

For the Teacher

# LIGHT BULBS, SWITCHES AND BATTERIES

HANDS-ON ELECTRICITY  
for Young Scientists

## BOOKS

*Light Bulbs, Switches and Batteries*, Heron Books

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

## OTHER MATERIALS

- wind-up clock or toy with cover removed so spring can be seen (not required but useful)
- samples of copper, silver and another type of metal
- samples of wood, glass and plastic
- sample of wire used to carry electrical energy (piece of extension cord wire, piece of an old lamp cord, any piece of wire that lets the student see the conductor and insulator)
- 25-watt clear light bulb with filament visible
- lamp with light bulb and switch
- three 6-volt lantern batteries with coil spring terminals
- four 1.5-volt (1 1/2 volt) D-cell batteries
- four D-cell battery holders
- three 6-volt miniature light bulbs—screw-in type (also called lamp board bulbs)
- three sockets for 6-volt bulbs (also called bulb holders)
- eight alligator clip wires (6-12 inch length)
- one single-blade knife switch
- 12-volt DC mini-motor designed to run on batteries

Exam and Exam Answers

Certificate of Achievement

## NOTES

Student Learning Guide Estimated Time: about 12 hours.



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