COMMON CORE
Lessons & Activities

ENERGY

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

REPRODUCIBLE

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:

Energy

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TABLE OF CONTENTS

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)

Forms of Energy

Read the definitions and answer the questions.

Potential energy is stored energy. Kinetic energy is energy in motion.
Some forms of energy are potential, some are kinetic, and some can be either.

Sound energy: energy produced by the vibration of an object. It moves as a wave. Your eardrum detects the sound wave and you hear sound.

Chemical energy: energy stored in molecules that can be released by a chemical reaction. It is stored in food, gasoline, and other substances.

Electrical energy: energy stored in the electrons of atoms and released when electrons move. We use it to produce light, movement, and more.

Light energy: electromagnetic radiation. Light energy is stored in particles called photons that move as a wave.

Thermal (heat) energy: energy stored in an object, as the object's temperature, that can be released as heat. It is caused by excited, fast-moving atoms.

Nuclear energy: energy stored in the atoms of all things, released by a nuclear reaction (splitting atoms in fusion or fission).

Mechanical energy: the potential energy stored in objects (including gravitational energy) and the kinetic energy of objects in motion.

1. A. Name two types of energy that move in waves.
   B. Name two organs in your body that detect these energy waves.
   C. Name the sense that each of these organs gives you.

2. Complete each sentence with the correct form(s) of energy:
   A. You can see the sun's _____ energy and feel its _____ energy.
   B. Some electrical power plants split atoms to release _____ energy.
   C. A light bulb uses _____ energy to produce _____ energy.
   D. To lift a box above your head, you need to use _____ energy.
   E. Food contains _____ energy your body uses to grow and move.
   F. A person who cannot hear is unable to detect _____ energy.

3. Create a table listing the 7 forms of energy in the text. Additionally, include the following information in the table for each energy form:
   A. Is it potential energy?
   B. Is it kinetic energy?
   C. Give an example of how each form of energy can be observed.

4. **True** or **False**: One form of energy can be transformed into another form of energy. Explain.

GRAPHIC ORGANIZER

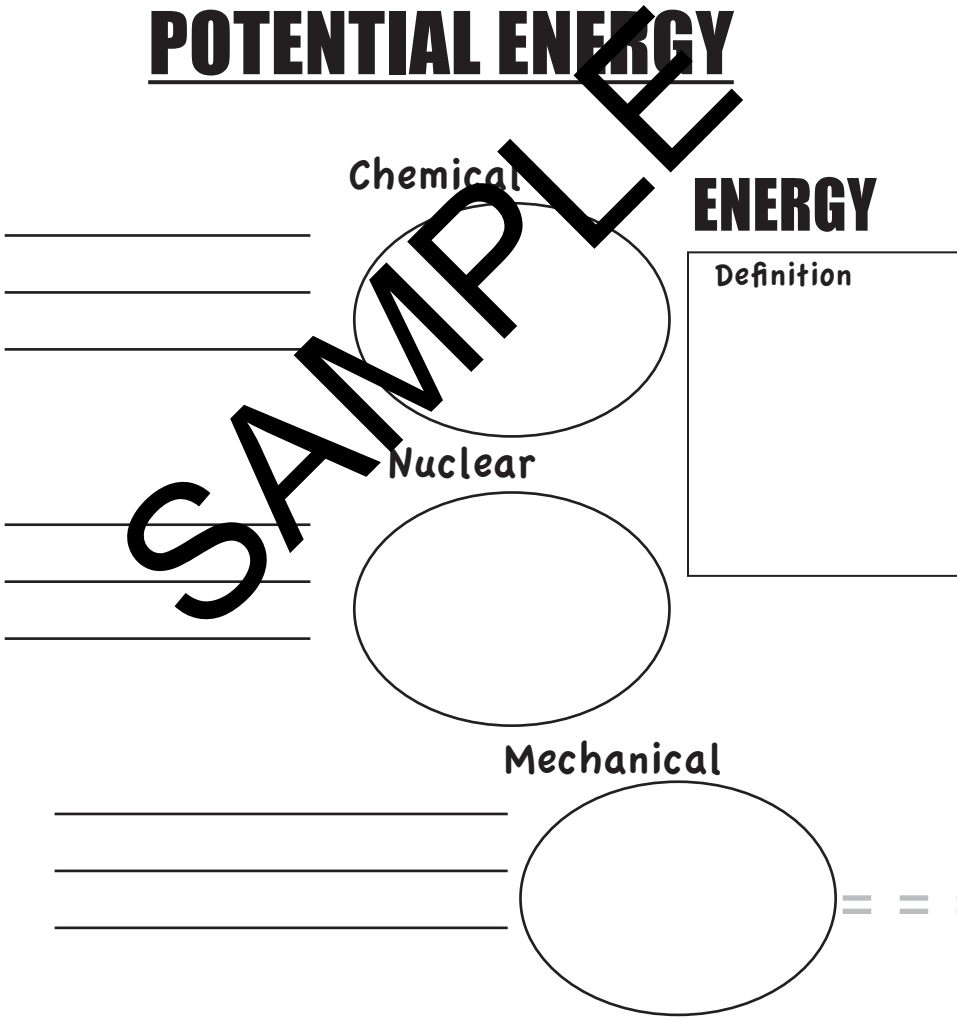
Forms of Energy

Complete the graphic organizer:

A) In the center box, define energy.

B) In the circles, illustrate each form of energy.

C) On the lines, explain how each form of energy can be used.



KINETIC ENERGY

Electrical

Light

Sound

Thermal

Mechanical

Thermal Energy

Read the texts and answer the questions.

Thermal energy is what we call heat! It is caused by the movement of molecules. Hot substances have a lot of thermal energy, while cold substances have very little thermal energy.

EXPERIMENT

Procedure:

1. Place 3 beakers or glasses side by side on a table or counter.
2. Fill beaker 1 with room temperature water.
3. Fill beaker 2 with ice-cold water.
4. Fill beaker 3 with hot water.
5. Wait 1 minute for the water in each beaker to stop moving.
6. Add one drop of food coloring to each beaker and record your observations.

1. List all the items you will need in order to do this experiment.
2. Use the text to identify which beaker will contain:
   A. the **most** thermal energy B. the **least** thermal energy
3. Write a hypothesis for the experiment.
4. Under adult supervision, gather the materials listed and perform the experiment. Observe the movement of food coloring in each beaker and record your observations in the table.

Beaker 1	Beaker 2	Beaker 3

5. How did the temperature of the water affect the movement of molecules in the water?
6. Was your hypothesis correct? Write a conclusion that explains the relationship between thermal energy and molecule movement.

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 match 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!

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