

COMMON CORE
Lessons & Activities

ELECTRICITY

Reading for Information
Higher-Order Thinking
Writing Prompts
Current Events Analysis
Vocabulary
Cause & Effect
Graphic Organizers
& More!

REPRODUCIBLE

One teacher is allowed to make copies for use in her/his classroom!



About this Book

This Common Core Lessons and Activities Book allows you to immediately meet new Common Core State Standards for English Language Arts, as well as Literacy and Writing in History/Social Studies. It is designed to supplement your Social Studies resources, adding new Common Core rigor, analysis, writing, inference, text-dependent questions, and more into your daily instruction.

How to Use this Book:

- Work through the lessons and activities as a class to teach your students higher-order thinking, analysis, and 21st century skills necessary to meet new Common Core expectations.
- Allow students to work through the lessons independently to build and practice these new skills.
- Include technology, collaboration, presentation, and discussion in the activities as you desire—you can decide how in-depth to go.
- Watch your class develop new abilities to meet the rigor of Common Core State Standards, right before your eyes!

Tips:

- Use some of the pages—or use them all—based on your grade, your students, your curriculum, and your needs.
- Use the pages at their current size, or if you prefer them to be 8-1/2" x 11", enlarge them 125% on your copy machine.
- Download graphic organizers labeled “GO” in the Table of Contents by going to: www.gallopade.com/client/go
- Use the correlations grid to easily see which Common Core standards are covered in each lesson.

Common Core Lessons & Activities: Electricity

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G: Includes Graphic Organizer

GO: Graphic Organizer is also available 8½" x 11" online
download at www.gallopade.com/client/go

(numbers above correspond to the graphic organizer numbers online)

COMPARISON OF SOURCES

Lightning Bolt!

Read the conversation between Mark and his science teacher. Then complete Parts A and B.

[Thunder RUMBLES]

Teacher: I can almost feel the static in the air!

Mark: What do you mean by that?

Teacher: Lightning is really just a big static electricity spark.

Mark: But lightning is so powerful...how can that be?

Teacher: Remember how you learned that when two things rub together, like when your feet drag along carpet, some electrons move from one object to the other, creating static electricity?

Mark: Yes, and when you touch another object, like a doorknob, the extra electrons in your body flow out, and ZAP!

Teacher: That's right! Well, lightning works a lot like that.

Mark: How does that happen in the sky?

Teacher: Good question! Winds inside a rain cloud blow in all directions. Water droplets are pushed up high in the cloud, where they freeze, then frozen droplets are pushed down in the cloud, crossing paths with raindrops moving up. As the raindrops and ice pass each other, the ice takes some of the electrons from the rain drops. This causes the top of the cloud to become positively charged and the bottom of the cloud to become negatively charged, creating static electricity. When the static electricity gets strong enough, the extra electrons find a place to go, and lightning occurs!

Mark: I get it! It's like when you touch a doorknob! Hmmm, but where do the extra electrons go?

Teacher: Sometimes the lightning occurs high in the sky, as electrons go from one part of the cloud to another, or from one cloud to another. Sometimes, the negative charge in the cloud is so strong it pushes away electrons in the ground, making the ground positively charged. The cloud and the ground are like your hand and the doorknob. The electrons race from the cloud to the ground to neutralize the charge in the cloud with the charge on the ground. This process heats the air, a spark ignites, and ZAP—*lightning*.

PART A: Use the text to answer the questions.

1. Complete each analogy: (ex. *Hot is to sun, as cold is to ice.*)
 - A. Cloud is to ground, as hand is to _____.
 - B. Feet are to carpet, as frozen ice are to _____.
2. For each **cause**, identify the **effect**:
 - A. Wind in a raincloud blows in all directions.
 - B. Air heats up when electrons move from a cloud to the ground.
 - C. The negative charge in a cloud causes the ground to become positively charged.

PART B: Read the poem and answer the questions.

The Countdown

*Boom! Crack! Four...
I run quickly to my door!
Pitter patter, pitter patter—rain
Tapping at my window pane.*

*Boom! Clap! Three...
I open the door to see!
Wind kicking up dust
The swing set creaking with rust!*

*Boom! Crackle! Five...
So powerful are you
Wind, fierce and frightening!
Rain never stopping!*

*Cash! Bang! Fire! One!
I surrender! You have won!
I run and hide from your dreadful song
Lightning dances all night long!*

3. What event is being described in the poem? How do you know?
4. What does the “The Countdown” in the poem represent?
5. Analyze writing style and literary devices in the poem:
 - A. Identify at least five examples of onomatopoeia.
 - B. Identify one example of personification.
 - C. Is the poem written in present tense or past tense?
 - D. Is the poem written in first-person or second-person?
 - E. Describe the mood of the poem.
6. Describe how the author of the poem changes from the beginning of the poem to the end. Why do you think that change occurred? Cite evidence from the text to support both answers.
7.
 - A. Which text is more effective at helping you “see” and “feel” what is happening in a lightning storm? Why?
 - B. Which text is more effective at helping you “understand” what is happening in a lightning storm? Why?

Circuits

Read the texts and answer the questions.

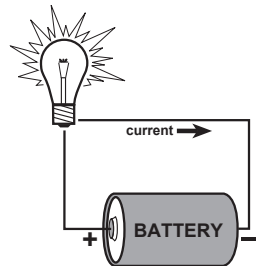
An electric current needs two P's to flow: a *push* and a *path*. The *push* is a source of electricity that makes electrons move. For example, a push can come from the chemical reactions in a battery, or from a generator, whose magnet causes electrons to flow.

The *path* electricity follows is called a circuit. The path is made of conductors that allow a current of electricity to flow. The path, or circuit, allows electricity to flow from a power source to devices that use electricity, such as light bulbs, fans, and motors.

A circuit's path can be open or closed. In order for electricity to flow, a circuit must be closed, meaning that all parts of the circuit are connected and unbroken. Electricity cannot flow through an open circuit because in an open circuit the path is incomplete. When you turn on a light switch in your home, you are closing a circuit and allowing electricity to flow. When the light switch is off, the path is open, and electricity cannot flow.

PART A: Use the first text to answer these questions.

- Match each of the following statements to whether they are best answered by paragraph 1, 2, or 3 of the text. Then use the text to answer each question.
 - What causes electricity to flow?
 - How can electricity be turned on and off?
 - What allows electricity to move?
- Label the *push* in the diagram.
 - Label the *path* in the diagram.
- Explain how you could interrupt the flow of electricity from the battery to the light, shown in the diagram.
- For each situation, determine if the circuit is open (O) or closed (C):
 - ___ You press the power button and the TV turns on.
 - ___ You turn the light on but nothing happens—a bulb is broken!
 - ___ Before fixing the electric wires in your home, the electrician turns the electricity off at the “electrical breaker.”



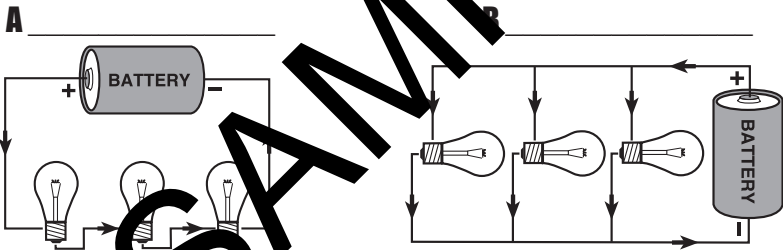
There are two different types of circuits: a series circuit and a parallel circuit. In a series circuit, the electrical devices in the circuit are lined up one after another in a series. In a parallel circuit, each device is on a separate branch of the circuit.

Imagine a circuit with the following components: a battery, circuit wires, and two light bulbs. In a series circuit, both bulbs share the same circuit of electricity. Because both bulbs are drawing power from the same circuit of electricity, each bulb receives less voltage, making both bulbs dimmer. Unfortunately, if one light bulb breaks, the circuit of electricity is broken, and neither light bulb can work.

In a parallel circuit, each light bulb is connected to the battery by its own separate branch of electricity. If one light bulb is broken or burned out, the others can stay lit. However, a parallel circuit uses more electricity than a series circuit and causes the battery to run out of energy more quickly.

PART B: Use the second text to answer the questions.

5. Identify each diagram as either a series circuit or a parallel circuit.



6. Complete the table by identifying the pros and cons of each circuit.

Type	Pros	Cons
Series		
Parallel		

PART C: Imagine you are putting up a string of festive lights at your house. When you plug the lights in, none of the lights turn on!

7. A. What could be the problem?
B. What kind of circuit was most likely used in the lights?
8. Describe a type of circuit that could avoid this problem.

VOCABULARY

Electricity Vocabulary

Scavenger Hunt: Use your sleuthing skills to find the meaning of the following words in this book.

Vocabulary Word	Definition
electricity	
electron	
static electricity	
conductor	
insulator	
battery	
circuit	
voltage	
amps	
series vs. parallel circuit	
open vs. closed circuit	
generator	
magnetism	

Correlations to Common Core State Standards

For your convenience, correlations are listed page-by-page, and for the entire book!

This book is correlated to the Common Core State Standards for English Language Arts grades 3-8, and to Common Core State Standards for Literacy in History, Science, & Technological Subjects grades 6-8.

Correlations are highlighted in gray.

PAGE #	READING										WRITING										LANGUAGE						SPEAKING & LISTENING										
	Includes: RI: Reading Informational Text RST: Reading Science & Technical Subjects										Includes: W: Writing WHST: Writing History/Social Studies, Science, & Technical Subjects										Includes: L: Language LF: Language Foundational Skills						Includes: SL: Speaking & Listening										
2	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
3	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
4	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
5	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
6-7	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
8	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
9	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
10	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
11	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
12-13	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
14	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
15	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
16-17	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
18-19	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
20-21	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
22	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
23	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
23	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													
COMPLETE BOOK	RI	1	2	3	4	5	6	7	8	9	10	W	1	2	3	4	5	6	7	8	9	10	L	1	2	3	4	5	6	SL	1	2	3	4	5	6	
	RST											WHST												LF													

For the complete Common Core standard identifier, combine your grade + "." + letter code above + "." + number code above.

In addition to the correlations indicated here, the activities may be adapted or expanded to align to additional standards and to meet the diverse needs of your unique students!

Common Core Lessons & Activities Books

Social Studies Titles:

- Declaration of Independence
- U.S. Constitution
- Bill of Rights
- Road to the Civil War
- The Civil War: Key Battles & Events
- Jamestown
- Key Events of World War II
- Civil Rights Movement
- Branches of Government
- Basic Economic Concepts
- Women's Suffrage and the 19th Amendment
- The American Revolution
- Explorers
- The Olympics
- Underground Railroad
- Forms of Government: Democracy, Monarchy, & Oligarchy & More
- Ancient Greece
- Ancient Egypt
- Native Americans
- Indian Removal & the Trail of Tears
- Inventors & Inventions
- Map Skills
- Westward Expansion
- Communities

Science Titles:

- Habitats
- States of Matter
- Cell Structure
- Weather
- Water Cycle
- Energy
- Solar System
- Sound
- Mammals
- Light
- Rocks and Minerals
- Oceans
- Heredity & Genetics
- Magnetism
- Natural Resources
- Ecosystems
- Force & Motion
- History of the Earth
- Life Cycles
- Wave Properties
- Landforms
- Classification of Organisms
- Electricity
- The Scientific Method

COMMON CORE Lessons & Activities

Are you expected to change how you teach because of new CCSS for English Language Arts & new CCSS for Literacy and Writing in History/Social Studies and Science?

Are you expected to continue to meet existing science and social studies standards, AND integrate new, more rigorous expectations for reading, writing, analysis, inference, and more into your daily instruction?

This series of 48+ little books is a **HUGE** help!

Common
Core at an
Uncommon
Value

Supplement the resources you already have by choosing the books in this series that meet the science and social studies topics you teach. Each book will provide you with ready-to-use reproducible pages that are the exact kinds of Common Core lessons and activities you need to meet the new added requirements of Common Core!

**"You'll want these for
every topic you teach!"**

-Amy Johnson, Common Core Specialist

You don't have to
start from scratch.

This brand new series
meets Common Core

State Standards for ELA + Common Core State Standards for
Literacy and Writing in History/Social Studies and Science!