

COMMON CORE
Lessons & Activities

SOLAR SYSTEM

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: Solar System

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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)

Solar System

Read the text and answer the questions.

Look at the sky. What do you see? During the day, you will most likely see the sun, which is the largest, brightest object in our solar system. You can feel the sun’s heat, and see its light, even though the sun is about 93 million miles away at the center of the solar system. All of the objects in the solar system—planets, moons, asteroids, and more—move around the sun.

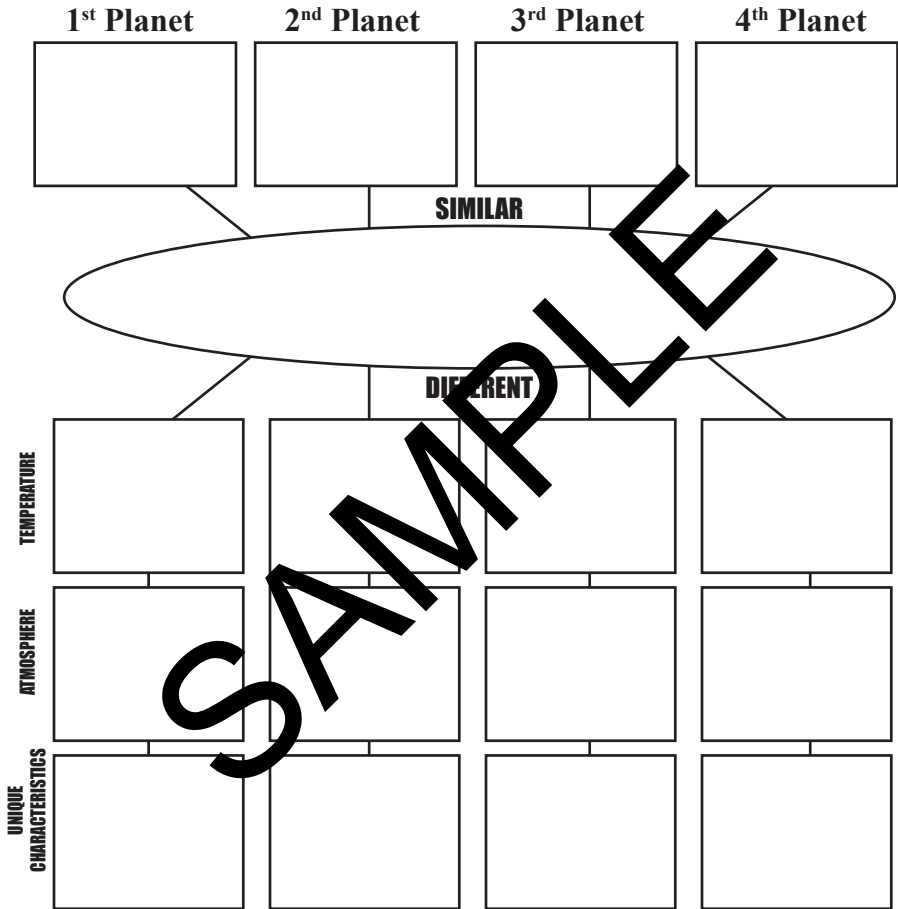
The sun and the objects around it are called a “solar system” because the objects move around the sun in organized patterns. Every object travels around the sun on its own separate path, called an orbit. Scientists predict the future movement of planets, moons, and other space objects by studying the patterns of their orbits.

Space is a very large place, but you can think of the solar system as your neighborhood in space. In this neighborhood, Earth is our home planet. The sun is our most important neighbor, but not the closest. The moon is our closest neighbor and can usually be seen in the night sky. Our neighborhood also contains 7 other planets, several dwarf planets, and many moons, comets, and asteroids. Scientists who study the solar system are still discovering more and more objects traveling around the sun.

- Use the text to define solar system.
- Which word is a synonym for system as it is used in the text?
 - organization
 - random
 - chaos
- Describe the role of the sun in the solar system.
 - What object in the solar system is closest to Earth?
- Match each of the following questions to whether it is best answered by paragraph 1, 2, or 3 of the text.
 - How can I think about the solar system?
 - How do objects in the solar system move?
 - Why is the sun important?
- What analogy is used in the text to describe the solar system?
- Do scientists who study the solar system know everything about the solar system? Cite evidence from the text to support your answer.

- Why are the four inner planets called “terrestrial planets”?
- Why does life not exist on Mercury, Venus, or Mars? Cite evidence from the text to support your answer.
 - List the three characteristics that make Earth suitable to life.
- Compare and contrast to complete the graphic organizer.

The Terrestrial Planets (in order of distance from the sun)



- Number the inner planets in order from smallest (1) to largest (4).
 ____ Mars ____ Mercury ____ Earth ____ Venus
- Match each planet—Mercury, Venus, Earth, or Mars—to the nickname that best describes it. Explain why.
 - ____ “The Red Planet” C. ____ “The Swift Planet”
 - ____ “Earth’s Twin Sister” D. ____ “The Blue Planet”

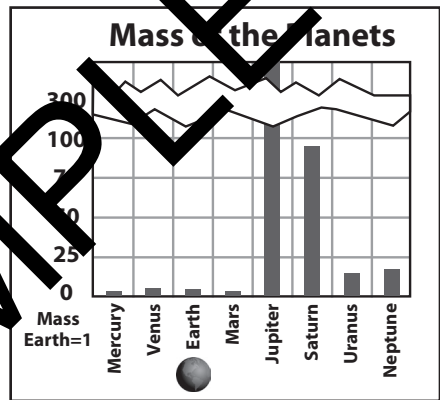
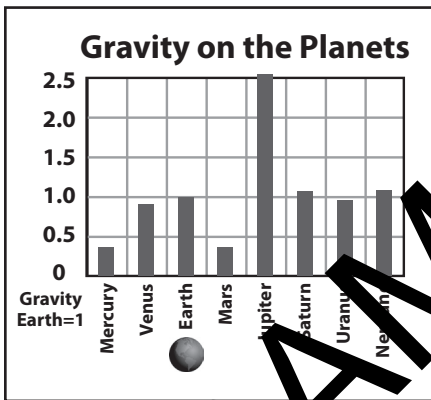
INTERPRETING VISUAL DATA

Putting It All Together

Read the text and answer the questions.

Gravity is the force of an object that pulls other objects toward its center. Any object that has mass has gravity, including planets, stars, and moons.

Objects in orbit are held in orbit by gravity. For example, the pull of Earth's gravity keeps the moon in orbit around the earth. Similarly, the sun's gravity is so strong that it keeps all objects in the solar system orbiting around the sun. Gravity also holds the planets together, and it keeps us from floating away from Earth.



- According to the text, what force causes planets to orbit the sun?
 - What force causes the moon to orbit the Earth?
 - Does the moon also orbit the sun? Explain why or why not.
- What information is given in each graph?
 - Infer why Earth's mass and gravity are used as a scale.
- Which planet has the greatest mass?
 - Which planet has the least mass?
 - Which planet has the strongest gravity?
 - Which planet has the weakest gravity?
- What is the relationship between mass and gravity?
- All objects in the solar system are pulled by the sun's gravity. What can you infer about the mass of the sun?

Night Sky Observation Log

Read the Night Sky Observation Log and answer the questions.

Night Sky Observation Log

December 12: It is cold tonight, and the stars are twinkling very brightly. There are too many stars to count. Stars in the night sky are not in our solar system. In fact, the stars I can see are far beyond our solar system. Our solar system only contains one star—the sun!

December 21: Tonight, I observed the closest object to Earth—the moon! I could see many dark spots on the moon's surface. With the help of binoculars to make things look bigger, I could see that many of the moon's dark spots are actually large craters. Next, I used my telescope to see the moon's surface in better detail. With the extra magnification of a telescope, I could see that the moon also has mountains and valleys like Earth.

January 17: The evening sky was clear and the moon had not yet come up. I could see the Evening Star shining brightly on the horizon. However, the Evening Star is not a star at all—it is the planet Venus! From Earth, a planet in our solar system might look like a star, but a planet does not "twinkle" in the night sky. Unlike stars, planets do not make their own light. Planets reflect light from the sun. All of the planets, except Uranus and Neptune, can be seen in the night sky without a telescope.

April 7: I spent the whole night out with my telescope searching for comets. Comets are space objects made of frozen ice and dust that orbit the sun. When a comet travels close the sun, some of the ice and dust melts and makes a long tail of dust behind the comet. Some of these "dirty snowballs" can be seen without a telescope, but most are too far away from the Earth.

June 19: Watching from the backyard tonight, I looked up just in time to see a shooting star! A shooting star is actually the flash of light called a meteor. Meteors are the flash created by small chunks of rock and iron called meteoroids that burn up in Earth's atmosphere as they fall to the Earth. If a meteoroid actually hits the Earth, it is called a meteorite!

1. Use the text to complete the table.

Date	Object Observed	Describe It!
December 12		
December 21		
January 17		
April 7		
June 19		

2. Why is the author observing these objects at night?
3. Which object in our solar system can be seen only during the day?
4. Use the text to classify the objects observed into three categories:
 - A. Viewable without binoculars or telescope
 - B. Viewable with binoculars
 - C. Viewable with a telescope
5. Are the stars in the night sky part of our solar system? Explain.
6. How does a comet get its tail?
7.
 - A. A small piece of rock or metal in space is called a _____.
 - B. When that rock or metal from space streaks through the Earth's atmosphere, it is called a _____.
 - C. If that rock or metal hits the Earth, it is called a _____.

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
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Uncommon
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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!

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-Amy Johnson, Common Core Specialist