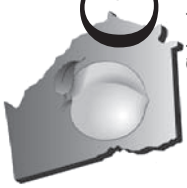
Grade 5

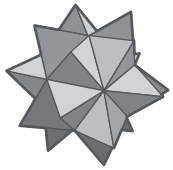
Georgia

Criterion-Referenced Competency Tests

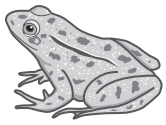


CRCT

Study



Guide



Reading
English/Language Arts
Mathematics
Science
Social Studies

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Using the CRCT Study Guide

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

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-adopted curriculum, which describes 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 5 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 Common Core Georgia Performance Standards (CCGPS) for Reading, English/Language Arts, and Mathematics and the Georgia Performance Standards (GPS) for Science and Social Studies.

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**.

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** 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

CRCT Content Descriptions:
www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT.aspx

CCGPS/GPS Frameworks:
www.georgiastandards.org

Lexile Framework for Reading:
www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Lexile-Framework.aspx

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-adopted curriculum. 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.

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

Chapter 1

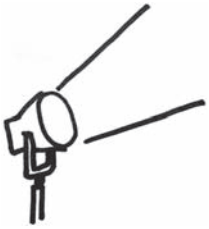
Reading

Students in Grade 5 expand and deepen the concepts, skills, and strategies learned in earlier grades. Grade 5 students read and comprehend texts from a variety of genres (fiction, nonfiction, poetry, and drama) and subject areas (math, science, social studies, and English/language arts), and they make new connections as they encounter new ideas and begin to study subjects in more formal ways.

The Reading activities focus on some of the concepts that are assessed on the Grade 5 CRCT Reading domains. These domains are as follows:

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

Activities



❶ Reading Skills and Vocabulary Acquisition

Common Core Georgia Performance Standards ELACC5.L.4 and ELACC5.L.5

Within the Reading Skills and Vocabulary Acquisition domain, students learn a variety of skills to read and interpret difficult text. Students will determine the meaning of unknown and multiple-meaning words and phrases by using context clues and applying their knowledge of common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. Students will consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases. Students will also demonstrate an understanding of figurative language, word relationships, and nuances in word meaning. Students will recognize and explain the meaning of common idioms, adages, and proverbs, as well as use the relationship between particular words (e.g., synonyms, antonyms, homographs) to better understand each of the words.

The following activities develop skills in this domain:

– To reinforce students' knowledge of words with multiple meanings, hold a *Word Auction*. Write words that have two or more meanings on index cards. (See the table below.) Hold one word up at a time in front of students. Working in small groups or pairs, students will race against each other to think of as many different meanings of the word as they can. They will write a different sentence for each meaning of the word, and the student who comes up with the most meanings first will get the sale. If the word on the card is *run*, act as the auctioneer and call out: *Do we have one sentence for the word* run*? Going once, going twice…one sentence….* Students who have at least one sentence should raise their hand. If a lot of hands go up, continue calling out, *Do we have two sentences for the word* run*? Do we have three sentences?* etc., until the highest bid is reached. Do not declare, *Sold!* until students read their sentences to prove they have used the different meanings of the word correctly.

account	cut	mean	rally	sink
average	dash	might	reason	skip
bank	deck	mind	record	smell
bark	estimate	nail	reflect	snap
bat	face	order	represent	sound
bear	fast	paint	ring	stick
bend	flip	pen	rock	stock
bowl	float	pet	roll	table
box	group	plane	rose	tape
can	judge	plant	row	tip
change	jump	play	run	track
charter	kind	profit	season	trick
check	lap	promise	serve	trip
color	light	race	shell	watch
crop	look	raise	ship	wind

– To familiarize students with dictionary entries, play *Match My Word*. Write advanced vocabulary words on individual index cards. Then write or paste the printed definitions on separate index cards. Scramble the cards and pass them out. Students will walk around the room and engage each other in conversation as they try to find the match for their word or definition. Students with definition cards might say, *My word can be a verb or a noun and can mean* _____, _____, *or* _____. If alternate word choices are provided in their definitions, they might also say, *Another way to say my word is* _____. Students who have a word card might say, *My word is* _____. *I think it means* _____. Once students find their partners they should sit down together and create a sentence with their word. At the end of the sentences they should indicate which part of speech they used. For example, if their word is *estimate* and they write the sentence, *The woman will estimate the charges*, they should specify that they used *estimate* as a verb.

– To develop students' understanding of common Greek and Latin roots, create tree diagrams. Present students with a list of Greek and Latin root words and their meanings (see tables below). To show students how to start a tree diagram, draw the trunk of a tree and write one of the root words at the bottom. Draw branches that lead away from the trunk. On each branch write a different word that shares the root word. If the root word is *port*, which means *to carry*, the tree branches would be lined with words such as *import*, *export*, *portable*, *transport*, *portal*, and *porter*. Students should choose a root word and create their own tree diagram posters. They can use the Internet or dictionaries to search for words that contain specific roots. As students read the words' definitions, they will see how each root influences the meanings of the words that contain it.

Greek Roots

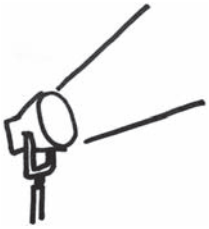
aer: air	*cosmo:* universe	*hyder:* water	*nym:* name	*sphere:* ball
agog: leader	*cycl:* wheel	*hyper:* over, beyond	*phe/phem:* to speak	*st/sta/stat:* to stand
arch: ruler	*derm:* skin	*hypo:* below, beneath	*phil:* love	*techn:* art, skill
aster/astr: star	*eco:* house	*logo:* word, reason	*phon:* sound	*tele:* far
auto: self	*gram:* letter	*meter/metr:* measure	*photo/phos:* light	*therm:* heat
bio: life	*gram:* thing written	*micro:* small	*pod/pus:* feet	*trac/tract:* to pull
chron: time	*graph:* writing	*mono:* one	*scope:* viewing instrument	*zoo:* animal

Latin Roots

ann/enn: year	*duct:* to lead	*jus/jud/jur:* law	*rupt:* to break	*terr:* land
aud: to hear	*fac:* to do, to make	*lum/lus/luc:* light	*scope:* see	*vert/vers:* to turn
bene: well, good	*flec/flex:* to bend	*man:* hand	*scrib/script:* to write	*vict/vinc:* conquer
capit/capt: head	*form:* shape	*mar/mer:* sea	*sect/sec:* cut	*vid/vis:* to see
cent: hundred	*fract:* to break	*mini:* small	*spect:* to look	*viv/vit:* live
circ: around	*geo:* earth	*mort/mors:* death	*spir:* to breathe	*voc:* voice, to call
corp: body	*ject:* throw	*ped:* foot	*st/sta/stat:* to stand	*volv:* roll
cred: to believe, trust	*jud:* judge	*port:* to carry	*struct:* to build	*vor:* eat
dict: to speak	*junct:* to join	*quer/ques/quis:* seek	*tang/tact:* to touch	*zo:* animal

– To help students determine the meaning of unfamiliar words using context clues, provide them with sentences that contain either cause-and-effect relationships or comparisons for unknown words. In cause-and-effect relationships, the students rely on either the cause or the effect to determine the unknown word's meaning. In this sentence, *He was always late; he just could never be punctual,* students might not know the meaning of *punctual,* but should be able to figure out that it is the opposite of being late. Comparisons can imply an unfamiliar word's meaning, as in the sentence, *The population of jaguars is thriving and the population of zebras is also increasing.* By comparing the two clauses of this sentence, students can figure out that *thriving* means the same as *increasing*. Students should read the sentences provided and write definitions for the unknown words. They can double-check their definitions with dictionary definitions to see how well the context clues helped them uncover the meaning of the unknown words.

Activities



❷ Literary Comprehension

Common Core Georgia Performance Standards ELACC5.RL.1, ELACC5.RL.2, ELACC5.RL.3, ELACC5.RL.4, ELACC5.RL.5, ELACC5.RL.6, ELACC5.RL.7, and ELACC5.RL.9

Within the Literary Comprehension domain, Grade 5 students learn to quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. Students will determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic, and be able to summarize the text. They will be able to compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact). Students will also determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes. Throughout their reading, students will explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem. Students will describe how a narrator's or speaker's point of view influences how events are described. They will be able to analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem). Students will also compare and contrast stories in the same genre (e.g., mysteries and adventure stories) on their approaches to similar themes and topics.

The following activities develop skills in this domain:

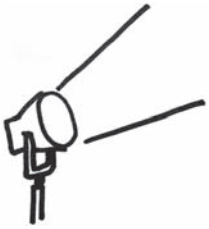
– To help students identify and analyze literary elements, challenge them to fill in empty story maps. (See example on the next page.) Create a story map template that includes spaces for students to name and describe the characters, identify the theme, summarize the plot, and list how the characters respond to challenges within a fictional story. Students can reread or skim over the text as they work to fill in their maps. They should mark the names of the main characters. They should also explain how the characters' actions relate to the theme of the story. Once students have completed maps on more than one story, they should use them to compare texts and analyze the similarities and differences among characters, plots, and how characters' actions relate to the theme of the story. In addition, students should use the maps to practice asking and answering questions about characters that begin with the word *why*. For example, students could discuss why a character makes certain statements or takes certain actions.

Title: **Author:** **Theme:** **Characters:** (Star the main character)	**Characters' actions in relationship to the theme** *WHY do they do what they do?*	**Plot Summary**

– To familiarize students with different types of figurative language, provide students with examples that they can categorize and explain. Prepare for the activity by creating five boxes or bins, each labeled either *personification*, *simile*, *metaphor*, *hyperbole*, or *idiom*. Write example sentences of each type of figurative language on separate strips of paper and pass them out to students. Call on students to read their sentences, identify the types of figurative language they contain, and explain what the sentences mean. A student who receives the sentence *Flowers danced in the breeze* would identify it as an example of personification and explain, *The author means that the flowers moved around in the breeze*. Students will place their sentences in the appropriate box or bin to start a class collection. As students read literary texts, they should look for examples of figurative language that they can write down and add to the bins. Students should use the class collection to help them add figurative language to their own writing.

- To develop students' understanding of theme, read a literary text and create *Common Thread* posters. Explain that the themes of a literary text are ideas the author expresses about life, the world, and human nature. Examples of themes are *hard work pays off* and *jealousy can ruin a relationship*. After reading a literary work, students should think of the themes the author communicates. List students' ideas on the board so they can choose one to investigate. Then, give each student a piece of yarn and a piece of construction paper. Students should glue their yarn toward the tops of their posters, leaving enough room to write the themes they want to investigate above it. Students will reread texts to look for events or short passages in the text that support the themes they have chosen. Students should draw lines coming down from the yarn on their poster and list evidence from the text that support the identified themes. This activity will help students see the thematic threads that are woven throughout literary texts.

Activities



❸ Information and Media Literacy

Common Core Georgia Performance Standards ELACC5.RI.1, ELACC5.RI.2, ELACC5.RI.3, ELACC5.RI.4, ELACC5.RI.5, ELACC5.RI.6, ELACC5.RI.7, ELACC5.RI.8, and ELACC5.RI.9

Within the Information and Media Literacy domain, Grade 5 students learn the skills necessary to compare and contrast the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in two or more texts. They also learn to explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text. Students should determine two or more main ideas of a text and explain how they are supported by key details and summarize the text. Drawing on information from multiple print or digital sources, they should demonstrate the ability to locate an answer to a question quickly or to solve a problem efficiently. They should explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s). In addition, students should quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. They should determine the meaning of general academic and domain-specific words and phrases in a text relevant to a Grade 5 topic or subject area. Students should analyze multiple accounts of the same event or topic, noting important similarities and differences in the point of view they represent. They should integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

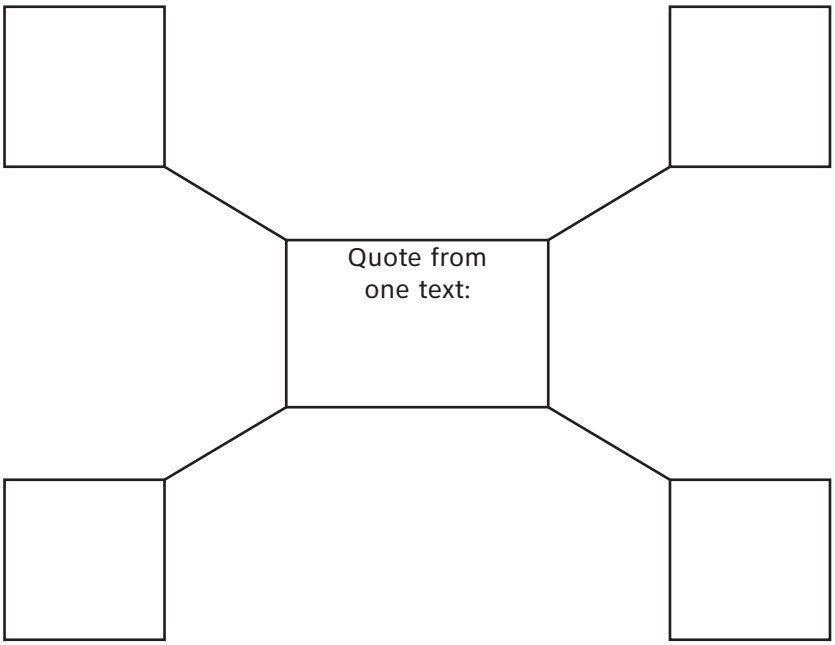
The following activities develop skills in this domain:

– To show students how points of view can vary on the same topic, students should view websites on the same general topic. Students will then use a Venn diagram to compare and contrast the authors' perspectives on any of the websites.

– To enhance students' inferential skills and to relate prior knowledge from one subject area or text to another subject area or text, students should compare and contrast themes from several sources. Students should examine two different sources and analyze the ways in which these sources address the same theme(s). First, students should brainstorm a list of the themes or ideas in each of the selected pieces. Next, they should examine their lists and see the common thread(s) among them. Then, students should list the ways in which the theme is addressed similarly and the ways it is addressed differently in these sources. Finally, students should write essays comparing and contrasting the themes in the texts.

– To help students understand the importance of explaining how an author uses reasons and evidence to support points in a text and the benefit of quoting text accurately, students should select two informational articles on the same topic then select a quote from the text that answers a general question between the texts. They should then complete a concept map using details from the text to support how the selected quote answers the question.

General question:



Practice Quiz

Genre: Nonfiction
Read the passage and the letter below and answer the questions that follow.

The Really Real Story of Celia Spencer

Reviewed by: Janice Moy

If you're in the mood for an adventure, go see the new movie *The Really Real Story of Celia Spencer*. It tells the story of Celia Spencer, a ten-year-old with an amazing life. Her parents are circus performers. For the first ten years of her life, she lives with the circus, traveling all across Australia, Europe, and North America. When the circus goes out of business, Celia's parents decide it is time to settle down. The movie takes viewers along as Celia gets used to living in one place instead of traveling the globe. Celia makes new friends and has plenty of adventures. She also learns a lot along the way. If you're in the mood to laugh, go see this movie.

The Really Real Story of Celia Spencer gives viewers a look at a life that most people do not know much about: the life of a circus performer. It was very interesting to learn about the lives of the performers. They get into trouble, have fun, and learn new tricks. Celia even gets to teach some dogs tricks to perform in the ring. Although it was one of the most fascinating aspects of the film, the movie only showed the lives of the circus performers at the beginning. I think it would have been more interesting if the movie spent more time showing what circus life is like.

When the circus goes out of business and Celia's parents decide to settle down, the story becomes a little sad. Celia is not used to living in one place, and it is hard for her. Then Celia meets Charlie, a ten-year-old girl in her neighborhood. They become best friends. They visit the zoo, hang out listening to opera music, and even come up with ideas for making girls' clothes that look like circus costumes. They get in a lot of trouble during the movie, but they find a way of getting out of it without hurting themselves or anyone else. They are always happy with who they are, even when they do not fit in with the rest of the crowd.

Fans of actress Sarah Woods, who plays Celia, will love this movie. Woods does a great job as Celia. She makes the character very believable. Lisa Manning, who plays Charlie, shows off her talents as an actress, too. All of the actors in the movie do a great job.

Overall, this was a funny and entertaining movie that kids ages 8–14 will really enjoy. Certain parts of the movie were a little slow, but there were enough funny moments to make up for it. If you want to be entertained, go see this movie!

Think Twice

Hey Ryan,

The other day you mentioned you wanted to see the movie *The Really Real Story of Celia Spencer*. I think you might want to change your mind about that. I saw it over the weekend and it wasn't at all what I thought it would be. Don't waste your time or money on this one.

I agree with you that the previews looked really funny. Unfortunately, those scenes were the only funny parts in the entire movie. It might have been better if it was a biography and focused on the life of Celia when her family was in the circus, but they didn't spend a lot of time on that. Instead it spent most of the movie following Celia and her friend Charlie. Let me cut to the chase, it was really a boring movie.

Sarah Woods, the actress who plays Celia, was OK in this movie. I thought she did a better job acting in *Too Fast*. Remember that movie about the race car drivers? She played the daughter of the main character and she was really into the cars he raced. Believe me, you would rather pay to see *Too Fast* again than have to see *The Really Real Story of Celia Spencer*.

Maybe someone will catch on as to how cool it would be to see the real life of a circus family. So if that is what you're looking for, Ryan, this isn't the movie for you. You should come over to my house and we'll watch *Too Fast* again.

Later!

Gabe

1 **In which sentence does Janice BEST summarize her thoughts?**

A The movie takes viewers along as Celia gets used to living in one place instead of traveling the globe.
B Although it was one of the most fascinating aspects of the film, the movie only showed the lives of the circus performers at the beginning.
C Fans of actress Sarah Woods, who plays Celia, will love this movie.
D Overall, this was a funny and entertaining movie that kids ages 8–14 will really enjoy.

2 **Which statement BEST supports the passage's claim that the movie was good?**

A It tells the story of Celia Spencer, a ten-year-old with an amazing life.
B I think it would have been more interesting if the movie spent more time showing what circus life is like.
C All of the actors in the movie do a great job.
D Certain parts of the movie were a little slow, but there were enough funny moments to make up for it.

3 **Which statement from the passage would Gabe MOST agree with?**

A If you're in the mood to laugh, go see this movie!
B I think it would have been more interesting if the movie spent more time showing what circus life is like.
C All of the actors in the movie do a great job.
D If you want to be entertained, go see this movie!

4 **Which statement from the letter BEST shows how the author feels about the movie?**

A The other day you mentioned you wanted to see the movie *The Really Real Story of Celia Spencer*.
B I think you might want to change your mind about that.
C Don't waste your time or money on this one.
D I thought she did a better job acting in *Too Fast*.

5 **Based on the letter, what is meant by the phrase *cut to the chase*?**

Let me cut to the chase, it was really a boring movie.

A to quickly repeat information
B to behave in a confused manner
C to explain a situation that is confusing
D to leave out unnecessary details and get to the point

6 **Based on this sentence from the letter, what is the definition of *biography*?**

> It might have been better if it was a biography and focused on the life of Celia when her family was in the circus, but they didn't spend a lot of time on that.

A a story about families
B a story about someone's life
C a story about a specific time
D a story about a circus owner's family

7 **How does the structure used in the passage compare to the structure used in the letter?**

A The passage uses cause and effect, and the letter uses problem and solution.
B The passage uses compare and contrast, and the letter uses cause and effect.
C The passage uses chronological order, and the letter uses compare and contrast.
D The passage uses problem and solution, and the letter uses chronological order.

8 **Which word is a synonym for *talents* in this sentence from the passage?**

> Lisa Manning, who plays Charlie, shows off her talents as an actress, too.

A fears
B looks
C failures
D abilities

9 **What is the meaning of the word *aspects* in this sentence from the passage?**

> Although it was one of the most fascinating aspects of the film, the movie only showed the lives of the circus performers at the beginning.

A parts
B themes
C minutes
D conflicts

10 **Which word BEST replaces *hard* as it is used in this sentence from the passage?**

Celia is not used to living in one place, and it is hard for her.

A firm
B solid
C rugged
D difficult

Solutions

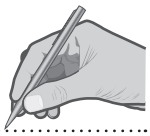
Number	Correct Answer	Explanation
1	**D**	*Determine two or more main ideas of a text and explain how they are supported by key details. (ELACC5.RI.2)* The correct answer is **Choice** (**D**) **Overall, this was a funny and entertaining movie that kids ages 8–14 will really enjoy.** Choice (A) is incorrect because it reflects a summary of what the movie is about. Choice (B) is incorrect because it only reflects one opinion from Janice and not her overall thoughts. Choice (C) is incorrect because it reflects the possible opinion of the fans.
2	**D**	*Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s). (ELACC5.RI.8)* The correct answer is **Choice** (**D**) **Certain parts of the movie were a little slow, but there were enough funny moments to make up for it.** This shows the author's claim that the movie was good. Choice (A) is a factual detail from the passage and does not support the author's claim. Choice (B) is an opinion about the movie, but does not support the claim made. Choice (C) is a positive statement about the author's viewpoint, but is not the best choice to show how the author feels.
3	**B**	*Integrate information from several texts on the same topic. (ELACC5.RI.9)* The correct answer is **Choice** (**B**) **I think it would have been more interesting if the movie spent more time showing what circus life is like.** Though not used in both texts, this statement is a point in which both authors agree. Choices (A), (C), and (D) are opinions that are not shared by both authors.

Number	Correct Answer	Explanation
4	**C**	*Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (ELACC5.RI.1)* The correct answer is **Choice** (**C**) **Don't waste your time or money on this one.** The reader can infer the author's opinion based on this statement from the letter. Choice (A) is a detail from the letter that does not help the reader to make an inference about how the author feels. Choice (B) does hint at the author's opinion, but it is not the best choice to support an inference about how the author feels. Choice (D) is a comparison statement and does not help the reader to draw an inference about how the author feels.
5	**D**	*Recognize and explain the meaning of common idioms, adages, and proverbs. (ELACC5.L.5b)* The correct answer is **Choice** (**D**) **to leave out unnecessary details and get to the point.** This answer is the correct meaning of the idiom in the letter. Choices (A), (B), and (C) do not rely on context clues and are incorrect interpretations of the idiom.
6	**B**	*Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. (ELACC5.L.4b)* The correct answer is **Choice** (**B**) **a story about someone's life.** This answer correctly uses the prefix and root to arrive at a meaning. Choices (A), (C), and (D) do not reflect the correct meaning of the target word.
7	**C**	*Compare and contrast the overall structure of events, ideas, concepts, or information in two or more texts. (ELACC5.RI.5)* The correct answer is **Choice** (**C**) **The passage uses chronological order, and the letter uses compare and contrast.** This choice correctly identifies the structure used in each of the texts. Choices (A), (B), and (D) misidentify the type of organizational structure used in each of the texts.

Number	Correct Answer	Explanation
8	**D**	*Uses the relationship between particular words to better understand each of the words. (ELACC5.L.5c)* The correct answer is **Choice** (**D**) **abilities.** The word *abilities* and the word *talents* are synonyms. Choices (A) and (B) are incorrect because *fears* and *looks* do not mean the same thing as *talents*. Choice (C) is incorrect because *failures* would be an antonym for the word *talents*.
9	**A**	*Uses context as a clue to the meaning of a word. (ELACC5.L.4a)* The correct answer is **Choice** (**A**) **parts.** In the sentence, the word *aspects* refers to the part of the movie that "showed the lives of the circus performers." Choices (B), (C), and (D) are incorrect because the word *aspects* does not mean *themes*, *minutes*, or *conflicts* in the sentence.
10	**D**	*Uses context as a clue to the meaning of a word. (ELACC5.L.4a)* The correct answer is **Choice** (**D**) **difficult.** In the sentence, *hard* means *difficult*. Living in one place was difficult for Celia. Choices (A), (B), and (C) are incorrect because, although *firm*, *solid*, and *rugged* can be synonyms for *hard*, they do not mean the same as *hard* in the sentence.

English/Language Arts

Chapter 2



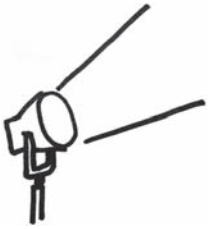
English/Language Arts

Grade 5 students use writing as a tool for learning, and they write for a variety of purposes and audiences. Students write daily in order to maximize and formalize their writing skills. Students communicate their personal voices in writing, expressing ideas through journals, notes, and e-mails. They understand and articulate how authors use a variety of techniques and craft in their writing, and they show evidence of the author's craft in their own writing. Additionally, students are aware of the connections between reading and writing, and they use those skills to learn and understand more about their world and different cultures. Students continue to increase vocabulary knowledge through reading, word study, discussion, and content area study.

The English/Language Arts activities focus on some of the concepts that are assessed on the Grade 5 CRCT English/Language Arts domains. These domains are as follows:

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

Activities



❶ Grammar/Sentence Construction

Common Core Georgia Performance Standards ELACC5.L.1, ELACC5.L.2, and ELACC5.L.3

Within the Grammar/Sentence Construction domain, students understand and control the rules of the English language to use correct capitalization and punctuation. They are able to use commas to separate items in a series and to separate an introductory element from the rest of the sentence. Additionally, students use commas to set off a tag question (*It's true, isn't it?*) from the rest of the sentence and to indicate direct address (*Cassie, will you go first?*). They use underlining, quotation marks, or italics to indicate titles of works. Students are able to recognize and correct inappropriate shifts in verb tense and are able to use verb tense to convey various times, sequences, and conditions. Students are able to use correlative conjunctions (e.g., either/or, neither/nor) as well as explain the functions of conjunctions, prepositions, and interjections. Finally, students are able to expand, combine, and reduce sentences for meaning, reader interest, and style.

The following activities develop skills in this domain:

- Prepositions, one of the eight major parts of speech, help to determine the relationship between the other words in a sentence. To practice prepositions, define a preposition for students and then have them brainstorm a list of prepositions. Provide a book or a page in a book that has many prepositions. Ask students to write all the prepositions they can find within the book (or book page). Difficulty can be adjusted by telling students the exact number of prepositions or by telling them to look until they think they have found them all.

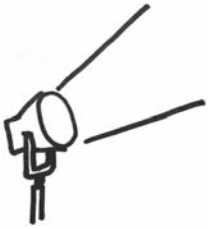
- To improve their writing skills, students should practice combining and punctuating sentences. Hand out sheets containing different paragraphs spaced apart on the pages. These paragraphs should contain many simple sentences. Before the activity begins, spend a minute or two modeling combining sentences—by adding conjunctions such as *and* or *but* and commas, if necessary. Sample sentences to combine may include:

  - *Our teacher was out sick. A substitute came to teach our class. (Our teacher was out sick, but a substitute came to teach our class.)*
  - *Last night, the rain kept falling. My dog got very wet. (Last night, the rain kept falling, and my dog got very wet.)*

  Then give students several minutes to combine the simple sentences on their paragraph sheet. When students have finished working with their paragraphs, they should pass the sheet to a classmate. Students will review others' corrections and discuss the conjunctions and commas they have used.

- To practice using consistent verb tenses students will write in a daily journal for one week. (*Consistent verb tense* means that the writing remains in the same tense throughout.) Explain that students can write about anything they choose in their journals; their writing will not be shared with others. At the end of the week, model inconsistent verb tenses for students by writing a sample sentence incorporating the error on the board. Focusing on the writing error, students will check their own journal writing and highlight examples of the error wherever it appears. Then students will fix the sentences they have highlighted.

Activities



❷ Research/Writing Process

Common Core Georgia Performance Standards ELACC5.W.1, ELACC5.W.2, ELACC5.W.3, ELACC5.W.4, ELACC5.W.7, and ELACC5.W.8

Within the Research/Writing Process domain, students learn to use and analyze the purpose of research and technology, use resources to support the writing process, and evaluate the various strategies, styles, and purposes of written organization. Students analyze the organizational structure of a paragraph by determining the most appropriate pattern for a writing purpose and apply knowledge of appropriate transition elements between paragraphs, passages, and ideas. Students determine main ideas and relevant details, as well as appropriate topic sentences and closing sentences. To achieve clarity, students reorganize sentences in a paragraph. Students analyze various reference sources used to support writing (e.g., an almanac, a dictionary, an encyclopedia, a newspaper article, a website).

The following activities develop skills in this domain:

– To give students practice identifying and choosing appropriate resources for information, play *Name That Resource*. First, discuss with students the different situations that require them to use different sources of information. Next, review the varied sources and their purposes, e.g., an almanac, an atlas, the Internet, a dictionary, an encyclopedia, the newspaper, a thesaurus. Then divide students into teams and use teacher-created questions as a game. For example, *Kendall needs to know the weather forecast for Atlanta today. What resource should she use? atlas, newspaper, dictionary, encyclopedia; Tom would like to find out the meaning of the word "modify." What resource should he use? almanac, atlas, dictionary, newspaper.* Read the questions to students and allow each team to write their answers on a whiteboard or sheet of paper. Each team that answers correctly receives one point. After teams have recorded their answers to a question, show the correct answer and explain why it is correct. Repeat until all questions have been answered.

– Identifying the main ideas and relevant details of paragraphs is an important part of becoming a good researcher. First, make sure students understand the terms *main idea* and *details*. Then read a series of paragraphs aloud to students from an encyclopedia or Internet article. Read each paragraph slowly and project it on an overhead while students write down the main idea in their own words. When students have finished identifying the main idea, discuss the details in the paragraph. *What could be added or taken away? Should any of the sentences be reorganized? Why does finding the main idea and relevant details efficiently make researching a topic easier?* A variation of this activity is to place students in pairs in order to discuss the reasons for their choices.

- To give students practice creating appropriate closing sentences, play *That's a Wrap*. Write several paragraphs on the board or a sheet of paper. These paragraphs should explain an event that happened, describe a topic, or give instructions for doing or making something. The sentences may even come from reading selections the students have already seen. However, for each paragraph, eliminate the closing sentence. Students should read the paragraphs and write strong closing sentences for each of them. When students have finished, discuss their sentences and whether they properly summarized the information in the paragraphs. As an extension activity, students should remove the last sentence from paragraphs they have written. Then in pairs, students should read their partner's paragraphs and create new closing sentences. Finally, the students should compare the different closing sentences.

Practice Quiz

1 **Which sentence uses the underlined word as an interjection?**

A Also, I need to walk my dog as soon as I get home from school.
B Still, I believe that we will arrive to the movie theater on time!
C So, these are the things we need to do before we go out today.
D Oh, that is a very creative way to solve this problem!

2 **Which verb phrase BEST completes the sentence?**

Since the beginning of the summer, Jamie _____ twenty books and five magazines.

A has read
B had read
C will have read
D would have read

3 **Which sentence uses correct verb tense?**

A Tomorrow I went with my family to watch a baseball game on opening day.
B I will find out what happens to the main character when I finished the book.
C This bicycle was built to be ridden on dirt trails and narrow paths in the woods.
D My brother would have done well on his piano lesson if he will have practiced more.

4 **Which pair of words correctly completes the second sentence?**

Sara thought she might be getting sick. She was _____ too hot _____ too cold all night long, and she did not sleep very well.

A either/or
B neither/or
C either/nor
D neither/nor

5 **Which sentence uses a comma correctly?**

A Did you prefer the book or the movie, better Michael?
B Kaylie please, remember to return your book to the library today.
C The novel we read in class had many interesting characters, didn't it?
D Yes we will, go to the store to get supplies for your science fair project.

6 **Which sentence is BEST to add to the beginning of the paragraph to introduce the topic?**

> First, students should study in the same spot every day. Studies show that students study best when they are away from distractions. This means that study areas need to be away from the television, brothers and sisters, and pets. Additionally, students need to take small breaks during study sessions. While attention span varies per person, after about 45 minutes, attention and concentration begins to fail. Students should take small breaks for a snack or activity such as walking around the house. Adopting these good study habits will increase the chance that students will learn more.

A Changing old study habits takes a great deal of time and effort, but the time is worth it.
B Most students think they have good study habits and do not realize they could improve them.
C To be successful at school, students must start the school year with the right study habits and study environment at home.
D Students who want to use their study time most effectively should make sure they are taking these simple steps when studying at home.

7 **Which transition would BEST connect the two sentences?**

> Most maple trees grow tall. The Japanese maple tree is a smaller kind of maple tree.

A so
B and
C however
D therefore

8 **Which of these is the BEST concluding sentence to add to the paragraph?**

> Being organized is one of the most important skills for students to have to be successful in school. Well-organized students do not waste time searching for assignments, homework, or supplies. Instead, they can focus on learning. It takes some extra time and effort to organize oneself in the beginning, but the effort is worth it. To become organized, students should use a single notebook to record assignments, projects, and important dates for tests. A notebook with all notes in one place allows students to see when assignments are due for all classes. Additionally, using separate folders for each subject, and clearly labeling them, keeps schoolwork organized.

A Finally, an important part of staying organized involves paying attention in class.
B Lastly, students who have lockers should organize them for easy access between classes.
C In conclusion, some teachers require students to use planning calendars to help with organizing assignments and activities.
D As a last thought, to stay organized, students should update due dates of homework assignments as they are assigned and completed.

9 **Which of these is the BEST way to organize the sentences in the paragraph?**

> 1. Josh and Carrie chattered excitedly about the meal they would prepare in a few short hours as they hurried to select a shopping cart.
> 2. Then Carrie read aloud from the list, "spaghetti, garlic, cheese, bread, flowers, card."
> 3. Joshua and Carrie were walking to the supermarket to buy food for a surprise dinner to celebrate their mom's promotion at work.
> 4. Josh listened and said, "I cannot think of anything else to add to the list."
> 5. As Carrie glanced at the grocery list again, Josh checked his pocket to make sure he had remembered to bring money.
> 6. Earlier they had decided to make a delicious meal of spaghetti and meatballs with garlic bread which was Mom's favorite meal.

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

10 **Which of these is the BEST closing sentence to add to the end of the paragraph?**

> Jasmine bounced into the kitchen, but she came to a sudden halt as she looked around the room. Sammy, her little brother, had decided to make brownies, but he had never done any cooking before. One broken egg made a bright yellow spot on the floor. The yellow of another egg dripped down the side of the cabinet. A box of brownie mix lay on its side on the counter, and more brownie mix lay in a pile on the floor.

A Sammy called to her.
B Jasmine liked to make brownies.
C Her brother would make pizza next.
D The kitchen was certainly a huge mess.

Solutions

Number	Correct Answer	Explanation
1	**D**	*Explain the function of conjunctions, prepositions, and interjections in general and their function in particular sentences. (ELACC5.L.1a)* The correct answer is **Choice** (**D**) **Oh, that is a very creative way to solve this problem!** This sentence uses the underlined word *Oh* as an interjection. The underlined words in choices (A) and (B), *Also* and *Still*, introduce the main clause. Choice (C) has the underlined word *So* which functions as a conjunction.
2	**A**	*Form and use the perfect (e.g., I had walked; I have walked; I will have walked) verb tenses. (ELACC5.L.1b)* The correct answer is **Choice (A) has read.** The sentence requires the present perfect form indicating that Jamie began the action in the past and it continues in the present. Choice (B) is incorrect as it describes an action that took place in the past before another past action. Choice (C) is incorrect as it describes an action that will occur in the future before some other action. Choice (D) is incorrect as it uses the modal auxiliary verb *would* to help describe something that might have happened.

Number	Correct Answer	Explanation
3	**C**	*Use verb tense to convey various times, sequences, states, and conditions. (ELACC5.L.1c)* The correct answer is **Choice** (**C**) **This bicycle was built to be ridden on dirt trails and narrow paths in the woods.** This sentence uses the verb tense correctly and consistently. The verb tense in choices (A), (B), and (D) needs edits to make the verb tense correct and consistent. Choice (A) uses the adverb *Tomorrow,* which indicates the future, with the verb *went* which is the past tense. To make the verb tense consistent, the sentence should be revised to *Tomorrow I will go with my family to watch a baseball game on opening day.* Choice (B) uses the verb phrase *will find out* which indicates the future with *finished* which is the past tense. It shows the action is completed. The second verb phrase should be revised to present tense to show the action is not yet complete. The sentence should be revised to *I will find out what happens to the main character when I finish the book.* Choice (D) uses the conditional *would have done* and thus the verb in the clause *if he will have practiced more* should be past tense. The sentence should be revised to *My brother would have done well on his piano lesson if he had practiced more.*
4	**A**	*Use correlative conjunctions (e.g., either/or, neither/nor). (ELACC5.L.1e)* The correct answer is **Choice** (**A**) **either/or.** These correlative conjunctions correctly complete the second sentence. The correlative conjunctions in choices (B) and (C) are incorrect because are not parallel in structure. The correlative conjunctions in choice (D) are incorrect because they do not correctly complete the second sentence. Choice (B) uses the correlative conjunctions *neither/or*. While *or* would be correct in the second blank, *neither* would be incorrect in the first blank. Additionally, *neither/or* is incorrect due to a lack of parallel structure. Choice (C) uses the correlative conjunctions *either/nor*. While *either* would be correct in the first blank, *nor* would be incorrect in the second blank. Additionally, *either/nor* is incorrect due to a lack of parallel structure. Choice (D) uses the correlative conjunctions *neither/nor*. These correlative conjunctions are incorrect because they do not fit with the idea of the first sentence.

Number	Correct Answer	Explanation
5	**C**	*Use a comma to set off the words yes and no (e.g., Yes, thank you), to set off a tag question from the rest of the sentence (e.g., It's true, isn't it?), and to indicate direct address (e.g., Is that you, Steve?). (ELACC5.L.2c)* The correct answer is **Choice** (**C**) **The novel we read in class had many interesting characters, didn't it?** This sentence correctly uses a comma to set off a tag question (*didn't it?*) from the rest of the sentence. Choices (A), (B), and (D) contain comma errors. Choice (A) needs a comma before *Michael* to indicate direct address. It is correctly written as *Did you prefer the book or the movie better, Michael?* Choice (B) needs a comma after *Kaylie* to indicate direct address. It is correctly written as *Kaylie, please remember to return your books to the library today.* Choice (D) needs a comma after the word *Yes*. It is correctly written as *Yes, we will go to the store to get supplies for your science fair project.*
6	**D**	*Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. (ELACC5.W.2a)* The correct answer is **Choice** (**D**) **Students who want to use their study time most effectively should make sure they are taking these simple steps when studying at home.** This sentence introduces the paragraph. Choices (A), (B), and (C) are sentences that incorrectly introduce the paragraph as they are not supported by the paragraph. Choice (A) is not supported by the paragraph as there is no mention that changing old habits takes a great deal of time. Choice (B) may be true, but this is not supported by the paragraph. Choice (C) is not supported by the paragraph as the paragraph does not relate to the ideas of study habits or starting the school year right, but rather to study environment.

Number	Correct Answer	Explanation
7	**C**	*Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially). (ELACC5.W.2c)* The correct answer is **Choice** (**C**) **however.** The Japanese maple is a contrast to most maple trees because it is small. *However* signifies a contrast between the first part and the second part of the sentence. Choices (A) and (D) are incorrect because *so* and *therefore* suggest that the second sentence describes an effect caused by the first. Choice (B) is incorrect because *and* does not express the fact that the second sentence is a contrast to the first sentence.
8	**D**	*Provide a concluding statement or section related to the information or explanation presented. (ELACC5.W.2e)* The correct answer is **Choice** (**D**) **As a last thought, to stay organized, students should update due dates of homework assignments as they are assigned and completed.** This sentence effectively concludes the paragraph by adding a relevant final thought related to previously stated details. Choices (A) and (B) are incorrect because they do not directly relate to the main ideas described in the paragraph. Choice (C) is incorrect because it does not effectively summarize the paragraph and therefore does not serve to conclude the ideas described in the paragraph.
9	**D**	*Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally. (ELACC5.W.3a)* The correct answer is **Choice** (**D**) **3, 6, 5, 2, 4.** This answer correctly orders the sentences into a logical and sequential paragraph. Choices (A), (B), and (C) do not logically and sequentially order the sentences. Choices (A) and (B) are incorrect because both begin with sentence 1, which describes Josh and Carrie selecting a shopping cart. This clearly cannot be the first sentence of the paragraph as other sentences describe the two walking to the the supermarket. Choices (C) and (D) both begin with sentence 3. However, choice (C) is incorrect because it describes Josh and Carrie creating the shopping list after they have arrived and begun shopping.

Number	Correct Answer	Explanation
10	**D**	*Provide a conclusion that follows from the narrated experiences or events. (ELACC5.W.3e)* The correct answer is **Choice** (**D**) **The kitchen was certainly a huge mess.** A closing sentence usually summarizes the paragraph. Choice (D) is the only one that sums up what the paragraph is about. Choice (A) is incorrect because it describes an action that has little to do with what is described in the rest of the paragraph. Choice (B) is incorrect because it is simply a detail about Jasmine and does not summarize what the paragraph is about. Choice (C) is incorrect because it describes what may happen in the future without summarizing what the paragraph describes.

Mathematics

Chapter 3

Mathematics

By the end of Grade 5, students will further develop fluency with addition and subtraction of fractions, and develop understanding of the multiplication of fractions and of division of fractions in limited cases. Students will extend division to two-digit divisors, integrating decimals into the place value system and develop understanding of operations with decimals to the hundredths, and develop fluency with whole number and decimal operations. Students will develop understanding of volume. They will be able to graph points on a coordinate plane and extend their understanding of classifications of two-dimensional figures. Students will write and interpret numerical expressions and analyze patterns and relationships.

The Mathematics activities focus on some of the concepts that are assessed on the Grade 5 CRCT Mathematics domains. These domains are as follows:

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

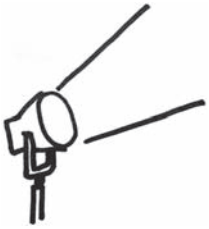
The Standards for Mathematical Practices are integrated across the four domains.

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), 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



❶ Number and Operations

Common Core Georgia Performance Standards MCC5.NBT.1, MCC5.NBT.2, MCC5.NBT.3, MCC5.NBT.4, MCC5.NBT.5, MCC5.NBT.6, MCC5.NBT.7, MCC5.NF.1, MCC5.NF.2, MCC5.NF.3, MCC5.NF.4, MCC5.NF.5, MCC5.NF.6, MCC5.NF.7

Within the Number and Operations domain, students will understand the place value system. They will be able to perform operations with multi-digit whole numbers and with decimals to the hundredths. Students will use equivalent fractions as a strategy to add and subtract fractions. They will apply and extend previous understandings of multiplication and division to multiply and divide fractions.

The following activities develop skills in this domain:

– To apply multiplication and division to a real-life context, students can explore a problem involving invitations to a party. Present students with the following scenario: *E-mail invitations to 25 friends asking if they would like to attend a party. Tell each friend that he or she can forward the invitation to some others. Assume that each recipient forwards the invitation to 16 people and each of those recipients, in turn, sends the invitation out to 9 more people. No other invitations are sent.* Tell students they better order plenty of pizzas—each student should write down an estimate of how many pizzas they think they might need before doing any calculations. Ask students, *What would happen if half of the invitation recipients attended?* Responses will vary depending on the student's sense of how many invitations were sent out. Then students should calculate the total number of people who have received the e-mail invitation. Students should calculate how many people will have to share each pizza by dividing the number they estimated they would need by the number of attendees. Discuss with students how their planning would have changed if they had done the calculations first.

– To further develop an understanding of decimals and the use of the comparative symbols $<$, $>$, and $=$, students will create and play a card game. Prepare ahead of time a list of decimals less than one and greater than zero that you want students to practice reading and comparing. (For an easier game, you may choose decimals to the hundredths place. For a more challenging game, you may choose decimals to the thousandths place.) Post your decimal list or distribute copies to students. Distribute to each student a set of blank 3×5-inch index cards and paper for keeping score. Each student will create his or her deck of cards by writing a different decimal from your list onto each of their cards. Each card should contain only one decimal value.

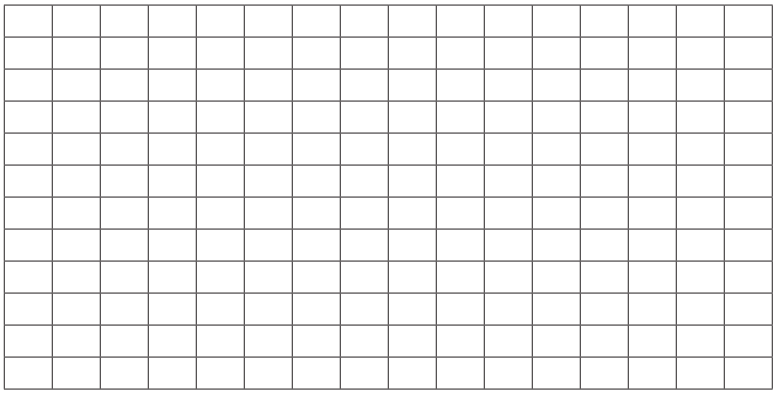
Play the game as follows:

- Students will play in pairs. Each student will need his or her deck of cards, a sheet of paper to keep score, and a pencil.
- Holding their decks of cards face-down so that the numbers are not visible to either player, students will simultaneously flip over one card and display its value.
- The pair of students determines whose card shows the greater value.
- The player whose card has the higher value writes and reads aloud the correct comparative expression on his or her score sheet. For example, if the cards show 0.05 and 0.5, the player would write "$0.5 > 0.05$" and say aloud, "Five tenths is greater than five hundredths."
- The player whose card has the higher value also keeps both displayed cards and adds them back to his or her deck.
- If the values on the cards are equal, both players write the comparative expression on their score sheets, read the expression aloud, and randomly return their cards to their own decks.
- The game ends when one player has all the cards.

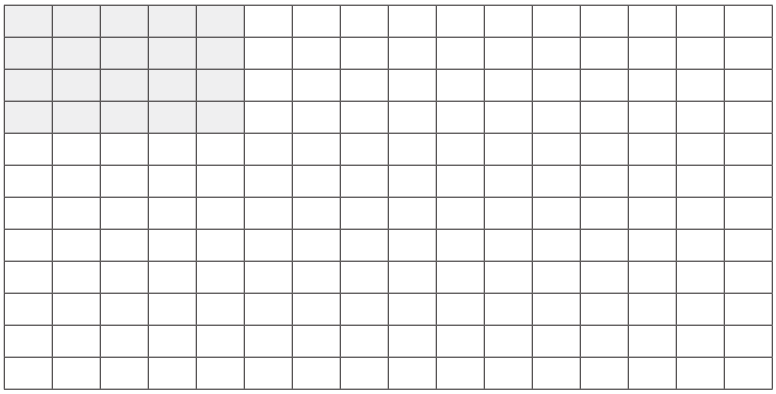
An alternative card game would be to have students use the $<$ instead of the $>$. For example, if the cards show 0.05 and 0.5, the player would write "$0.05 < 0.5$" and say aloud, "Five hundredths is less than five tenths."

- Students will work with the formula for the area of a rectangle to practice modeling multiplication of whole numbers, fractions, and mixed numbers: Area $=$ base $\times$ height ($A = b \times h$) to better understand that a formula is reliable, regardless of which type of number, whole or decimal, is substituted for a variable. Prepare 6-inch by 8-inch rectangles cut from sheets of white paper. Distribute a paper rectangle, an inch ruler, work paper, and crayons or markers to each student. Students will measure the base and height of the rectangles, then use the formula $A = b \times h$ to determine that the area is 48 square inches ($8 \times 6 = 48$). Point out that the formula was calculated using two whole numbers. Next, explain that students will now prove that the formula also works with fractions. Students will divide the base and height of the rectangles into half-inch intervals. Instruct students to mark every half-inch on their 8-inch by 6-inch rectangular paper using rulers.

Then instruct them to draw vertical and horizontal lines at each mark to divide the rectangles into a grid, similar to the following grid:



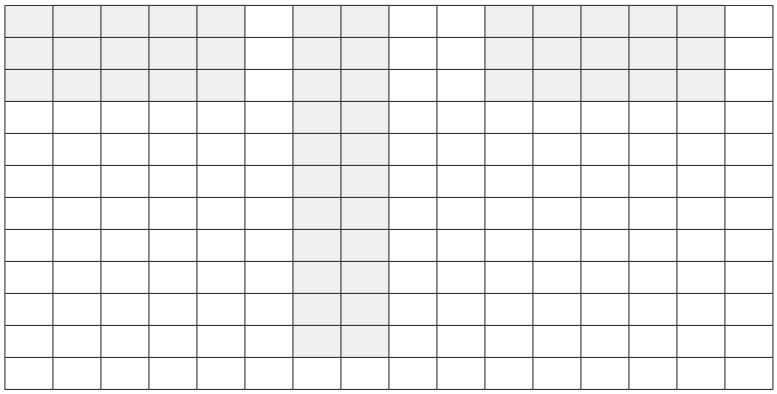
Next, have all students color in a rectangle that is 5 squares across and 4 squares down, similar to the following grid:



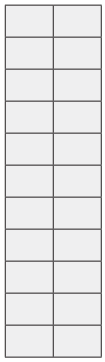
Ask a student volunteer to answer the following questions, then post the answers on the board.

– *What are the base and height measures of the shaded rectangle?*
– *What is the area formula for the shaded rectangle?*
– *What is the area of the shaded rectangle?*

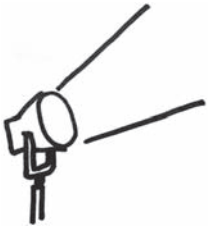
Continue the activity by having students create and shade in other rectangles on their grid paper to determine that $A = b \times h$ is reliable in all examples. Ensure that some of the newly shaded rectangles indicate base and/or height measurements which include halves, similar to the examples that follow.



Conclude the activity by challenging the class to prove their answers by counting squares on the grid. Discuss and demonstrate how every *four* squares on the grid is one square inch. Then, have students count groups of four squares to get the whole number value of square inches, and have students count the remaining squares to get the fraction value of square inches of the shaded rectangles. Finally, students will check the formula by comparing the result with a count of squares to demonstrate the proof. For example, using the formula for the following rectangle, students will write $5\frac{1}{2} \times 1 = 5\frac{1}{2}$ square inches. By counting groups of four, students will get $1 + 1 + 1 + 1 + 1 + \frac{1}{2} = 5\frac{1}{2}$.



Activities



❷ Measurement and Data Analysis

Common Core Georgia Performance Standards MCC5.MD.1, MCC5.MD.2, MCC5.MD.3, MCC5.MD.4, MCC5.MD.5

Within the Measurement and Data Analysis domain, students will convert like measurement units within a given measurement system. They will represent and interpret data. Students will understand concepts of volume and relate volume to multiplication and to addition.

The following activities develop skills in this domain:

– Students will compare units of capacity by making their own recipe for punch. Students will find or invent a recipe for a delicious punch using 3–5 ingredients, such as soda, juices, and chopped fresh fruit. Tell students that they can use whole numbers, mixed numbers, and fractions of a cup for each ingredient. The total of all ingredients must be equal to 1 gallon. Students will use the following conversions as they work:

  – 1 gallon = 4 quarts
  – 1 quart = 2 pints
  – 1 pint = 2 cups
  – 1 cup = 8 ounces

  NOTE: If containers are available in each size, students should determine (or confirm) the conversions by filling the larger containers with water from the smaller ones.

  Once students have chosen the amount of each ingredient and written this down in a table, they should confirm that the total adds up to exactly one gallon. Students will figure out how many people their recipe will serve if each person drinks exactly one cup of punch (i.e., 1 gallon = 16 cups, so 1 gallon serves 16 people). Tell students that you are planning a big celebration and need one cup for each of the 48 guests. Students should now calculate how much of each ingredient will be needed to make enough punch to serve all the guests if each of the 48 guests drinks exactly one cup of punch.

– Students will measure, to the nearest $\frac{1}{8}$ inch, the left foot of 10 boys in the class. The students will then measure, to the nearest $\frac{1}{8}$ inch, the left foot of 10 girls in the class. They will then create two different line plots, one representing the data collected for boys and one representing the data collected for girls. The students will then summarize, analyze, and compare the data in the two line plots.

– Students will construct cubes and rectangular prisms as a way to develop an understanding of the cubic unit and how the cubic unit is used to measure volume. Students will also develop the formula for finding the volume of a rectangular prism: $V = Bh$, where B is the area of the base. Prepare ahead of time by collecting a large number of small cubes, such as cube-shaped blocks and dice, as well as rectangular prism boxes with whole number dimensions, such as shoe boxes or tissue boxes of different sizes. Distribute a number of cubes to groups of two or three students and distribute blank record sheets to each group, similar to the one that follows.

Measurements of the Base				
Length (l) of Base	Width (w) of Base	Area of the Base (B)	Height of Solid (h)	Volume (V)

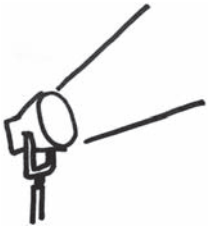
Demonstrate how to fill one of the boxes with unit cubes. Give an example of overfilling the box. Give an example of underfilling the box and ask the students to determine how many more unit cubes would be needed to completely fill the box. Explain that the volume is measured in units so the label is u^3 and is read "cubic units." Student groups will use their unit cubes to build new rectangular prisms and/or fill boxes with unit cubes. They will examine their prisms, they will count and record how many cubes were used for the length and width of the Base, and then they will calculate the area of the Base. Students will count and record how many layers high their prism is (height of the solid) and multiply this number by the area of the Base to find the volume of the solid. Finally, students will count the total number of cubes that were used to construct the rectangular prism and compare this number to their previously calculated volume. Once groups have had sufficient time to create several prisms, record information, and

verify their calculations, bring the class back together for the following discussion:

- Complete the chart by having each group give the data for one of their rectangular prisms.
- Ask the groups to use words to create a formula that describes how to find the volume of a rectangular prism when unit cubes are used to fill the prism.
- Guide the students to make the transition from their verbal formula to the formula for volume using the given variables.

Conclude the activity by giving the students the dimensions of two or three rectangular prisms, and asking them to apply the formula for volume.

Activities



❸ Geometry

Common Core Georgia Performance Standards MCC5.G.1, MCC5.G.2, MCC5.G.3, MCC5.G.4

Within the Geometry domain, students will graph points on the coordinate plane to solve real-world and mathematical problems. They will classify two-dimensional figures into categories based on their properties.

The following activities develop skills in this domain:

– To practice plotting points on a coordinate plane, students should plot the points where a taxicab has picked up and dropped off customers throughout the day. Street numbers will be on the *x*-axis and avenue numbers on the *y*-axis. The taxicab begins at Zero Street and Zero Avenue are at the origin. Students will then plot and label the ten pick-ups and drop-offs listed below:

  - Trip 1: Pick up customer at 10th Street and 4th Avenue. Drop off customer at 9th Street and 8th Avenue
  - Trip 2: Pick up customer at 13st Street and 11th Avenue. Drop off customer at 1st Street and 2nd Avenue
  - Trip 3: Pick up customer at 3rd Street and 1st Avenue. Drop off customer at 11th Street and 5th Avenue
  - Trip 4: Pick up customer at 6th Street and 6th Avenue. Drop off customer at 8th Street and 8th Avenue
  - Trip 5: Pick up customer at 10th Street and Zero Avenue. Drop off customer at Zero Street and 12th Avenue

  For each trip, students will count the number of blocks the cab traveled horizontally and vertically. They will use the table that follows to calculate the fare for each trip and the total amount of money the cab driver made that day. Students will also account for distances between trips, during which the cab driver drove without a paying passenger. For each block that the cab driver drove without a rider, he or she lost $0.05.

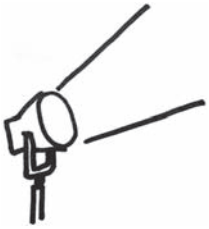
Trip	**Horizontal Blocks**	**Vertical Blocks**	**Cab Fare** ($2.50 initial fare + $0.25 per block)	**Money lost while driving without a paying passenger** ($0.05 per block)
1				
2				
3				
4				
5				

- Students will improve understanding of ordered pairs in the coordinate plane by physically moving to different points on a large grid. Use masking tape to create *x*- and *y*-axes that form the first quadrant of a coordinate plane on a floor with square tiles. Each tile will represent one unit on the grid. Label positive values from 1 through 10 on each axis, and the origin at the point (0, 0). If an outdoor play area is more convenient, create the grid using chalk. Using spinners or pieces of paper drawn from a hat, students will generate two values between 1 and 10. Students will write down a coordinate pair, using the first number as the *x*-value and the second as the *y*-value. A student will move to the grid and stand on the origin. He or she should then walk to his or her point one unit at time to the right of and then above the origin, stopping at the locations matching his or her ordered pair.

- Students will examine and classify quadrilaterals using the attributes of figures. On a piece of blank white copy paper, draw a set of 8 figures: 2 squares, 2 rectangles, 2 trapezoids, and 2 rhombi. Vary the order of figures so that pairs of the same figure are not necessarily adjacent and not identical in size and orientation. Make copies of the sheet to hand out to students. On the board or on a piece of posterboard, draw a large example of each of the 4 types of shapes with space below each to fill in attributes as the game progresses. Figures are identified based on the presence of a given attribute. For example, if the first attribute is *I am a figure with 2 sets of parallel sides* students should circle the 2 squares, 2 rectangles and 2 rhombi. If the second attribute is *I am a figure with 4 right angles* students should cross off the 2 squares and the 2 rectangles. As each shape is identified, students should state what attribute(s) they used to make their decisions, and write the attribute(s) under the same shape on the board. Depending on the given attributes, students may end up with only one pair or more than one pair of shapes. Since each shape differs slightly in size or orientation from its partner, the students will develop an understanding of how figures differ by defining attributes rather than non-defining attributes. Repeat using different attributes or different sheets of shapes, building the attribute lists on the board as the activity progresses.

- To reinforce the properties of new figures, students will work together to develop verbal and visual memory cues. Model a few examples with students before beginning the activity. To begin, ask students if anything about the term *quadrilateral* reminds them in some way of the meaning. Elicit student input to model a mnemonic (memory aid) for the term, emphasizing the importance of connecting the word to its meaning. Students should create mnemonics using drawings, word roots, and other associations.

Activities



❹ Algebra

Common Core Georgia Performance Standards MCC5.OA.1, MCC5.OA.2, MCC5.OA.3

Within the Algebra domain, students will write and interpret numerical expressions. They will analyze patterns and relationships.

The following activities develop skills in this domain:

– Students work in small groups of two or three. Each group has a spinner labeled 0–10. One person in the group will spin the spinner three times to generate three numbers. Each student will then write an expression using the three numbers in the same order but with operation signs and parenthesis of their choice. The goal being to write an expression with the greatest value.

  Alternatives would be to spin the spinner four or more times or to allow students to change the order of the numbers when creating an expression.

– Use flash cards or a flip chart to give students practice working with a quantitative relationship represented by a formula. Create a set of examples of number sentences that represent the perimeter of a rectangle (e.g., $2+4+2+4=12$), the area of a rectangle (e.g., $3\times6=18$), the perimeter of a square (e.g., $4+4+4+4=16$), and the area of a square (e.g., $5\times5=25$). Students can guess individually or work as teams to come up with the formula that each number sentence represents. For example, if the number sentence is $3+6+3+6=18$, students should answer, "*The perimeter of a rectangle*," since they see the sum of two pairs of equal sides.

– Students will graph the ordered pairs formed by the corresponding terms from two different patterns and discuss the relationship between the corresponding terms.

  Group students in pairs and give each pair a numbered cube, graph paper, and either blank function tables or have them create their own.

  Have each student roll the numbered cube to help create a pattern. Either multiply or add using the number rolled on the numbered cube. Each student in the pair may choose a different rule for each column in the function table. (For example, one student may choose $+2$ and the other may choose $+6$)

x	***y***
Rule 1:	**Rule 2:**
0	0

Have them complete the function table using the rule for each column and then graph the resulting ordered pairs on a coordinate grid using Rule 1 for the *x*-coordinate and Rule 2 for the *y*-coordinate.

Have the students discuss any relationship they observe between the two corresponding terms.

Gather the class and have them share the relationships they observed between the corresponding terms of their patterns.

Practice Quiz

1 **Look at the division problem.**

$$38\overline{)2{,}052}$$

What is the quotient of this problem?

A 54
B 55
C 60
D 66

2 **Look at the number sentence.**

$$25.00 \times \square = 29.25$$

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

A 1.01
B 1.17
C 101
D 117

3 **Marcy has $2\frac{1}{4}$ cups of flour. Her cookie recipe calls for $\frac{2}{3}$ cups of flour.**

After she makes her cookies, how much flour will she have left?

A $1\frac{3}{7}$ cups

B $1\frac{7}{12}$ cups

C $2\frac{3}{7}$ cups

D $2\frac{11}{12}$ cups

4 **Amy uses $\frac{2}{3}$ cup honey to make one batch of granola bars.**

How much honey does Amy need to make $2\frac{1}{2}$ batches of granola bars?

A $1\frac{1}{3}$ cups

B $1\frac{2}{3}$ cups

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

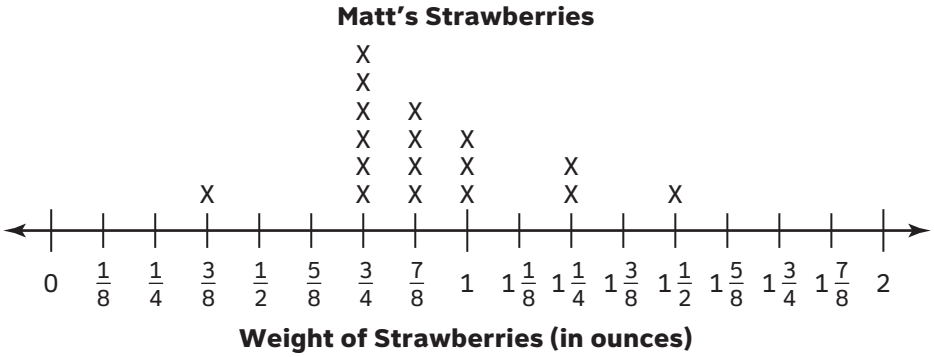
D $3\frac{1}{6}$ cups

5 **Thomas and Lily brought orange juice to the annual soccer breakfast. Thomas brought five 2-quart containers of orange juice. Lily brought one 1-gallon container of orange juice.**

How many TOTAL cups of orange juice did Thomas and Lily bring? (1 quart = 4 cups; 1 gallon = 4 quarts)

A 40 cups
B 44 cups
C 48 cups
D 56 cups

6 **The line plot shows the weight of the strawberries that Matt picked from his garden.**



Matt ate the strawberries that weighed less than 1 ounce. He saved the other strawberries to show his parents.

How many ounces of strawberries did Matt eat?

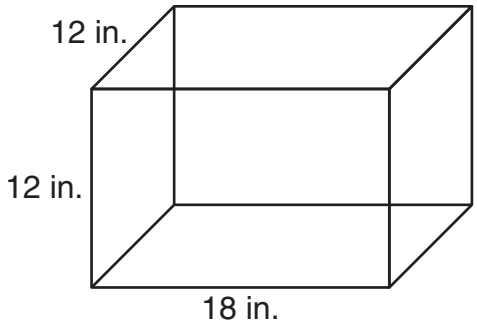
A 4 ounces

B $4\frac{1}{2}$ ounces

C 8 ounces

D $8\frac{3}{8}$ ounces

7 **Claudia's hamster cage is in the shape of a rectangular prism.**

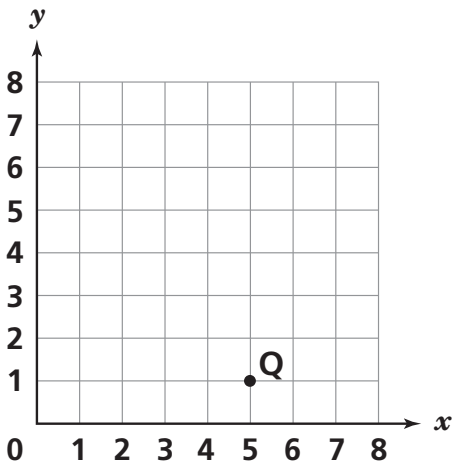


Volume = Bh
B = Area of the base

What is the volume of this cage?

A 1,296 in.^{3}
B 1,728 in.^{3}
C 2,592 in.^{3}
D 5,832 in.^{3}

8 **Point Q is plotted on the coordinate grid.**



Which ordered pair shows the location of point Q on the coordinate grid?

A (1, 5)
B (5, 1)
C (1, 1)
D (5, 5)

9 **Solve.**

$$18 + 6 \div (3 + 3) =$$

A 4
B 18
C 19
D 23

10 **The table below shows the number of stickers that two friends add to their collection using two different rules.**

Gail	**Polly**
Rule 1: Add 12	**Rule 2: Add 3**
0	0
12	3
24	6
36	9
48	12
60	15

Which statement is always true when comparing the number of stickers that Gail and Polly have?

A Polly has 9 fewer stickers than Gail has.
B Polly has 12 fewer stickers than Gail has
C Polly has 4 times fewer stickers than Gail has.
D Polly has 5 times fewer stickers than Gail has.

Solutions

Number	Correct Answer	Explanation
1	**A**	*Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (MCC5.NBT.6)* The correct answer is **Choice** (**A**) **54** because the quotient of 2,052 divided by 38 is 54. 205 divided by 38 is 5 with a remainder of 15 and 152 divided by 38 is 4 with no remainder. Choice (B) is not correct because the 2 is carried down to the 190 to make 192 instead of first finding the difference between 205 and 190. Choice (C) is not correct because 38 times 6 is 228 which is greater than 228 and the second digit is determined by dividing 2 by 38 instead of finding the difference and bringing down the digit. Choice (D) is not correct because 38 times 6 is 228 which is greater than 205 and the difference 228–205 was used to determine the next digit in the quotient.
2	**B**	*Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings, and strategies based on place value, properties or operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. (MCC5.NBT.7)* The correct answer is **Choice** (**B**) **1.17.** To determine the value that belongs in the box, divide 29.25 by 25.00. Choice (A) is incorrect because 1.01 is the result of ignoring the remainder when dividing the 29 by the 25. Choice (C) is incorrect because 101 is the same error as Choice (A) but also an additional error of dividing 2,925 by 25. Choice (D) is incorrect because 117 is the result of dividing 2,925 by 25.

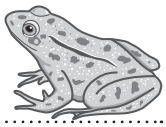
Number	Correct Answer	Explanation
3	**B**	*Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. (MCC5.NF.2)* The correct answer is **Choice (B) $1\frac{7}{12}$ cups.** The question asks for the amount of flour left, so subtract the amount used in the recipe from the original amount. The mixed fractions have different denominators, so find the like denominator, which is 12. Rewrite the fractions so that $2\frac{1}{4}$ becomes $2\frac{3}{12}$ and $\frac{2}{3}$ becomes $\frac{8}{12}$. To subtract $\frac{8}{12}$, first rewrite $2\frac{3}{12}$ as $1\frac{15}{12}$. The resulting operation is $1\frac{15}{12} - \frac{8}{12} = 1\frac{7}{12}$. Choices (A) and (C) are incorrect because the original denominators of 3 and 4 were added to find the like denominator rather than being multiplied, giving an incorrect like denominator of 7. Choice (D) is incorrect because it is the result of addition of the two numbers, not subtraction.
4	**B**	*Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. (MCC5.NF.6)* The correct answer is **Choice (B) $1\frac{2}{3}$** because the product of $\frac{2}{3} \times 2\frac{1}{2}$ is $1\frac{2}{3}$. In the problem, $2\frac{1}{2}$ is converted to $\frac{5}{2}$ then the numerators are multiplied $2 \times 5 = 10$ and the denominators are multiplied $3 \times 2 = 6$ and then the improper fraction $\frac{10}{6}$ is converted to the mixed number $1\frac{2}{3}$. Choice (A) is not correct because $2\frac{1}{2}$ is converted to $\frac{4}{2}$ by multiplying the numerator by the product of the whole number and denominator instead of adding the numerator. Choice (C) is not correct because the proper fractions $\frac{2}{3}$ and $\frac{1}{2}$ are multiplied first and then added to the whole number 2. Choice (D) is not correct because the fraction and mixed number are added instead of multiplied.

Number	Correct Answer	Explanation
5	**D**	*Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. (MCC5.MD.1)* The correct answer is **Choice (D) 56 cups.** To solve, use the given conversions. Thomas brought 10 quarts and there are 4 cups in each quart. $10 \times 4 = 40$ cups. Lily brought 1 gallon which is the same as 4 quarts. There are 4 cups in each quart. $4 \times 4 = 16$ cups. Combine the cups Thomas brought and the cups Lily brought. $40 + 16 = 56$ cups. Choice (A) is incorrect because it is only the amount that Thomas brought. Choice (B) is incorrect because it is the result of using the conversion of 1 gallon as 4 cups, not 4 quarts. Choice (C) is incorrect because it is the result of converting 1 gallon to 4 quarts but then adding to convert 4 quarts to cups instead of multiplying.
6	**D**	*Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. (MCC5.MD.2)* The correct answer is **Choice (D)** $\mathbf{8\frac{3}{8}}$ because the sum of the weights of the strawberries less than 1 ounce is $8\frac{3}{8}$ ounces. $\frac{7}{8} + \frac{7}{8} + \frac{7}{8} + \frac{7}{8} = 3\frac{1}{2}$ and $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = 4\frac{1}{2}$ and $\frac{3}{8} + 3\frac{1}{2} + 4\frac{1}{2} = 8\frac{3}{8}$. Choice (A) is not correct because the weights more than 1 ounce are added instead of the weights less than one ounce. Choice (B) is not correct because only the weight for the fraction less than 1 with the greatest number of x's ($\frac{3}{4}$) is added. Choice (C) is incorrect because it leaves out the $\frac{3}{8}$.

Number	Correct Answer	Explanation
7	**C**	*Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. (MCC5.MD.5b)* The correct answer is **Choice** (**C**) **2,592 in.^{3}** Use the formula for the volume of a rectangular prism and substitute the values given in the figure: $V = 18$ in. $\times$ 12 in. $\times$ 12 in. $=$ 2,592 in.^{3} Choice (A) is incorrect because 1,296 is the area of the base times 6 faces. Choice (B) is incorrect because 1,728 is the result of $12 \times 12 \times 12$. Choice (D) is incorrect because 5,832 is the result of $18 \times 18 \times 18$.
8	**B**	*Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the solution. (MCC5.G.2)* The correct answer is **Choice** (**B**) (**5, 1**)**.** Points in the first quadrant have positive *x* and *y* coordinates. Point Q is located further to the right of the *y*-axis than it is above the *x*-axis, which indicates that its *x*-coordinate should be larger than its *y*-coordinate. Choice (A) is incorrect because (1, 5) indicates the point is further above the *x*-axis than it is right of the *y*-axis, and may indicate the student has the *x* and *y* coordinates confused. Choice (C) is incorrect because (1, 1) assumes *y*-coordinate's value for both coordinates. Choice (D) is incorrect because (5, 5) assumes *x*-coordinate's value for both coordinates.

Number	Correct Answer	Explanation
9	**C**	*Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. (MCC5.OA.1)* The correct answer is **Choice (C) 19.** Use the order of operations to solve, starting with the values inside the parentheses, moving on to division, and finally performing addition: $18 + 6 \div (3 + 3) = 18 + 6 \div 6 = 18 + 1 = 19$. Choice (A) is incorrect because 4 is the result of adding $18 + 6$ before dividing $6 \div 6$. Choice (B) is incorrect because 18 results from incorrectly dividing 6 by 6 and getting 0. Choice (D) is incorrect because 23 results from performing division before solving the contents of the parentheses.
10	**C**	*Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. (MCC5.OA.3)* The correct answer is **Choice (C) Polly has 4 times fewer stickers than Gail has.** The values in the second column are always a fourth of the corresponding value in the first column. 12 divided by 3 is 4, 24 divided by 6 is 4, 36 divided by 9 is 4, 48 divided by 12 is 4 and 60 divided by 15 is 4. This is because 3 is a fourth of 12. Choice (A) is not correct because the comparison only works for 12 and 3. Choice (B) is not correct because it compares the first non-zero value and the last value in the "Polly" column. Choice (D) is not correct because it incorrectly compares the relationship as 5 times fewer because it compares the last value for each girl divided by the first non-zero value for each girl.

Science



Science

By the end of Grade 5, students should offer reasons for findings and consider reasons offered by others. They keep records of investigations and observations and understand why they should not alter records. They use numerical data to describe and compare objects. They use reference books, back issues of magazines or newspapers, and computer databases to locate scientific information. They use the information found in these sources to support statements. Grade 5 students realize that safety is a fundamental concern in all experimental science and follow safety guidelines. They wear goggles any time chemicals, glassware, or heat is used. Grade 5 students investigate scientific concepts. They understand that Science is a process for gaining knowledge about the natural world. Students are active learners and use hands-on activities to discover and explain phenomena. They are able to conduct experiments and report their findings in the form of written reports, charts, and various other presentations including multimedia projects. Their scientific explanations emphasize evidence and begin to use scientific principles, models, and theories. They will convert fractions (halves, thirds, fourths, fifths, tenths, and hundredths) to decimals in scientific calculations. They identify the largest and smallest possible value of something. Grade 5 students use cameras and tape recorders to gather and record information.

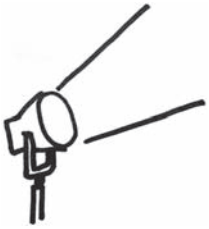
The following Science activities focus on some of the concepts that are assessed on the Grade 5 CRCT Science domains. These domains are as follows:

1. **Earth Science**
2. **Physical Science**
3. **Life Science**

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

Characteristics of Science refer to understanding the process skills used in the learning and practice of Science. These skills include testing a hypothesis, record keeping, using correct safety procedures, using appropriate tools and instruments, applying Math and technology, analyzing data, interpreting results, and communicating scientific information. (At this grade, students develop skills in writing informational text and presenting data using tables and graphs as part of their overall development in the Language Arts and Mathematics content areas. The development of these process skills links to the use of those skills in the Science content area.) *Characteristics of Science* also refer to understanding how science knowledge grows and changes and the processes that drive those changes.

Activities



❶ Earth Science

Georgia Performance Standard S5E1

Within the Earth Science domain, students are expected to identify surface features of Earth caused by constructive and destructive processes. These include, but are not limited to, volcanoes, earthquakes, erosion, and weathering. Students should also be able to relate the role of technology and human intervention to the control of constructive and destructive processes.

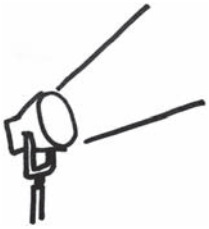
The following activities develop skills in this domain:

– To understand the mechanisms of weathering and erosion, students will perform hands-on activities and relate what they have learned to Georgia landforms. Students will fill a plastic bottle to the top with water, put on the cap, and place it in a large, sealed freezer bag overnight. When they observe the bottle the next day, they should find that it has cracked. Students should use Science textbooks or other resources provided by the teacher to answer in their journals: *How does freezing water lead to the weathering and erosion seen on the Blue Ridge Mountains?* To demonstrate another example of weathering, students will place a piece of chalk or seashells in a jar and add white vinegar, observing the results. Students should write a response to: *How is the demonstration similar to the formation of Georgia's limestone caves (e.g., Ellison's Cave, Byer's Cave, Pettijohn's Cave, Climax Caverns)?* Provide photos of these formations or direct students to images on Internet sites.

– In order to understand how deposition forms river deltas, students will work with a model of flowing water and sand. The teacher will assist students in the construction of a two- to three-foot long trough. The trough can be constructed from attached shoeboxes by removing the short ends and covering with aluminum foil, waxed paper, or other water-proofing material. The trough may also be constructed from attached waxed milk cartons. Remove the ends and one side of each carton. Rest the trough on a ramp or platform so that it tilts downward at approximately a 45° angle into a large pan or bucket. Have students place one cup of sand near the top of the trough and pour two liters of water onto the sand. Students will observe how far the sand is transported and record the results. Collect the sand and repeat the procedure several times, each time tilting the trough less and less until it is flat on the ground. Discuss how a shallower tilt causes the water to flow more slowly. Ask, *How does the speed of the water affect how far it carries sediment in a river*? Students should conclude, from their observations and recorded data, that quickly moving water carries material farther and that a slower flow causes material to be deposited sooner. Discuss how Georgia's Altamaha River, which becomes slower as it nears the ocean, deposits nutrient-rich sediment and forms estuaries.

– In order to understand the role of human intervention in natural geological processes, students will explore the issue of beach renourishment (the addition of imported sand) on Georgia's barrier islands. Students should use resources such as an expert or a guest speaker provided by the teacher to learn about beach renourishment on Sea Island and Tybee Island. They should explain the importance of barrier islands to Georgia's coastline and coastal ecosystems. Demonstrate the function of barrier islands by partially filling a tray with sand and tipping it so the sand collects on one side. Gently add water to the sand-free side and generate waves by tapping or tilting the tray. Students should observe that the sand has moved below the waterline. Students will use what they have learned to decide whether beach renourishment should be tried on St. Simons Island. They should then write a persuasive letter explaining their position to the state's Department of Natural Resources—Coastal Resources Division.

Activities



❷ Physical Science

Georgia Performance Standards S5P1, S5P2, and S5P3

Within the Physical Science domain, students will carry out investigations to become familiar with the characteristics of magnetic forces and static electricity. They should understand that, without touching them, an object that has been electrically charged pulls on all other uncharged objects and may either push or pull other charged objects. Students will gain an understanding of the relationship between magnetism and electricity. Students will learn that batteries are used as energy sources, and flashlight bulbs use this energy when producing light. Students should explain the difference between chemical and physical changes. They should conduct basic experiments and determine whether matter has changed physically by separating mixtures or chemically by observing changes in the properties of substances before, during, and after a chemical reaction. They should develop a basic understanding of the Law of Conservation of Matter.

The following activities develop skills in this domain:

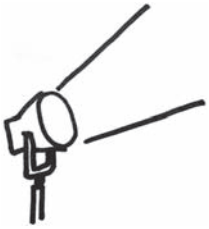
– To help students understand that mass is conserved during a chemical change, conduct a two-part experiment with baking soda and white vinegar. First, students will measure the mass of the baking soda and vinegar samples using a balance scale and then combine the substances, following appropriate safety procedures. Students should identify the reaction as a chemical change and should find that the mass of the resulting liquid has decreased. Ask students how they can explain what has happened to the mass that is missing. Next, demonstrate that mass is conserved by showing what happens when the reaction takes place in a sealed container. Prop up a 1-gallon sealable freezer bag so that the bottom corners hang lower than the center. Add 4–5 grams of white vinegar to one corner and 1–2 grams of baking soda to the other corner. Seal the bag. Tilt it so that the baking soda falls into the vinegar; the resulting gas will be trapped in the bag. As an alternative, place the baking soda in a deflated balloon and pull it snugly over the neck of a bottle containing the vinegar. Raise the balloon so that the baking soda falls into the bottle. Ask students, *Were the baking soda and vinegar changed in the reaction? If so, how do you know that a change took place? Did the mass of the substances change before and after the reaction?* Students should conclude that while the substances involved in the reaction have changed, their mass was conserved. From the mass of the starting and final substances, they should infer the mass of the gas produced. Students should write a report on their observations.

– Students will explore static electricity by examining the interactions between similarly and oppositely charged objects. Students will rub a balloon on their hair. This will make their hair move toward the balloon. Students should do the same with a second balloon, and then bring it close to the first. The two balloons will repel each other. Students should conclude that similarly

charged objects repel. Students will charge other objects in the same way: rubbing a glass rod with a silk cloth, or rubbing a hard rubber comb on wool. They should determine whether these attract or repel each other. Students should also test the effect of the charged objects on small pieces of paper, ground pepper, or puffed cereal. They will find that these lightweight substances are attracted to a charged object for a short while. Students should conclude that charging an object has a temporary effect.

– Students will reinforce their understanding of how mixtures can be separated through playing a quiz-show game. Create index cards with the following words and/or pictures: water, salt, pepper, sand, oil, iron filings. Students will draw two or more cards at random and must think of a way to separate a mixture made from the substances they chose. Specify materials students can use (e.g., coffee filters, strainers). For example, students may respond, *Oil and salt can be separated by letting the salt settle to the bottom and pouring off the oil.* Or, *Salt and pepper can be separated by adding water and straining out the pepper, then boiling off the water to leave the salt.* Students should demonstrate their understanding by brainstorming ways to separate a mixture of all of the materials listed above. Analyze and discuss students' ideas.

Activities



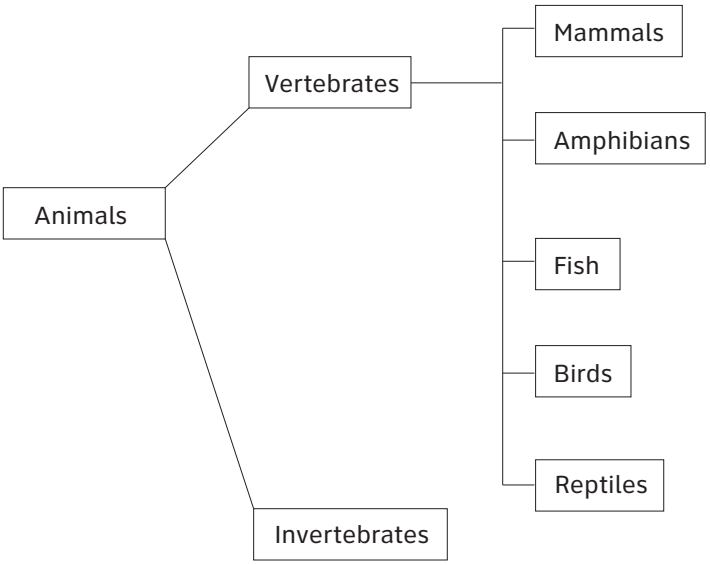
❸ Life Science

Georgia Performance Standards S5L1, S5L2, S5L3, and S5L4

Within the Life Science domain, students should demonstrate how plants and animals are sorted into groups (i.e., fish, amphibian, reptile, bird, mammal). Students can develop their own criteria to classify organisms, test their criteria by classifying some common or familiar organisms, determine whether their criteria make useful distinctions, and consider how to improve their criteria. Students can also compare their own criteria with the formal scientific classification system. They should compare and contrast the characteristics of learned behaviors and inherited traits and describe what a gene is and the role genes play in the transfer of traits. Students should explain how magnifiers such as microscopes or hand lenses are used to observe cells and their structure, and students should recognize and determine the functions of plant and animal cell structures (i.e., cell membrane, cell wall, cytoplasm, nucleus, chloroplasts). They will distinguish between the structure and function of cells in multi-celled organisms and single-celled organisms. Students will identify beneficial microorganisms and explain why they are beneficial, and students will identify harmful microorganisms and explain why they are harmful.

The following activities develop skills in this domain:

– To better understand how scientists classify living things, students will observe, record, and classify the animals found in an area. Students should observe at least 10 creatures that are not household pets (e.g., birds, squirrels, beetles, worms). They will record their observations in a notebook or computer file. Encourage students to take photos or videos of what they observe, find images in magazines or on the Internet, or draw what they see. This activity provides a good opportunity to examine tiny soil organisms using a microscope or hand lens. Students should research how the organisms are classified as invertebrate or vertebrate, and whether they fit into a group such as fish, insect, amphibian, reptile, bird, or mammal. As an end goal, students should create a large poster with names, descriptions, and images of the animals they observed; the poster should show how the animals are classified.



– To understand how some traits are inherited, students will explore several different physical traits that are easily observed in classmates. The teacher will have students make a chart with traits (some possibilities include tongue rolling, attached earlobes, widow's peak, cleft chin) in the first column, then a column for "yes" and a column for "no." Students will collect data from fellow classmates. Once data are collected, the teacher will have students share data as a class. The teacher will ask each student to collect data on a chosen trait from any biological relatives available to help show how the trait passes from one generation to the next. Each student may create a family tree for a chosen trait to show how it passes within their family. As an alternative to using family members, the teachers may ask students to use the Internet to observe how a trait passes.

– Creating a three-dimensional model of a cell will help students understand the structure and function of cells and compare and contrast cells of different organisms. Students will make a model animal cell using gelatin for the cytoplasm and a piece of candy, fruit, or vegetable for the nucleus. Prepare a light-colored gelatin using 25% less water than the recipe calls for, and allow it to begin setting after pouring it into a resealable plastic bag, which represents the cell membrane. Students will open the bag to insert the other ingredients into the gelatin before it has completely set. They should explain the functions of the cell membrane, cytoplasm, and nucleus. Students should then come up with materials to make a model plant cell (which also contains chloroplasts and a cell wall).

– To understand the good and bad effects of microorganisms, students will inquire about everyday things people do or make because of microorganisms. Students will keep a journal in which they explore and answer the following questions, using information gathered through hands-on inquiry or resources provided by the teacher (such as a textbook or other reference book).

- *Do you wash your hands before eating and after using public transportation or visiting a crowded mall? Why can doing this keep you from getting sick?*
- *Do adults in your home keep raw meat from touching other things in the kitchen? Have you ever been told to not eat uncooked batter or cookie dough that contains raw eggs? Why do these practices keep you safe?*
- *Do you try to brush your teeth regularly? Have you been told you might get cavities if you don't brush or if you drink many sugary drinks? Why is this so?*
- *Have you ever made bread or seen someone make bread? Why is yeast used in making bread? Have you eaten yogurt, kimchi, blue cheese, or sauerkraut? How are microorganisms such as yeast or bacteria used in making these foods?*
- *Have you or anyone you know ever had "stomach problems" after taking antibiotics (drugs that kill bacteria)? What is the function of the good bacteria that live in our large intestines?*

Practice Quiz

1 **Which of these describes harmful microorganisms?**
A fungi that add flavor to cheese
B bacteria that break down waste
C bacteria that allow food to digest
D fungi that use nutrients from tree leaves

2 **Which method would be MOST effective for separating a mixture of water, sand, and iron filings?**
A Filter the iron filings from the water and sand, and then boil off the water to leave the sand.
B Filter the sand from the water and iron filings, and then boil off the water to leave the iron filings.
C Filter the sand and iron filings from the water, and then use a magnet to separate the iron filings from the sand.
D Filter the sand and iron filings from the water, and then heat the mixture to separate the iron filings from the sand.

3 **Students observe an animal and write down its characteristics.**

- lays eggs
- has feathers
- has a short tail
- has a round head

What type of animal is this and why?
A a reptile because it lays eggs
B a bird because it has feathers
C a mammal because it has a short tail
D an amphibian because it has a round head

4 **During a cooking demonstration, a chef dissolves 100 grams of sugar by stirring it into 1,000 grams of hot water.**

What is the mass of the sugar and water solution after the sugar is dissolved in the water?
A 900 grams
B 1,000 grams
C 1,100 grams
D 2,000 grams

5 **Which part of a plant cell uses energy from sunlight to help it make food?**
A nucleus
B cytoplasm
C chloroplast
D cell membrane

6 **Which statement describes a way that an amoeba, a single-celled organism, is similar to a skin cell found in a multi-celled organism?**
A Both kinds of cells need a way to reproduce.
B Both kinds of cells need blood vessels to provide nutrients.
C Both kinds of cells can move from place to place without help.
D Both kinds of cells can be specialized to perform certain functions.

7 **Which surface feature was made by a destructive process?**
A mountain
B river delta
C sand dune
D river valley

8 **José uses wire, a battery, and a light bulb to make an open electrical circuit. One at a time, he tests different objects to see whether the object closes the circuit. He observes what happens when the object is tested to determine which objects conduct electricity. The table shows the results of his experiment.**

Object	Observation
metal pin	light bulb is lit
plastic bag	light bulb is off
rubber ball	light bulb is off
copper penny	light bulb is lit

Which pair of objects are electrical conductors?
A metal pin and plastic bag
B plastic bag and rubber ball
C copper penny and metal pin
D rubber ball and copper penny

9 **David watches a burning candle to determine if a chemical change is taking place. While he watches the candle, he writes down observations in his notebook.**

Which of David's observations proves that a chemical change is taking place?

A The candle is getting shorter.
B The candle is giving off light as it burns.
C The wax is changing from a solid to a liquid.
D The wax is running down the side of the candle.

10 **A scientist uses a seismograph to study the seismic waves that are produced by earthquakes.**

Which of these can MOST LIKELY be determined by studying seismic waves?

A the location of the earthquake's epicenter
B the dates when future earthquakes will happen
C if a tsunami will be produced by the earthquake
D if a future earthquake will happen at the same location

Solutions

Number	Correct Answer	Explanation
1	**D**	*Identify harmful microorganisms and explain why they are harmful. (S5L4b)* The correct answer is **Choice** (**D**) **fungi that use nutrients from tree leaves.** Harmful fungi take away nutrients from the tree by living on its leaves. Choices (A), (B), and (C) are incorrect because all involve actions that are helpful.
2	**C**	*Investigate physical changes by separating mixtures and manipulating (cutting, tearing, folding) paper to demonstrate examples of physical change. (S5P2a)* The correct answer is **Choice** (**C**) **Filter the sand and iron filings from the water, and then use a magnet to separate the iron filings from the sand.** This sequence will fully separate all three substances. Choices (A) and (B) are incorrect because iron filings are similar in size to sand particles and therefore cannot be separated with a filter. Choice (D) is incorrect because sand and iron melt only at extremely high, dangerous temperatures; using a magnet is a much easier way to separate the two materials.
3	**B**	*Demonstrate how animals are sorted into groups (vertebrate and invertebrate) and how vertebrates are sorted into groups (fish, amphibian, reptile, bird, and mammal). (S5L1a)* The correct answer is **Choice** (**B**) **a bird because it has feathers.** Only birds have feathers. Choice (A) is incorrect because almost all animals except mammals lay eggs. Choice (C) is incorrect because the length of a tail is not related to the animal classification. Choice (D) is incorrect because the shape of the head isn't related to the animal classification.

Number	Correct Answer	Explanation
4	**C**	*Demonstrate that the mass of an object is equal to the sum of its parts by manipulating and measuring different objects made of various parts. (S5P1a)* The correct answer is **Choice** (**C**) **1,100 grams.** When the sugar and the water are combined, their masses remain the same and add up to equal the mass of the solution. Choice (A) is incorrect because 900 grams results from subtracting, not adding, the masses. Choice (B) is incorrect because 1,000 grams is the mass of the water alone and does not include the mass of the sugar. Choice (D) is incorrect because 2,000 grams is twice the mass of the water and does not represent the combined masses of the water and sugar.
5	**C**	*Identify parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus) and determine the function of the parts. (S5L3b)* The correct answer is **Choice** (**C**) **chloroplast.** Chloroplast refers to the organelle in which photosynthesis occurs. Choice (A) is incorrect because the nucleus controls all cell activities but is not the site at which food is made in plant cells. Choice (B) is incorrect because cytoplasm is the jelly-like substance that all internal cell organelles float in. Choice (D) is incorrect because the cell membrane forms the outer boundary of the cell and is responsible for the movement of substances into and out of the cell.
6	**A**	*Explain how cells in multi-celled organisms are similar and different in structure and function to single-celled organisms. (S5L3c)* The correct answer is **Choice** (**A**) **Both kinds of cells need a way to reproduce.** Both single-celled organisms and the cells of multi-celled organisms need a way to reproduce. Choices (B) and (D) are incorrect because they are only true for the skin cell of a multi-celled organism. Choice (C) is incorrect because it is only true for the amoeba, a single-celled organism.

Number	Correct Answer	Explanation
7	**D**	*Identify and find examples of surface features caused by destructive processes.* *· Erosion (water, rivers and oceans, wind)* *· Weathering* *· Impact of organisms* *· Earthquake* *· Volcano* *(S5E1b)* The correct answer is **Choice** (**D**) **river valley.** A river valley is made when water in the river erodes the land under and around it by carrying particles downstream. Choices (A), (B), and (C) are incorrect because they each describe surface features made by constructive processes.
8	**C**	*Investigate common materials to determine if they are insulators or conductors of electricity. (S5P3c)* The correct answer is **Choice** (**C**) **copper penny and metal pin.** Both a metal pin and copper penny will conduct electricity and cause the bulb to light. Metal is a good conductor of electricity. Choices (A), (B), and (D) are incorrect because they all include at least one item that is made of materials that do not conduct electricity.
9	**B**	*Investigate the properties of a substance before, during, and after a chemical reaction to find evidence of change. (S5P2c)* The correct answer is **Choice** (**B**) **The candle is giving off light as it burns.** Burning is evidence of a chemical change. Choices (A), (C), and (D) are incorrect because they each describe a physical change, not a chemical change.
10	**A**	*Relate the role of technology and human intervention in the control of constructive and destructive processes. (S5E1c)* The correct answer is **Choice** (**A**) **the location of the earthquake's epicenter.** Seismographs from seismometers at different locations can be compared to determine the location of an earthquake's epicenter. Choices (B), (C), and (D) are incorrect because they cannot be determined by studying seismic waves.

Social Studies

Chapter 5

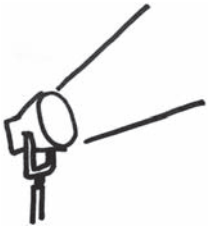
Social Studies

In Grade 5, students continue their formal study of United States history. As with Grade 4, the four domains (History, Geography, Government/Civics, and Economics) are fully integrated. Students study United States history beginning with the Civil War and continuing to the present. The Geography domain emphasizes the influence of geography on U.S. history. The Civics domain emphasizes concepts and rights as outlined in amendments to the U.S. Constitution. The Economics domain addresses the elements of personal budgeting and spending and uses material from the History domain to extend understanding of economic concepts.

The Social Studies activities focus on some of the topics that are assessed on the Grade 5 CRCT Social Studies domains. These domains are as follows:

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

Activities



❶ History

Georgia Performance Standards SS5H1, SS5H2, SS5H3, SS5H4, SS5H5, SS5H6, SS5H7, SS5H8, and SS5H9

Grade 5 continues students' study of the history of the United States. The History domain provides students with the recent history of the United States from the Civil War to the present. The History domain also examines how specific historical events prior to modern times shaped the country. Throughout the History domain, students will examine many of the important events and people who influenced modern times, from the Civil War and Reconstruction through changes of life in America at the turn of the 20th century, through both World Wars to Vietnam, the Civil Rights Movement, and the United States' increasing presence around the world. Historical discussion continues with an examination of the importance of key 20th- and 21st-century people, events, and developments. The goal in the History domain is for students to begin to understand the people and major events that have shaped the modern era.

The following activities develop skills in this domain:

– Students will analyze some main features of the New Deal by creating a bowl of alphabet soup. Post a blank map of the United States within a drawing of a soup bowl. Introduce the activity by posting the following quote on the board or chart paper: "I pledge you, I pledge myself, to a new deal for the American people." — Franklin Roosevelt. Students will suggest what the soon-to-be president was promising. Guide the discussion with a reminder of what the Great Depression was and how it affected millions of Americans. Students will conclude that many Americans became unemployed. Discuss what students would do to provide jobs if they were president. Assign groups of students one of President Roosevelt's ideas: the Civilian Conservation Corps, the Works Progress Administration, or the Tennessee Valley Authority. Groups will create informational cards about their assignments. Students' research will include the discovery of the acronym for their program. Each group will place their acronym in the soup bowl. Next, the informational cards will be connected by string to their respective acronyms, and, if appropriate, to a particular location on the blank United States map. For example, the Tennessee Valley Authority specifically affected the basin of the Tennessee River. Conclude the activity by selecting various informational cards and discussing why each one describes a significant part of the New Deal. For example, the TVA modernized the area's economy, the CCC employed workers to improve many national parks, and the WPA employed more than 3,000,000 people and built roads and airport fields. Include in the discussion how the students' suggestions may have mirrored what the New Deal did.

– Students will describe and explain events regarding major world conflicts of the 20th century by creating an informational diagram. On the board, place a strip of paper to be used in an informational timeline and tree diagram. Label the paper from left to right: World War I, World War II, and Cold War. Prepare a set of ten 3 × 5 cards with the following: sinking of the Lusitania, Pearl Harbor, Iwo Jima, D-Day, V-E Day, V-J Day, the Holocaust, Berlin Airlift, the Korean War, and NATO. Provide the class with a time frame for each card and have a student place a card under the correct time period. As a class, prepare several informational cards for each event. Use grade-appropriate materials and websites (.edu, .gov, or .org) to ensure that each card includes an explanation, description, and/or factual information about the event. Collect the cards, and randomly choose a card to read to the class. Discuss why the card belongs under a particular event. Continue until all cards have been placed correctly. Review the information over the course of the unit by occasionally rearranging several cards. Have the class identify which cards have been misplaced and explain why they belong under a different event.

– Students will work in groups to make a collective classroom scrapbook of the important figures in U.S. history listed in the following table:

Time period	**Individuals that need in-depth research (green-paper pages)**	**Individuals that need only a general overview (yellow-paper pages)**
Civil War	**Their roles during the Civil War** Abraham Lincoln Robert E. Lee Ulysses S. Grant Jefferson Davis Thomas "Stonewall" Jackson	
Turn of the 20th Century	**Their impact on American life** Wright Brothers (flight) George Washington Carver (science) Alexander Graham Bell (communications) Thomas Edison (electricity)	
Turn of the 20th Century	**Their effect on America's role in the world** William McKinley (expansionism) Theodore Roosevelt (Panama Canal and expansionism)	
The 1920s	**Their contributions and developments** Louis Armstrong (Jazz Age) Langston Hughes (Harlem Renaissance) Babe Ruth (baseball) Henry Ford (automobile) Charles Lindbergh (airplane)	
The 1930s	**Their cultural contributions** Duke Ellington (music) Margaret Mitchell (writing) Jesse Owens (sports)	

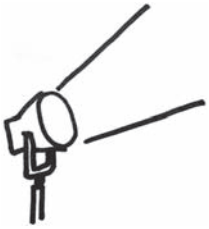
Time period	Individuals that need in-depth research (green-paper pages)	Individuals that need only a general overview (yellow-paper pages)
1940s — World War II	**Their changing roles** Rosie the Riveter Tuskegee Airmen	**Who were** Franklin D. Roosevelt Josef Stalin Winston Churchill Emperor Hirohito Harry S. Truman Benito Mussolini Adolf Hitler
Civil Rights and the Cold War	**The impact of the assassinations of** John F. Kennedy Robert F. Kennedy Martin Luther King, Jr.	**Who were** Joseph McCarthy Nikita Khrushchev

Assign groups of students one of the seven time periods listed on the preceding chart. Count the two "Turn of the 20th Century" groups as different assignments. Group size may vary as some of the individuals will require in-depth descriptions, while others will only need to be identified. For example, students need to know specific details about Abraham Lincoln and his role in the Civil War, while they only need to identify Nikita Khrushchev as the leader of the Soviet Union during the Cold War. Groups will gather information about their individuals using appropriate grade-level materials and websites (.edu, .gov, or .org). Ensure that students focus on parenthetical information for those individuals requiring in-depth research. Students will create a scrapbook page for each individual. Pages of the book will be color-coded according to the table. Pages will include pictures or reproduced images of the individuals and information about their contributions or their identities. Once all the pages are complete, the groups will give presentations to the class about each of their individuals. Bind all the pages together into a study guide scrapbook. Make the book available as a reviewing tool or as a source for creating informational games and discussions.

– To better understand the civil rights movement, students will hold a forum highlighting important events and individuals in the movement. First students will choose one of the following civil rights leaders or key events in the movement during the 1950s and 1960s: *Brown v. Board of Education*, Montgomery Bus Boycott, the March on Washington, Civil Rights Act, Voting Rights Act, Thurgood Marshall, Rosa Parks, or Martin Luther King, Jr. Make sure that all events and individuals have been chosen by at least two students. Students will briefly explain why they have chosen a particular event or individual. Students will then research, using grade-appropriate materials and websites (.edu, .gov, or .org), key information regarding their events or individuals. Students will record their research on informational cards. All students who picked the same leader or event will form a study group and share research to create a master list of information and present

their master list to the class. A forum will follow. Study groups will explain why the information they gathered was important to the civil rights movement, and the remainder of the class will have the opportunity to ask questions about the information. Record any questions that study groups were unable to answer, and guide a discussion regarding these answers. Students will explain how they believe these individuals and events of the civil rights movement have impacted their lives today.

Activities



❷ Geography

Georgia Performance Standards SS5G1 and SS5G2

The Geography domain of Grade 5 Social Studies introduces students to important physical features and man-made places in the United States. Students will also interpret the impact of geography on economic development. This domain will help students better understand the relationship of geography to industrial location, the dispersion of the primary economic activities, and how the United States emerged from World War I as a world power. Students should be able to analyze and evaluate the role of geography, both physical and human, in shaping the United States.

The following activities develop skills in this domain:

– To help students locate important natural physical features of the United States, students will choose and locate three examples of interest, label these sites on a map, and prepare a persuasive argument for visiting the locations. On chart paper entitled "Field trip sites recommended by the Georgia Peach Tourist Bureau," list the following physical features: Grand Canyon, Salton Sea, Great Salt Lake, and Mojave Desert. Next students will plan a field trip from their hometowns to three of the four sites. Students will research the locations of the sites and place them on a map of the United States. Students will research the importance of each location, using grade-appropriate materials and websites (.edu, .gov, or .org). For example, the ever-changing Grand Canyon includes rocks that are two billion years old; the Salton Sea is the largest lake in California and a route for major bird migration; the Great Salt Lake is a source for our table salt and near a monument marking the end of the 1,300-mile Mormon Trail; and the Mojave Desert is home to gold mines, ghost towns, and singing sand dunes. From the information they gather, students will plan their trip itineraries. The itineraries will explain which sites will be visited, in what order they will be visited, and the reason for visiting each site. Finally, students will use their research to create postcards that highlight the importance of each site they visited. Students should fill out these postcards to share their experiences with friends or family.

– Students will better understand the reasons that certain economic activities were located in specific regions of the United States between the end of the Civil War and 1900 by participating in a class discussion and completing informational maps. Discuss the meaning of "economic activity," including in the discussion agriculture, industry, and activities in the community. As a class, decide upon a definition of "economic activity." Next brainstorm what activities may have occurred in the United States from 1860 to 1900. Use grade-appropriate websites (.edu, .gov, or .org) and informational materials to verify the class's suggestions. On the board or chart paper, list the major economic activities in the South, the North, the Midwest, and the West. Distribute blank outline maps of the United States. Decide upon key symbols

for the major agricultural and industrial activities. Students will use the key to complete an economics map.

Next discuss reasons certain economic activities are performed in some places and not others. Include in the discussion:

- *How would the number of people and the location of the population affect economic activity?*
- *How would available resources affect where economic activity takes place?*
- *What are the methods of transportation? And how would these methods affect economic activity?*

This activity can be used in conjunction with Geography activity 4 to compare maps of the same places at different points in time in order to determine changes, trends, and human activity. Keep in mind the need for consistent key symbols for the ease of making comparisons.

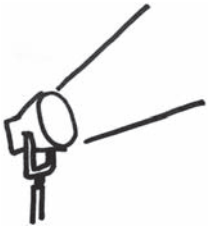
- To help students locate historically important United States cities and other man-made locations, students will each identify two locations of interest. Students will choose from the Chisholm Trail, Pittsburgh, PA, Gettysburg, PA, Kitty Hawk, NC, Pearl Harbor, HI, and Montgomery, AL. Next students will find each location on a map of the United States. Students will research the locations they have chosen, identifying and explaining each site's importance during the time period in which it became a prominent part of U.S. history. Students should create a compare/contrast chart including all of the information they have gathered, indicating the similarities and differences of the two chosen locations. After a discussion of all the sites by the class, each student will rank the six sites in the order of importance based on the events in American history that took place there. Students will write a paragraph defending their rankings of the sites.

- Students will better understand the factors affecting economic activity and the location of agriculture and industry in specific regions of the United States since 1900 by participating in a class discussion and completing informational maps. Discuss and/or review the meaning of "economic activity," including in the discussion agriculture, industry, and activities in the community. As a class, decide upon a definition of "economic activity." Next, brainstorm the activities that may have occurred in the United States since 1900. Use grade-appropriate websites (.edu, .gov, or .org) and informational materials to verify the class's suggestions. On the board or chart paper, list the major economic activities for each geographical region. Distribute blank outline maps of the United States. Decide upon key symbols for the major agricultural and industrial activities. Students will use the keys to complete an economics map. Next discuss reasons why certain economic activities are performed in some places and not others. Include in the discussion:

- *How would the number of people and the location of the population affect economic activity?*
- *How would available resources affect where economic activity takes place?*
- *What are the methods of transportation? And how would these methods affect economic activity?*

This activity can be used in conjunction with Geography activity 2 to compare maps of the same places at different points in time in order to determine changes, trends, and human activity. Keep in mind the need for consistent key symbols for the ease of making comparisons.

Activities



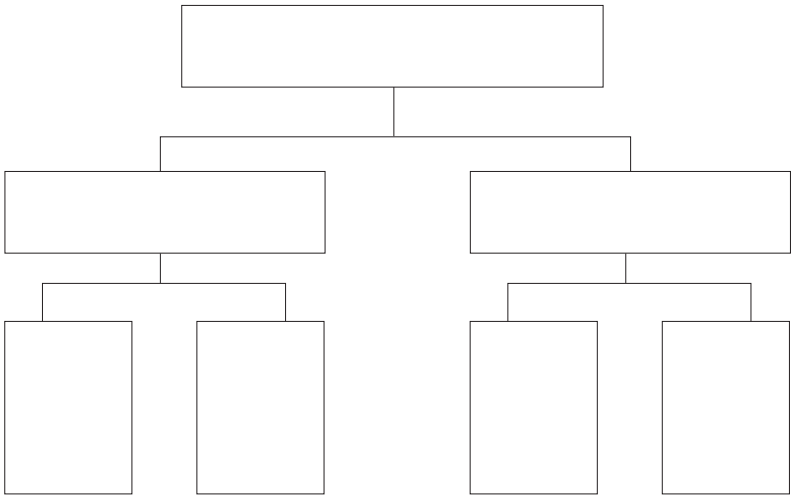
❸ Government/Civics

Georgia Performance Standards SS5CG1, SS5CG2, SS5CG3, and SS5CG4

Within the Government/Civics domain of Grade 5 Social Studies, students will learn to explain the responsibilities and freedoms of citizens. Students will understand due process of law and demonstrate understanding of its connection to the Constitution and citizens' rights. Students will also explore and explain the purpose of the amendment process, the relationship between Constitutional amendments and our representative democracy, and the impacts of particular amendments on citizens of our society.

The following activities develop skills in this domain:

– To help students understand the freedoms granted to them by the Bill of Rights, they will name and describe amendments to the Constitution. First list the following amendments and information on chart paper: First Amendment: the freedoms of speech, religion, the press, assembly, the right to petition; Second Amendment: the right to keep and bear arms; Third Amendment: protection from the quartering of troops; Fourth Amendment: protection from unreasonable search and seizure; Sixth Amendment: trial by jury; and Eighth Amendment: prohibition of excessive bail and cruel and unusual punishment. Next, guide a discussion of the meaning of each amendment. Reinforce the meanings with historical examples or current events. Then each student will choose one amendment and write a brief essay about his or her interpretation of the freedom(s) it grants or the protections it guarantees. Student essays will include everyday examples of citizens exercising these rights or living under these protections. Each student will include a specific example of the influence of his or her chosen amendment on his or her life or community. Finally, students will complete a graphic organizer that will illustrate possible arguments for and against his or her chosen amendment.



- Students will better understand why the Framers of the Constitution set up a method for amending the Constitution, as well as the amendment process itself, by participating in a class discussion and proposing their ideas for amendments. As a class, discuss what students understand the amendment process to mean. Inform students that the Constitution has been amended in the past. Focus on the reasons the Constitution has been amended by using the following examples of previous Constitutional amendments: the freedoms granted in the Bill of Rights, the protection of voting rights, and maintaining a representative democracy through the 12th and 17th Amendments. Explain the amendment process and have students suggest reasons for the various steps within the process. Students will conclude by suggesting proposals for their own amendments to the Constitution.

- Students will demonstrate a better understanding of the development of voting rights in the United States over time by researching voting rights and creating a flowchart to highlight these events. The flowchart should also illustrate which new groups were added to the voting rolls with each amendment and why those groups did or did not actually gain suffrage (voting rights). The teacher will begin the activity by explaining that when the Constitution was ratified in 1788, most states only allowed adult white males who owned property to vote. This should be the starting point for students' flowcharts. Students will then research the 15th, 19th, 23rd, 24th, and 26th Amendments, each of which changed voting rights. They should incorporate each amendment in the flowchart, illustrating why they believe it was important to add the amendment to the Constitution, along with the new groups added to the voting rolls by each. After completing the flowchart, students will write an essay comparing voting rights from 1788 to the present, explaining why they believe each amendment was necessary, and describing specific examples of impacts on our society.

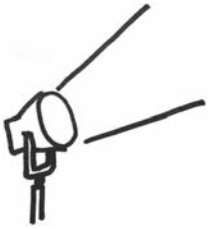
The activity will conclude with a class discussion of current voting trends. The discussion will include students' suggestions about why people vote and why some people choose not to vote.

– Students will explain the responsibilities of a citizen through a class discussion about their actions and the actions of others in their community. Begin the activity by having the class define "citizen" and compile a list of what students believe a citizen's responsibilities might be. List the students' suggestions on the board or chart paper. Make sure that the list includes the following:

  – *Respecting the rights and property of others*
  – *Taking part in voting and the voting process*
  – *Practicing trustworthiness*
  – *Practicing honesty*

  Continue the class discussion until students develop an understanding of each listed suggestion. Next, assign the suggestions to groups of students, ensuring that all suggestions are covered. Each group will list how its members have demonstrated the group's assigned responsibility. For example, students may have returned a lost object to its owner or voted in a school election. Groups will share their lists with the entire class. Then, using local newspaper articles, interviews of family and community members, and other appropriate, available materials, groups will collect examples of citizenship by others in the community. Finally, the class will create a citizenship montage (pictures and words) on chart or poster paper about their discussions and research.

Activities



❹ Economics

Georgia Performance Standards SS5E1, SS5E2, SS5E3, and SS5E4

Throughout the Economics domain of Grade 5 Social Studies, students will build upon previously learned concepts. The Economics domain will emphasize an analysis of how economics affects historical events, society, and individuals. By the end of Grade 5, students should understand basic economic concepts and their political and social impacts. Students will demonstrate the understanding of how economic entities function in the market and how consumers and businesses interact. Students will also understand how economics affects individuals and why personal spending and saving decisions are important.

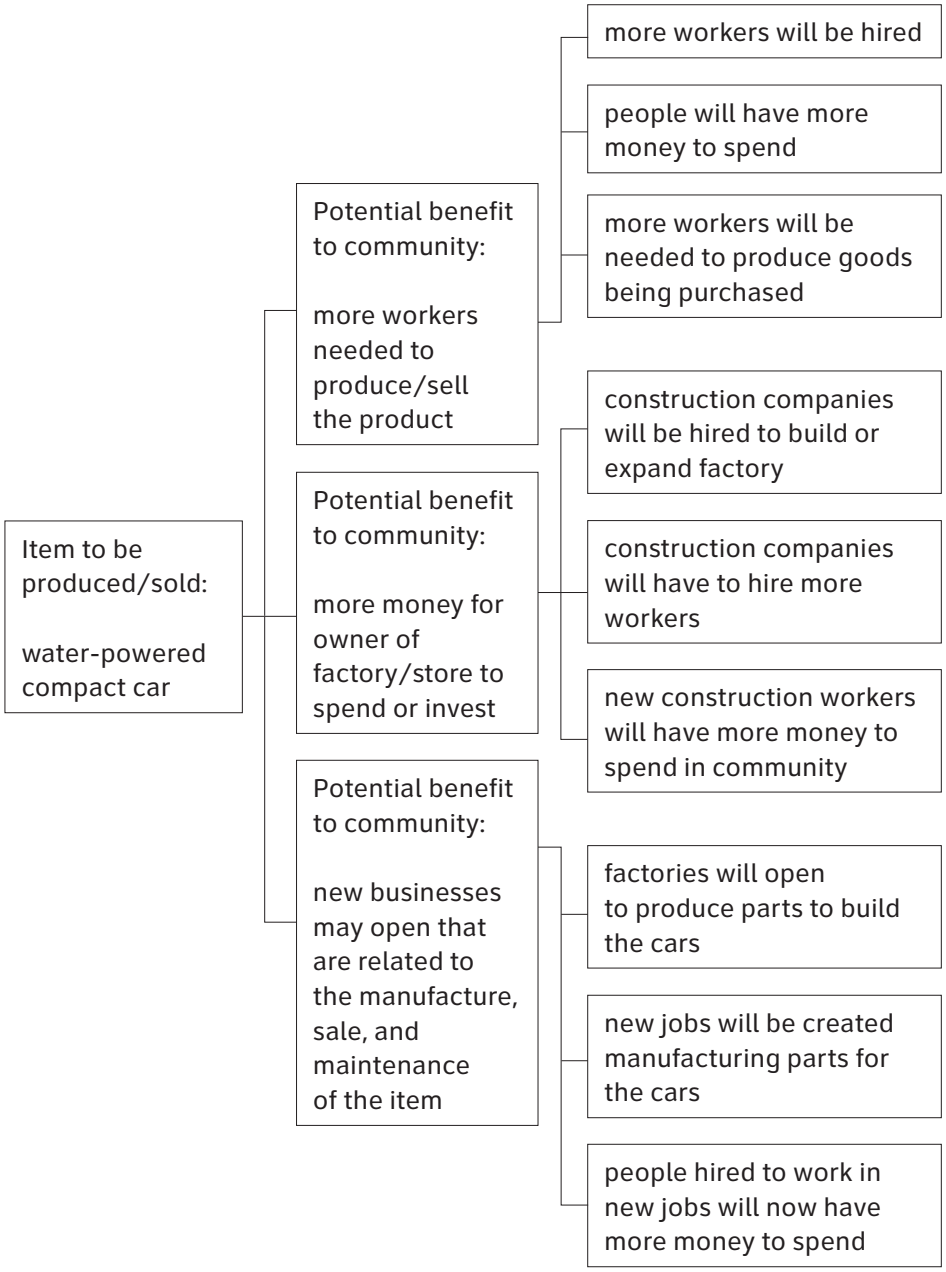
The following activities develop skills in this domain:

- Students will learn how consumers and businesses interact in the United States by playing an economics card game and describing the effect new businesses may have on their community. Discuss and define "competition," "income," and "entrepreneur." Prepare twenty 3 × 5 index cards, each with a possible new business that could open in the community. Ensure that some new businesses would be unique in the community and that others would have competition. Tell students that twenty new businesses are going to open in their community. Distribute a card to pairs of students. On the reverse side of their cards, students will describe the various types of labor that could be done at the new business for a person to earn income. Each pair will read their income-earning suggestions, and the rest of the class will guess what new goods or services the entrepreneur is going to provide. List the correct responses on the board or chart paper. Conclude the activity with a class discussion of what effect each new business could have on competition, prices, and purchasing behavior. The discussion will include but not be limited to the following:

  - *Several of the same businesses may cause lower prices.*
  - *Several of the same businesses may cause people to "shop around."*
  - *Several of the same businesses may cause one or more of them to close.*
  - *New jobs may increase people's buying.*

- To better understand how trade can promote economic activity, students will develop a tree-style flowchart illustrating the positive effects trade can have on a community, state, or country. As a class, discuss the flowchart example that follows. Explain how the flowchart demonstrates the expanding benefits of a water-powered car. Students will also suggest the negative consequences of a water-powered car. These examples could be lost jobs in the gasoline industry or increased traffic due to inexpensive fuel. Next group students in teams of two. Assign each team a product that will be manufactured locally and sold to consumers in the community. Distribute a blank tree-style flowchart, like the one that follows, to each team. Teams will

identify their products and three potential benefits—for the manufacturer, the retail store that sells it, or the consumer—of the production and sale of this product. The flowchart will then be expanded from three benefits for the community to include nine benefits for the state and the country. After completing this flowchart with positive outcomes of trade, the class will brainstorm for possible negative outcomes of increased production and sales of their products on the community and the world. Ideas may include lost jobs in competing industries, elimination of farmland for factories, and increased use of natural resources.



- To help students better understand the benefits and potential negative aspects of checking accounts, savings accounts, and loans, they will participate in a money-managing simulation. The simulation will require students to keep a running register of their finances. Over a period of at least five days, students will be given a daily income to record in their simulated checkbooks. Teachers or students can find samples on the Internet to print for the simulation. They will also be required to write checks to pay bills. All students will be given bills for food, utilities, and housing that they will be required to pay on a daily basis. In addition to these set bills, the teacher will randomly assign an unexpected expense to each student. The unexpected bills that each student must pay will be randomly selected by the teacher from a container filled with possible bill topics and bill amounts. Because unexpected bills will be chosen at random, students may be forced to take out a personal loan to cover these expenses. Students may also find themselves responsible for making payments on the loan and the interest it accrues. To earn extra income, students may open an interest-bearing savings account. Set the simple interest (money put into the account multiplied by the daily interest rate multiplied by the number of days) that can be earned. At the end of the simulation, each student will determine and explain the balances of their finances.

- Students will learn about the functions of private businesses, banks, and government agencies by conducting interviews, research, and other information-gathering activities. As a class, compile a listing of private businesses, banks, and government agencies in the community or surrounding area. Use the phone book, Internet, or local advertising and public service announcements to gather this information. Post the compiled information on three charts, one chart for each institution, and discuss the function of each. Guide the discussion to include the fact that, typically, businesses provide consumer goods and services, banks provide financial services, and the government collects taxes to provide public goods and services. Assign each student a specific institution from one of the charts. Each student will compile a list of questions that they would like to ask about their assignment. For example:

  - *What does your business do?*
  - *What types of goods or services does it provide?*
  - *How does it sell these goods or services?*
  - *What is the function of the bank?*
  - *How do people get checking accounts, savings accounts, and loans?*
  - *How does the government get the money it needs to do things?*
  - *What services does the government provide for the people?*

Students will plan ways to gather information about their assignment. If possible, students may conduct interviews with members or workers of their assigned institutions. Students may write letters requesting information, pamphlets, and brochures. Students may use grade-appropriate websites (.edu, .gov, or .org) to gather information. Each student will produce a poster, report, or chart describing the functions of his or her particular institution. Conclude the activity with a discussion about the similarities and differences among businesses, among banks, and among government agencies.

Practice Quiz

1 **Which of these describes Jefferson Davis's role during the Civil War?**
- A He wrote *Uncle Tom's Cabin.*
- B He led the raid on Harper's Ferry.
- C He was a general in the Union Army.
- D He was president of the Confederacy.

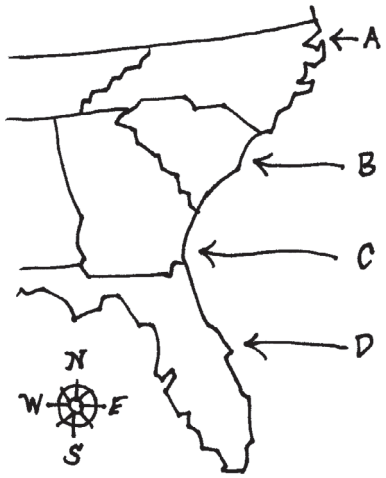
2 **Which of these was the main purpose of the 13th Amendment?**
- A to raise taxes
- B to end slavery
- C to provide a trial by jury
- D to list the duties of the president

3 **Why did President Theodore Roosevelt want to complete the building of the Panama Canal?**
- A to stop the spread of disease in Central America
- B to create a shorter route between the Atlantic and Pacific oceans
- C to provide employment for thousands of Columbian workers
- D to make it easier to travel from North America to South America

4 **Which of these describes the poetry of Langston Hughes?**
- A It remembers and honors World War I soldiers.
- B It praises the opportunities given to European immigrants.
- C It describes the unequal treatment of African Americans.
- D It explains why Native Americans moved onto reservations.

5 **Which describes a result of the Battle of Iwo Jima?**
- A The ships at Pearl Harbor were attacked.
- B The United States declared war on Japan.
- C The victory led to the eventual defeat of Japan.
- D The power of the atomic bomb was demonstrated in Hiroshima.

6 **Which letter on the map points to Kitty Hawk, North Carolina, the place where the Wright brothers flew their airplane?**



A A
B B
C C
D D

7 **Which of these is a function of the United States government?**
A manufacturing goods in order to make a profit
B lending money to people so that they can buy cars
C collecting taxes in order to provide public services
D providing checking accounts to people so that they can save money

8 **Which action is protected under freedom of speech?**
A lying in court
B telling military secrets
C writing on public buildings
D speaking out against the government

9 **How did the 26th Amendment increase the number of people who could vote in elections?**
A It lowered the voting age to 18.
B It introduced electronic voting machines.
C It let employees leave work early to vote.
D It provided for neighborhood voting places.

10 **How did Henry Ford's introduction of the assembly line in the automobile industry improve the standard of living for Americans?**

A Fewer cars looked alike.
B More people could afford to buy cars.
C Fewer people were needed to build cars.
D More cars were imported from other countries.

Solutions

Number	Correct Answer	Explanation
1	**D**	*Describe the roles of Abraham Lincoln, Robert E. Lee, Ulysses S. Grant, Jefferson Davis, and Thomas "Stonewall" Jackson. (SS5H1d)* The correct answer is **Choice** (**D**) **He was president of the Confederacy.** Jefferson Davis was inaugurated on February 18, 1861, as the first and only president of the Confederacy. Choice (A) is incorrect because Harriet Beecher Stowe wrote *Uncle Tom's Cabin* to show that slavery was unjust and cruel. Choice (B) is incorrect because John Brown was the leader of the abolitionists' raid on Harper's Ferry. Choice (C) is incorrect because Ulysses S. Grant was a Civil War general in the Union Army while Davis was serving as president of the Confederacy.
2	**B**	*Describe the purpose of the 13th, 14th, and 15th Amendments. (SS5H2a)* The correct answer is **Choice** (**B**) **to end slavery.** The 13th Amendment abolishes slavery and grants the U.S. Congress the power to enforce abolition. Choice (A) is incorrect because the creation of income taxes is authorized by the 16th Amendment. Choice (C) is incorrect because it is the 6th Amendment, in the Bill of Rights, that guarantees individuals the right to a trial by jury. Choice (D) is incorrect because the duties of the president are described in Article Two of the United States Constitution.

Number	Correct Answer	Explanation
3	**B**	*Explain how William McKinley and Theodore Roosevelt expanded America's role in the world; include the Spanish-American War and the building of the Panama Canal. (SS5H3c)* The correct answer is **Choice** (**B**) **to create a shorter route between the Atlantic and Pacific oceans.** Completion of the Panama Canal shortened the distance traveled by freighters between New York and San Francisco by 8,000 miles and allowed U.S. navy ships to move quicker between the two oceans. Choice (A) is incorrect because disease is a major reason that completion of the canal took as long as it did. Roosevelt had to authorize the draining of swamps and the cleanup of areas that were breeding grounds for insects that carried disease. Choice (C) is incorrect because, while building the canal provided jobs for the people of the area, it was not Roosevelt's reason for building the canal. Choice (D) is incorrect because the canal was not intended to speed travel between the continents of North and South America, but to speed travel between the east and west coasts of the United States.
4	**C**	*Describe the cultural developments and individual contributions in the 1920s of the Jazz Age (Louis Armstrong), the Harlem Renaissance (Langston Hughes), baseball (Babe Ruth), the automobile (Henry Ford), and the airplane (Charles Lindbergh). (SS5H4b)* The correct answer is **Choice** (**C**) **It describes the unequal treatment of African Americans.** Langston Hughes was considered a leading voice of the Harlem Renaissance. He condemned injustice and racism while expressing a strong sense of pride in African American humor, spirituality, and culture. Choices (A), (B), and (C) are all incorrect because the poetry of Langston Hughes did not describe the events of World War I, the lives of European immigrants, or the plight of Native Americans, but rather the black experience.

Number	Correct Answer	Explanation
5	**C**	*Describe major events in the war in both Europe and the Pacific; include Pearl Harbor, Iwo Jima, D-Day, VE and VJ Days, and the Holocaust. (SS5H6b)* The correct answer is **Choice** (**C**) **The victory led to the eventual defeat of Japan.** The United States was able to use the island as a refueling station. This gave the United States a foothold in the Pacific, allowing the eventual triumph over Japan. Choice (A) is incorrect because the Japanese attack on Pearl Harbor took place in December 1941, four years prior to the Battle of Iwo Jima. Choice (B) is incorrect because the United States had declared war on Japan back in December 1941, shortly after the Japanese attack on Pearl Harbor. Choice (D) is incorrect because August 6, 1945—the atomic bombing of Hiroshima—came about five months after the conclusion of the Battle of Iwo Jima.
6	**A**	*Locate important man-made places; include the Chisholm Trail; Pittsburgh, PA; Gettysburg, PA; Kitty Hawk, NC; Pearl Harbor, HI; and Montgomery, AL. (SS5G1b)* The correct answer is **Choice** (**A**)**.** Site A on the map indicates the location of Kitty Hawk, North Carolina. Choice (B) is incorrect because it points to a location in South Carolina. Choice (C) is incorrect because it points to a location in southern Georgia. Choice (D) is incorrect because it points to a location in Florida.
7	**C**	*Describe the government function in taxation and providing certain goods and services. (SSE2d)* The correct answer is **Choice** (**C**) **collecting taxes in order to provide public services.** The United States Constitution outlines the government's responsibility to the people. Choice (A) is incorrect because private industry usually manufactures goods for profit, and government agencies are not-for-profit. Choice (B) is incorrect because the government does not lend money to citizens, especially for the purchase of specific items such as cars. Choice (D) is incorrect because, although the government may make payments to individuals, checking accounts are provided by privately owned banks.

Number	Correct Answer	Explanation
8	**D**	*Explain the freedoms granted and rights protected by the Bill of Rights. (SS5CG1b)* The correct answer is **Choice** (**D**) **speaking out against the government.** The 1st Amendment to the Bill of Rights of the United States Constitution guarantees citizens the right to freedom of speech. Choices (A), (B), and (C) are examples of expression not guaranteed by the 1st Amendment. Perjury, or lying in court, is a crime in the United States. Telling military secrets is considered a crime as it could compromise national security. Graffiti defaces property and is a criminal offense.
9	**A**	*Explain how voting rights were protected by the 15th, 19th, 23rd, 24th, and 26th Amendments. (SS5CG3b)* The correct answer is **Choice** (**A**) **It lowered the voting age to 18.** Passed in 1971, the 26th Amendment to the U.S. Constitution lowered the voting age from 21 to 18 years of age and empowered the Congress to enforce the new law. Choices (B), (C), and (D) are all incorrect because none of these aspects of voting are dealt with in the 26th Amendment. States determine the type of voting machines and the location of polling places. Employers determine whether or not workers may leave early to vote.

Number	Correct Answer	Explanation
10	**B**	*Describe the cultural developments and individual contributions in the 1920s of the Jazz Age (Louis Armstrong), the Harlem Renaissance (Langston Hughes), baseball (Babe Ruth), the automobile (Henry Ford), and the airplane (Charles Lindbergh). (SS5H4b)* The correct answer is **Choice** (**B**) **More people could afford to buy cars.** The introduction of the assembly line in the automobile industry helped to lower the cost of production, which meant lower prices for automobiles. This made cars more affordable to a larger part of the population in the United States. Choice (A) is incorrect because the assembly line process caused more cars to look alike as they were assembled with identical parts. Choice (C) is incorrect because many workers were involved in the process of building automobiles after the advent of the assembly line. Choice (D) is incorrect because as a result of the assembly line, cars could be produced faster in the United States, which did not lead to cars being imported from other countries.