



Experiments to Explore Electricity (*Grades 3-6*) **Virginia Educational Standards**

Experiments to Explore Electricity fulfills many of the Virginia academic content standards for science education. These standards are met through a variety of features, assessments, activities, checklists, and hands-on investigations.

Grade 3

Scientific Investigation, Reasoning, and Logic

- 3.1 The student will plan and conduct investigations in which
- a) predictions and observations are made
 - j) inferences are made and conclusions are drawn

Grade 4

Scientific Investigation, Reasoning and Logic

- 4.1 The student will plan and conduct investigations in which
- a) distinctions are made among observations, conclusions, inferences, and predictions;

Force, Motion and Energy

- 4.3 The student will investigate and understand the characteristics of electricity. Key concepts include
- a) conductors and insulators;
 - b) basic circuits (open/closed, parallel/series);
 - c) static electricity;
 - d) the ability of electrical energy to be transformed into heat, light, and mechanical energy;
 - e) simple electromagnets and magnetism

Grade 5

Scientific Investigation, Reasoning and Logic

- 5.1 The student will plan and conduct investigations in which
- h) an understanding of the nature of science is developed and reinforced

Grade 6

Scientific Investigation, Reasoning and Logic

- 6.1 The student will plan and conduct investigations in which
- f) a method is devised to test the validity of predictions and inferences;
 - g) one variable is manipulated over time, using many repeated trials;
 - k) an understanding of the nature of science is developed and reinforced

Force, Motion and Energy

6.2 The student will investigate and understand basic sources of energy, their origins, transformations, and uses. Key concepts include

- e) energy transformations (heat/light to mechanical, chemical, and electrical energy).