

Unit Summary

	Cluster 1: Static Electricity Lessons 1–2	Cluster 2: Current Electricity Lessons 3–7
Overview	Students observe static electricity and the interactions of charged objects. They charge objects by rubbing them with selected materials, and test the effects of charge on a wide variety of materials.	Students test ideas about how to light a bulb with a battery and wire. They investigate circuits that produce motion, sound, and magnetic effects. They take apart and reassemble a motor to see how it works. They test to see if a variety of materials are conductors or insulators. They also discuss electrical safety issues.
Science Content	<ul style="list-style-type: none"> Electrically charged objects attract or repel other objects. 	<ul style="list-style-type: none"> For an electric current to flow, there must be a complete path or loop for it to follow around a circuit and return to its source. The flow of electric current can produce light, heat, sound, motion, or magnetic effects. Some materials allow electric current to flow more easily than others. It is important to avoid electrical hazards by using electricity safely.
Science Center	<ul style="list-style-type: none"> Conduct open-ended explorations of static charge with materials from the lessons, and newly added materials. Provide books about electricity to support independent reading. 	<ul style="list-style-type: none"> Look for the circuit in a flashlight. Design and practice open-ended circuit building. Take apart small motors. Explore further with a “conductor testing circuit” from the lesson. Create a display about electrical safety.
Family Links		<ul style="list-style-type: none"> Look for things that use batteries at home. Conduct a home inspection to look for possible electrical hazards.
Further Science Explorations	<ul style="list-style-type: none"> Model attraction and repulsion. Observe the effect charged objects have on flowing water and crumbled paper. Investigate types of natural electricity. 	<ul style="list-style-type: none"> Make a wet cell battery. Compare batteries to outlets. Build a motor or buzzer. Investigate the conductivity of a salt-water solution. Make a lemon-aided tongue circuit.
Cross-Curricular Extensions	<p>Art: Make an electrically charged airplane.</p> <p>Social Studies: Create a display of people and events in history related to electricity.</p>	<p>Language Arts: Write poems about light. Query friends and family to find whether anyone has ever had a shock from electric current.</p> <p>Social Studies: Add to the display of people and events in history related to electricity.</p> <p>Technology: Research and write about how electric current has been used in the development of communication methods.</p>