

WORLD OF ELECTRICITY

EVERYDAY ELECTRICITY
for Young Scientists

BOOKS

World of Electricity, Heron Books

Young Scientist Journal, Heron Books (or a notebook, or journal made by the student)

OTHER MATERIALS

- World of Electricity Teacher Tips*, Heron Books (downloadable)
- balloons (9 to 12 inch)
- string
- aluminum foil
- white vinegar
- plastic ice cube tray
- small Styrofoam balls (1- to 2-inch diameter)
- fine grade sandpaper
- six alligator clip leads (6-12 inch length)
- two 6-volt lantern batteries with coil spring terminals
- two 6-volt miniature light bulbs—screw-in type (also called lamp board bulbs)
- two sockets for 6-volt bulbs (also called bulb holders)
- several 12-volt motors designed to run on batteries
- one single-blade knife switch

- samples of wire used to carry electricity (14-gauge solid conductor house wire, stranded wire lamp cord or extension cord, low voltage single conductor bell wire, headphone wire, other wire samples as available)
- circuit breaker (not installed in a panel)
- uninsulated 18-gauge copper wire
- enamel insulated 18-gauge copper wire
- five galvanized nails (1 to 1 ½ inch)
- LED bulb (any color)
- galvanometer
- three-inch-long bolt
- magnet (rectangular ceramic type)
- transformer with 120 volts AC on the input side and 12 volts AC on the output side that can be plugged into a wall outlet. (This allows the student to test input and output voltages without changing from AC to DC on the voltmeter.)
- simple voltmeter with digital readout
- hand-crank generator designed for kids. It should have a built-in bulb and terminals where alligator clip leads can be attached. It should allow the student to see the gears and motor clearly. Examples: United Scientific Supplies Hand Held Generator from Fisherscic.com or Hand Held Manual Electricity DC Crank Generator (light bulb kit) from Banggood.com
- small motor that's been opened

