# To Light or Not to Light

**Fourth Grade**
**Activity: 17**
**Time: 1 Class Periods**

## General Description
Students will investigate what makes good conductors and good insulators.

## Objectives
Students will differentiate between a conductor and an insulator.
Students explain the use of insulators and conductors.

## Arizona State Standards
SC04 S5C3 PO3 Explain the purpose of conductors and insulators in various practical applications
SC04 S1C1 PO2 Formulate a relevant question through observations that can be tested by an investigation
SC04 S1C2 PO1 Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry
SC04 S1C2 PO5 Record data in an organized and appropriate format (e.g., t-chart, table, list, written log)
SC04 S1C4 PO1 Communicate verbally or in writing the results of an inquiry

W04 S3C2 PO1 Record information (e.g. Observation, notes, lists, charts, map labels, and legends) related to the topic

## Teacher Information
Electricity comes to our homes through insulated metal cables supported by towers. The cables hang from long insulators. This then will keep the dangerous electric current from traveling from the cables down through the towers. It is important for students to understand the difference between an insulator and conductor in order to be safe around electricity.

## Materials (per group)
Battery
Light bulb
Light bulb holder
Three Wires with alligator clips on the ends
Pencil
Paper clip
Rubber band
Penny
Glass rod
Plastic rod
Poster Paper

## Procedures/Exploration

1. Place the light bulb into the socket.
2. Connect one end of an alligator wire to the light socket and other end to the battery.
3. Connect the second wire to the battery and leave the opposite end loose.
4. Connect the third wire to the opposite side of the light bulb holder and leave the opposite end loose.
5. Predict and group the objects into conductors and insulators.
6. Test the objects by putting them between the two loose ends of the wires.
7. Record and discuss your results with your group.
8. Students will share their results in the form of a poster