

# Electricity and Magnetism

Content Area: **Science**  
Course(s): **Science 4**  
Time Period: **Undefined**  
Length: **Undefined**  
Status: **Published**

## Unit Overview

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### Essential Questions

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How are electricity and magnetism used?

What is static electricity?

How do electric charges flow in a circuit?

How does electricity transfer energy?

What is magnetism?

### Content

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An excess of positive or negative charge in an object is called static electricity.

The flow of electric charges is not the same in all materials. Materials made of easily charge items are conductors. In a series circuit, electric charges can flow in one circular path. In a parallel circuit, there are two or more paths through which electric charges may flow.

A lamp can transform electrical energy to light energy. A wind turbine can transform wind energy into electricity.

Magnetism is a force that acts on moving electric charges and magnetic materials.

### Skills

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Explain what static electricity is and how charged objects behave.

Describe how electricity is transferred in a circuit.

Explain how energy changes form and how electricity is transformed into light and gives off heat.

Describe how magnets can attract magnetic materials and attract and repel other magnets.

## Assessments

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Apply understanding of how electricity is used for a familiar action such as turning on a light switch.

Study Guide

Chapter Review

Chapter Test

Benchmark Practice

Performance-Based Assessment, Program Guide pg 70: Height and Potential Energy, Cooking up Science and/or Write a Poem

STEM Activity Book

## Lessons/Learning Scenarios

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Chapter 9: Lesson 1, Lesson 2, Lesson 3, Lesson 4 (You do not need to teach Lesson 5)

Inquiry, pg 392-393: What can electricity flow through?

Vocabulary

Study Guide

Chapter Review

## Standards

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SCI.3-4.5.1.4.B.3	Formulate explanations from evidence.
SCI.3-4.5.1.4.C.3	Present evidence to interpret and/or predict cause-and-effect outcomes of investigations.
SCI.3-4.5.2.4.C	Knowing the characteristics of familiar forms of energy, including potential and kinetic energy, is useful in coming to the understanding that, for the most part, the natural world can be explained and is predictable.
SCI.3-4.5.2.4.E	It takes energy to change the motion of objects. The energy change is understood in terms of forces.
SCI.3-4.5.2.4.E.c	Magnets can repel or attract other magnets, but they attract all matter made of iron. Magnets can make some things move without being touched.

## Resources

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