

Have you wondered why just some of the lights go out, why certain things insulate us from electricity better than others, or the effect of magnetism on various substances? Electricity is everywhere. Learn how to build a flashlight, build and test a compass, build an electromagnet and build an electric motor.

Magic of Electricity aligns with 4th grade Essential Standard—Energy: Conservation and Transfer. Developers of the Magic of Electricity curriculum designed each lesson to be grade-level appropriate and have correlated lessons to meet U.S. National Science Education Standards.

The skills emphasized in Magic of Electricity are problem solving, examination and analysis, and evaluating information.

Materials lists and pre-class preparations are laid out, along with a suggested script. Where appropriate, vocabulary lists, worksheets, and activity sheets are included. An educational kit containing non-consumables needed for implementing most lessons is also available through your local Cooperative Extension. Ask for your 4-H agent.

ESSENTIAL STANDARDS

Energy: Conservation and Transfer (4th Grade)

Clarifying Objectives:

Remember that energy takes various forms that may be grouped based on their interaction with matter.

4.P.3.1 Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change.

- ✓ **Electricity I** – May the Force Be With You
- ✓ **Electricity I** – Attract or Repel
- ✓ **Electricity I** – A Passing Force
- ✓ **Electricity I** – Electric Attractions
- ✓ **Electricity I** – Sense the Current
- ✓ **Electricity I** – Control the Flow

4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.

- ✓ **Electricity I** – Bright Lights
- ✓ **Electricity I** – Control the Flow
- ✓ **Electricity I** – A Passing Force
- ✓ **Electricity I** – Conducting Things
- ✓ **Electricity I** – Circuit Sense
- ✓ **Electricity I** – Is There a Fork in the Road

