions using appropriate Internet sites, library resources, grade-level texts, current events articles, and other age-appropriate reading materials. Guide a class discussion of the thirteen questions and allow students to present their findings. Encourage students to ask questions regarding the purposes, successes, and failures of the European Union. Record the findings on a “European Union” poster or the chalkboard. Conclude the activity with each student writing a short essay that describes the European Union and explains why he or she thinks it is a good or bad idea.

## Activities



### 3 Economics

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

The main purpose of the Economics domain of Grade 6 Social Studies is to help students gain an in-depth understanding of the economic systems found in the regions of Latin America and the Caribbean, Canada, Europe, and Australia. As students analyze the three different types of economic systems (traditional, command, and market), they will realize that most countries have a mixed economy—a combination of the latter two systems. Students will gain an appreciation for the importance of voluntary trade and its effect on a nation’s economy. They’ll see the effects of actions that both hinder and encourage free trade such as tariffs, quotas, embargoes, specialization, and currency exchange. As they analyze the economies in these regions, they’ll see the importance of investing in both human capital and capital goods as a way to increase a country’s GDP. The students will also have the opportunity to explore individual financial situations by analyzing the components of a successful personal money management system.

The following activities develop skills in this domain:

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*Latin America-SS6E1a, b, c; Europe-SS6E5a, b, c; Australia-SS6E8a, b, c*

- Students will gain a better understanding of worldwide economic systems by participating in a class discussion, completing research about one of nine countries, and working with the class to determine where countries belong on an economic continuum. Review the three types of economic systems: traditional, command, and market. Emphasize the fact that most countries have a mixture of both command and market economies. Review the following three economics questions:
  - *Who decides what goods are produced?*
  - *Who decides how goods are produced?*
  - *Who decides for whom goods are produced?*

Following the discussion, assign groups one of the following countries to research: Mexico, Venezuela, Brazil, Cuba, Canada, the United Kingdom, Russia, Germany, and Australia.

Groups will use the results of their research to determine where their country should be placed on an economic continuum.





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Have one representative of each group go up to the board and place the name of the country on the continuum where the group believes it belongs. Each group should provide support for the placement of its country (the government makes most decisions about what to produce, or individuals make most decisions about how goods are produced). Once all countries have been placed on the continuum, the discussion should conclude with an emphasis that placement on the continuum is determined by the answers to the three economic questions: 1) *Who decides what goods are produced?* 2) *Who decides how goods are produced?* and 3) *Who decides for whom goods are produced?*

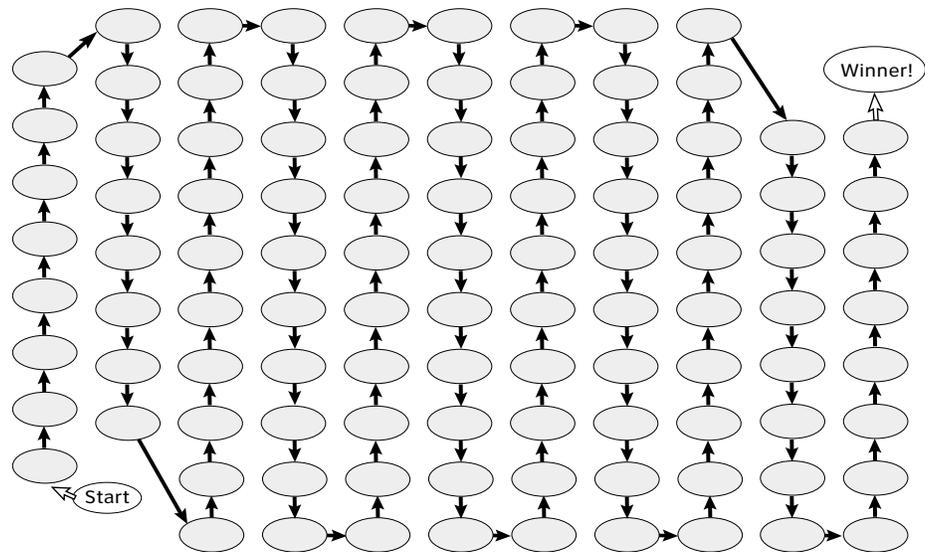
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*Latin America-SS6E2a, b, d; Europe-SS6E6a, b; Australia-SS6E9a, b, c*

- Students will understand the benefits of and barriers to voluntary trade by creating and playing a board game. Begin by having students work with a partner to research real-world examples of tariffs, quotas, embargoes, specialization, and currency exchanges. They will come up with at least three examples of each. Have the partners write each example on its own 3 × 5 card. Instruct them to write the words *tariff, quota, embargo, specialization, or currency exchange* on one side of the card, and a real-world example on the other side of the card.

Once the students are finished making their cards, pair up partners to make small groups of four students. The small groups will place their cards in a stack with the real-world examples facing up. Give each group a game board, similar to the following, and four different colored paper tiles to use as markers.

### What Helps and Hurts Voluntary Trade?



Now, each group is ready to play the board game. The purpose of the game is to understand that certain factors help free trade, while other factors hurt it. Have the students decide who will go first, second, third, and fourth by rolling a numbered cube, drawing straws, or picking a number. Each student will take a turn choosing a card from the stack. One student will read the example and decide if it is an example of a tariff, quota, embargo, specialization, or currency exchange. The answer can be checked by reading the back of the card. If the student gets it right, he or she and another player will move on the game board according to the rules below. If the student gets it wrong, he or she and the other players will remain on their current spaces. Since tariffs, quotas, and embargoes are barriers to trade, the student will not move forward on the game board if he or she chooses this type of card, but this type of card may cause another player to move backward. Specialization and currency exchange will allow a player to move forward.

#### Rules

- Specialization—move forward 3 spaces
- Currency Exchange—move forward 4 spaces
- Tariff—stay in place, but move another player back 1 space
- Quota—stay in place, but move another player back 2 spaces
- Embargo—stay in place, but cause another player to miss his or her next turn



The first student to reach the “Winner!” circle wins the game. When the game is finished, have the students sort the cards and place their own cards in an envelope. This allows the game to be used repeatedly throughout the year with different groups of four.

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*Latin America-SS6E3a, b and SS6G4c; Europe-SS6E7a, b and S6G11c;  
Australia-SS6E10a, b and SS6G14b*

- As a class, discuss and define the words that make up the term GDP: *gross, domestic, and product*. Next, share the definition of GDP as “the value of all the goods and services produced by a nation during a certain time period.” Discuss with the students the term GDP per capita. Illustrate on the board how this figure is determined (country’s GDP ÷ country’s population). Figure GDP per capita for several countries to show the difference in economic levels of both developed and developing nations. Explain that GDP per capita is the approximate amount of income that each person in the country would have in a given year if the country’s income was distributed equally. Reinforce the concept that this number is not reflective of the actual income that each person in the country makes because income is never divided equally within a country. Illustrate this by showing that the United States had a GDP per capita of \$46,000 in the year 2006. However, some people made much more than this and others made much less. Explain that GDP per capita helps economists understand the economic situation of people in a particular country. Allow the class time to brainstorm what they believe would cause a nation’s GDP to increase or decrease. Guide brainstorming to include references to investments in both human capital and capital goods. List the students’ suggestions on chart paper or the chalkboard.

Now, assign students partners and have each pair of students role play as Economic Advisors to a country from this list: Canada, Cuba, Brazil, United Kingdom, Germany, Russia, Australia, and Haiti. Partners will gather information about their country from the CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/>). In addition to reading the Economy Overview for their country, partners should find three specific pieces of information: GDP per capita (PPP), Investment (gross fixed), and Literacy Rate.

Explain how the literacy rate is one indication of investment in human capital and how the figure listed in the CIA World Factbook as Investment (gross fixed) shows what percentage of the GDP is being invested in capital (e.g., factories, machinery, technology) and raw materials in order to produce more goods. Partners will discuss how investment in human capital and investment in capital goods has affected the GDP of their country.

They will gather information about additional factors that may have affected the GDP of their country from the Economy Overview.

Once partners have completed their research, they will share their findings with the class. Hand out a chart, similar to the one below, to students. The chart should be blank except for the country names and the column headings.

<b>Country</b>	<b>GDP per Capita</b>	<b>Literacy Rate</b>	<b>Investment in Capital Goods and Raw Material (% of GDP)</b>
<b>Canada</b>			
<b>Australia</b>			
<b>Germany</b>			
<b>Russia</b>			
<b>Cuba</b>			
<b>Brazil</b>			
<b>Haiti</b>			

Students will take notes on the chart while partners are presenting their findings. Students will then discuss and analyze the completed chart. Highlight how investment in human capital and capital goods usually increases the GDP. Students will look at specific countries and try to explain exceptions. Although Russia has one of the highest literacy rates and invests in capital goods, it does not have the highest GDP per capita. (Students who researched Russia should be able to point out that corruption needs to be eliminated in order for GDP per capita to increase.) Students will discuss what countries like Haiti and Cuba need to do to increase GDP per capita. (Haiti is included to illustrate the lower end of world economies and is not assessable on the CRCT in Economics.)

Once the presentations are finished, each student will write a letter to his or her chosen government. The letter should explain how the government could improve its current economic situation by improving the education and training of its workforce, building more factories, purchasing machinery, using modern technology, or other measures. Students should use information from their own research as well as information from the class presentations to reinforce their suggestions.



*Latin America-SS6E3c; Europe-SS6E7c; Australia-SS6E10c*

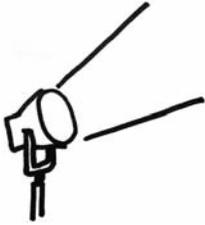
- Students will better understand the role of natural resources in a country’s economy by completing a group research activity, participating in a class discussion, and writing an individual essay. Divide the class into ten groups. Assign each group one of the following countries: Mexico, Venezuela, Brazil, Cuba, Canada, the United Kingdom, Russia, Germany, Italy, and Australia. Have the groups complete the appropriate row of a chart similar to the following chart for their country by using age-appropriate Internet sites (<https://www.cia.gov/library/publications/the-world-factbook/>), grade-level texts, and age-appropriate reading materials. Each student should have his or her own chart to complete. Once the groups have completed their research, have them share their findings with the class. As the groups make presentations, the rest of the class will complete the blank rows of their individual charts.

<b>Country</b>	<b>Top Five Imports</b>	<b>Top Five Exports</b>
<b>Mexico</b>		
<b>Venezuela</b>		
<b>Brazil</b>		
<b>Cuba</b>		
<b>Canada</b>		
<b>United Kingdom</b>		
<b>Russia</b>		
<b>Germany</b>		
<b>Italy</b>		
<b>Australia</b>		

Now, spend some time discussing this information with the class. Students will brainstorm why a country would need to import some things and export others. Make sure they understand that the presence or lack of natural resources in a country often determines this. For example, one country might have a lot of oil but very little arable land for farming. That means they must import food products and sell their oil to other countries. Once students understand this concept, give them time to compare the countries in their charts. Students will then write a short essay explaining which of these countries would be good trading partners and why.



## Activities



### 4 History

*Georgia Performance Standards SS6H1, SS6H2, SS6H3, SS6H4, SS6H5, SS6H6, SS6H7, SS6H8, and SS6H9*

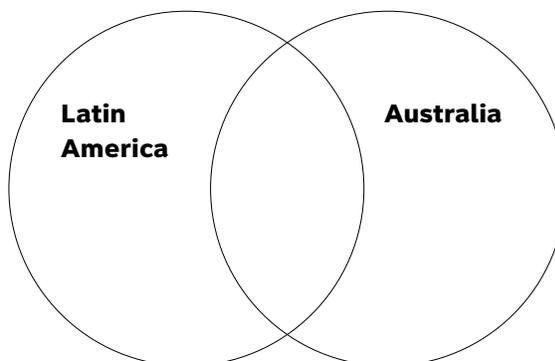
In previous grades, students spent most of their time focusing on United States history. In the Grade 6 course of study, students will be introduced to milestone events and achievements in Latin America and the Caribbean, Canada, Europe, and Australia, beginning with European colonization (approximately 1400s) and ending with the present day. The primary goal of the History domain is for students to gain an understanding of the major events and important people of each region who have shaped the modern era. The presentation of these people and events should take a cause-and-effect course of instruction rather than a chronological approach. This will help students see how specific events in history have influenced each region's people, government, language, and culture over time.

The following activities develop skills in this domain:

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*Latin America-SS6H1b and SS6H2b; Australia-SS6H9b*

- To help students understand the impact that European exploration and colonization had on Latin America and Australia, students will conduct research and create a Venn diagram. Organize students into pairs. One person in each pair should be assigned Latin America and the other assigned Australia. Students will use textbooks, library resources, and age-appropriate Internet sites to determine the effect that European exploration and colonization had on their region. Pairs will come together to share findings and then work together to create a Venn diagram, similar to the one below, that compares the effects of European exploration and colonization of the two regions:





Conclude the activity with a class discussion about the similarities and differences of the effects of European exploration and colonization on the two regions.

*Latin America-SS6H2c*

- Completing study charts to compare and contrast independence movements in Mexico, Haiti, and Venezuela will help students understand the historic roots of independence movements. First, students will find age-appropriate Internet sites, periodical articles, and grade-appropriate reading materials that highlight reasons for and against independence. Next, as students read, they will complete a chart similar to the one below:

	<b>Who led the independence movement?</b>	<b>What were the reasons for the independence movement?</b>	<b>From what country was independence gained?</b>	<b>What people were for the independence movement?</b>	<b>What people were against the independence movement?</b>	<b>What was the outcome of the independence movement?</b>
<b>Mexico</b>						
<b>Haiti</b>						
<b>Venezuela</b>						

Finally, students will role-play, as characters from the appropriate time period, and debate the pros and cons of independence.

*Europe-SS6H6a, b, c*

- Students will better understand European colonization by becoming ambassadors from European nations, explaining their country’s motives and impact on various world regions. Divide the class into groups or allow students to work individually. Assign each group or student one of the following countries: Portugal, Spain, England, or France. Provide each group or student with a blank map of the world. Students will research the following questions using library resources, grade-level appropriate texts, and age-appropriate Internet sites:

- Why did my country become involved in exploration?
- Why did my country want to colonize in other lands?
- What areas of the world did my country explore and colonize?  
 (Students will use the blank world map to shade in these areas.)
- What were the reasons for exploring and colonizing some regions and not others?

Students will use their research and create a poster that describes all the facts about their country’s colonization of other countries. The poster should include a world map that is shaded to indicate the parts of the world colonized by their country. Groups or individual ambassadors will present their findings to the class. As the reports are given, students will complete their world map by using differently colored pencils, markers, or crayons to shade in areas colonized by different countries. They will also complete a chart, similar to the one below. Students will use the chart and map as study and review guides.

**Why did countries explore and colonize?**

	<b>Religious reasons</b>	<b>If yes, why?</b>	<b>Obtain natural resources or riches</b>	<b>If yes, why?</b>	<b>Trade and trade routes</b>	<b>If yes, why?</b>
<b>Portugal</b>	Y/N		Y/N		Y/N	
<b>Spain</b>	Y/N		Y/N		Y/N	
<b>England</b>	Y/N		Y/N		Y/N	
<b>France</b>	Y/N		Y/N		Y/N	

*Europe-SS6H7a*

- To help students better understand major developments following WWI, they will create and play a game entitled *Conflict and Change*. First, lead a brief overview discussion about each of the following topics (emphasizing that the dominant theme following WWI was conflict and change):
  - The Russian Revolution
  - The Treaty of Versailles
  - Worldwide depression
  - The rise of Nazism



Assign students one of the four topics. Students will use age-appropriate Internet sites, grade-level texts, and library resources to gather information about their topic. Next, students assigned the same topic will group to create a set of fact cards. Distribute  $3 \times 5$  cards to each group, reminding them that each card should have a different fact written on it.

Additionally cards will be coded, in small letters beneath the fact, with “RR” for the Russian Revolution, “TV” for the Treaty of Versailles, “WD” for worldwide depression, or “N” for the rise of Nazism. For example:

- Placed a heavy financial burden upon the nations that started the war—TV
- Paved the way for the formation of the USSR—RR
- International trade declined by half—WD
- Promised to restore honor to the German people—N

The game can be played in different ways:

- Gather all of the cards. Randomly select and read the fact. A student will suggest which topic the fact belongs with and explain why.
- Gather all of the cards. Randomly select and read the fact. A student will suggest why the fact represents a conflict, a change, or possibly both.
- Gather all of the cards. Randomly select and read the fact. A student will suggest the consequence (outcome or result) of the fact.
- Play the variations with three teams of students. Allow team members to confer before answering.
- Allow students to make sets of cards. Students play in pairs. Taking turns, one student reads the fact and the other identifies the correct topic. If correct, the student gets the card. If incorrect, the card is replaced in the center of the deck. The player with the most cards when the deck is depleted wins.



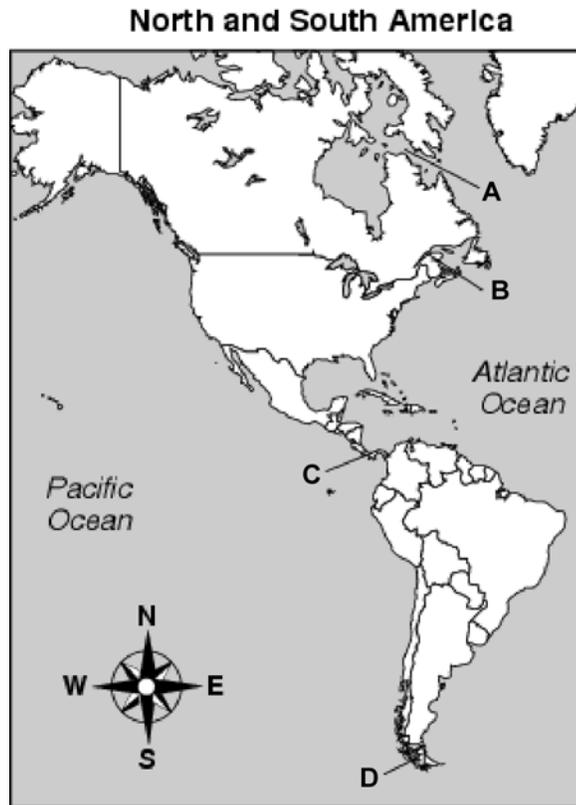
## Practice Quiz



- 1 **How did the English 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 Quebec's schools are better.
  - B Quebec's culture is different.
  - C Quebec's standard of living is higher.
  - D Quebec's industries export more goods.
  
- 3 **Which of these led to the end of the Cold War?**
  - A the Treaty of Versailles
  - B the colonization of Africa
  - C the bombing of Hiroshima
  - D the collapse of the Soviet Union
  
- 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 letter points to the location of the Panama Canal?



- A A
- B B
- C C
- D D

6 **Look at the maps.**

**Russia—Population Density**



**Russia—Average Climate**



**Why do few people live in the central northern region of Russia?**

- A There is little fresh water.
- B The summers are hot and humid.
- C The weather is extremely cold.
- D There are long rainy seasons.

7 **Cuba has a dictatorship, and Brazil has a presidential democracy.**

**How are these countries different from each other?**

- A In Cuba, the head of government has unlimited power.
- B In Brazil, the head of government is appointed for life.
- C In Cuba, more citizens protest against the government.
- D In Brazil, all newspapers are owned by the government.



- 8 **What role did Francisco Pizarro play in the history of Latin America?**
- A He led a small Spanish force to defeat the Inca Empire.
  - B He conquered the Aztecs by creating alliances with their enemy.
  - C He led a revolt that resulted in Haitian independence from France.
  - D He started a nationalist movement in Argentina by appealing to the working class.
- 9 **Why does Australia have more of a market economy than a command 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 **Why would a country make investments in human capital?**
- A to decrease the population
  - B to increase unemployment
  - C to decrease natural resources
  - D to increase the gross domestic product (GDP)



## Solutions

Number	Correct Answer	Explanation
1	<b>B</b>	<p><i>Explain the impact of European colonization of Australia in terms of diseases and weapons on the indigenous peoples of Australia. (SS6H9b)</i></p> <p>The correct answer is <b>Choice (B) It resulted in an outbreak of disease, which reduced the Aborigine population.</b> 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	<b>B</b>	<p><i>Describe Quebec’s independence movement. (SS6H5a)</i></p> <p>The correct answer is <b>Choice (B) Quebec’s culture is different.</b> Quebec has a mostly French-speaking population, while the rest of Canada speaks English. Other aspects of its culture are also different from the rest of Canada. Choice (A) is incorrect because the quality of education in Quebec is similar to the other provinces in Canada. Choice (C) 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 export more than Quebec.</p>



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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
3	<b>D</b>	<p><i>Explain how the collapse of the Soviet Union led to the end of the Cold War and German reunification. (SS6H7c)</i></p> <p>The correct answer is <b>Choice (D) the collapse of the Soviet Union</b>. The Cold War was a period of tension between countries that had differing political ideologies, namely the United States (democracy) and the Soviet Union (communism). When the Soviet Union collapsed in 1991, the Cold War ended. Choice (A) is incorrect because the Treaty of Versailles ended World War I, not the Cold War. Choice (B) is incorrect because the colonization of Africa had nothing to do with the Cold War but rather led to civil wars amongst rival tribes within the continent. Choice (C) is incorrect because the bombing of Hiroshima was an event that led to the end of World War II.</p>
4	<b>B</b>	<p><i>Explain the major concerns of Europeans regarding the issues such as acid rain in Germany, air pollution in the United Kingdom, and the nuclear disaster in Chernobyl, Ukraine. (SS6G9a)</i></p> <p>The correct answer is <b>Choice (B) Radiation polluted the area</b>. 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	<b>C</b>	<p><i>Locate on a world and regional political-physical map: Amazon River, Caribbean Sea, Gulf of Mexico, Pacific Ocean, Panama Canal, Andes Mountains, Sierra Madre Mountains, and Atacama Desert. (SS6G1a)</i></p> <p>The correct answer is <b>Choice (C) C</b>. This choice points directly to the country of Panama. Choice (A) is incorrect because A points to the Hudson Strait. Choice (B) is incorrect because B points to the St. Lawrence Seaway. Choice (D) is incorrect because D points to the Strait of Magellan.</p>

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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
6	<b>C</b>	<p><i>Compare how the location, climate, and natural resources of the United Kingdom and Russia affect where people live and how they trade. (SS6G10a)</i></p> <p>The correct answer is <b>Choice (C) The weather is extremely cold</b>. As the first map shows, there are few people who live in the central northern part of Russia. The second map shows that the temperatures in this region are extremely cold. When both are compared, the students can deduce that climate is the reason for low population. Choice (A) is incorrect because neither map indicates the presence nor absence of sources of fresh water. Choice (B) is incorrect because the climate map indicates that the weather is cold, not hot. Choice (D) is incorrect because the climate map does not indicate that there are large degrees of precipitation.</p>
7	<b>A</b>	<p><i>Compare the federal-republican systems of the Federative Republic of Brazil (Brazil) and the United Mexican States (Mexico) to the dictatorship of the Republic of Cuba (Cuba), distinguishing the form of leadership and the role of the citizen in terms of voting and personal freedoms. (SS6CG2a)</i></p> <p>The correct answer is <b>Choice (A) In Cuba, the head of the government has unlimited power</b>. Dictators are not bound by the will of the people. They can (and often) do whatever they like. They can raise taxes, change laws to favor themselves or specific groups of people, control the media, etc. Choice (B) is incorrect because in a presidential democracy the leader is elected (not appointed) by the people through free elections. The president does not stay in for life but rather serves a term of a specified period of time. Choice (C) is incorrect because under Cuba's dictatorship, there is very little freedom of expression and the people are probably not allowed to freely assemble to express their views as they would be in a presidential democracy. Choice (D) is incorrect because in a free society—which is found in a presidential democracy—the press would not be controlled by the government but would instead be free to publish opposing viewpoints of the people.</p>

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<b>Number</b>	<b>Correct Answer</b>	<b>Explanation</b>
8	<b>A</b>	<p><i>Describe the encounter and consequences of the conflict between the Spanish and the Aztecs and Incas and the roles of Cortes, Montezuma, Pizarro, and Atahualpa. (SS6H1a)</i></p> <p>The correct answer is <b>Choice (A) He led a small Spanish force to defeat the Inca Empire.</b> 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 it was Toussaint L'Ouverture who led the Haitian independence movement. Choice (D) is incorrect because Pizarro conquered Peru.</p>
9	<b>D</b>	<p><i>Describe the economic system used in Australia. (SS6E8c)</i></p> <p>The correct answer is <b>Choice (D) Consumers determine which goods should be produced.</b> 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>

Number	Correct Answer	Explanation
10	<b>D</b>	<p data-bbox="764 359 1482 457"><i>Explain the relationship between investment in human capital (education and training) and gross domestic product (GDP). (SS6E7a)</i></p> <p data-bbox="764 474 1482 1054">The correct answer is <b>Choice (D) to increase the gross domestic product (GDP)</b>. When a country educates and trains its people, the workforce is better equipped for professional and more technical jobs. These types of jobs usually have a much higher pay than jobs that require limited skills. Choice (A) is incorrect because a country would not decide to educate and train their people (which is what investment in human capital means) just to have their population decrease in size. Choice (B) is incorrect because a country would not choose to educate and train their people with the goal of increasing the number of unemployed persons. Choice (C) is incorrect because a country would not educate and train their people for the purpose of having fewer natural resources. There isn't a correlation between investing in human capital and increasing or decreasing the amount of natural resources that a country possesses.</p>

