

Rocks, Minerals, and Electricity!

UTAH CORE CURRICULUM

Grade 5 Standard IV Objectives 2 c, d, e

BACKGROUND

One of the reasons rocks and minerals are important to us is because they can be used to create and conduct electricity. A conductor is a substance that current (a flow of electric charges) is able to easily flow through, and an insulator is a material that current cannot flow through. In the following activity, students will explore which rocks and minerals can be used as conductors in a simple circuit.



MATERIALS

- 2 D sized batteries
- Insulated wire at least 12 inches long (there should be approximately 2” of insulation already removed on the ends)
- Flashlight bulb
- Tape
- “Rocks, Minerals, and Electricity” box from the toolbox
 - Graphite, chalcopyrite, penny, paper clip (conduct electricity)
 - Pyrite, galena (do not conduct electricity)
- Any other materials students would like to test for conductivity

PROCEDURE

1. Create a simple circuit:
 - a. Tape the 2 D sized batteries together by stacking one on top of the other (the negative side to the positive side).
 - b. Wrap one end of the wire around the base of the light bulb. Tape the other end of the wire to the bottom of the lower battery (the negative side).
 - c. Touch the bottom of the bulb to the positive side of the top battery to complete the circuit. The light bulb should go on.
2. Test items for conductivity:
 - a. Place several different minerals and objects between the positive side of the top battery and the bulb to see if they complete the circuit.
 - b. Record your data in a table (see example on next page).

c. You can also test different objects or try different types of batteries.

Name _____

Item tested	Observations (does it conduct electricity?)
Graphite	
Pyrite	
Chalcopyrite	
Galena	
Paper clips	
Penny	
Other	
Other	

Draw and label your circuit below.