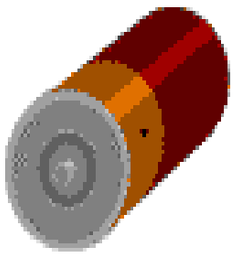
It's Electrifying

In school, the children have investigated electric circuits. This activity allows the children to determine which materials will complete the electric circuits and allow the bulb to light.

WHAT YOU NEED:

- two pieces of tape
- bulb wire system
- battery (D cell)
- insulated wire
- piece of cloth
- thumbtack
- aluminum foil
- paper clip
- piece of paper
- plastic lid
- key
- piece of cardboard
- sponge
- toothpick
- aluminum can pop-top
- key ring
- eraser
- bottle cap



WHAT TO DO:

1. Assist your child in preparing the electric circuit.
   - Use one piece of tape to attach one wire from the bulb wire system to the positive (+) end of the battery (see diagram) while leaving the other end of the wire loose.
   - Attach the insulated wire to the other end of the battery (-) using the other piece of tape.

2. Test the circuit by touching the two loose ends of the wires to each other. When the circuit is complete, the bulb will light.

3. Ask your child to predict which materials listed on the chart will complete the circuit.

4. Record these predictions on the chart, writing "yes" or "no".

5. Have your child test whether each object will light the bulb by completing the circuit. Place one object on the table and touch it with the two loose ends of the wires. Record the results on the chart. Repeat for each object.

6. Compare the results of the tests with your predictions.

7. Which objects completed the circuit?

8. What do you notice about those objects?

"It's Electrifying" Recording Chart

Object	Prediction	Test Result
cloth		
thumbtack		
aluminum foil		
paper clip		
paper		
plastic lid		
key		
cardboard		
sponge		
toothpick		
pop-top		
key ring		
eraser		
bottle cap		

SUMMARY: By observing the results on the chart, you and your child should be able to determine which materials will complete an electric circuit. Anything through which electricity will flow is called a "conductor". Anything through which electricity will not flow is called an "insulator".

EXTENSIONS:

1. Choose 3 more objects that you think will complete the circuit and test them.
2. List as many battery operated objects as you can find at home.
3. Design your own experiment to find out which brand of battery lasts longest.

Related Web Site:

http://ofcn.org/cyber.serv/academy/ace/sci/cecsci/cecsci072.html

Literary Connections:

- Ardley, Neil. *The Science Book of Electricity.* Provost, 1996.
- Cleary, Beverly. *Dear Mr. Henshaw.* Dell, 1983.
- Flaherty, Michael. *Electricity & Batteries.* Copper Beech Books, 1995.
- Gibson, Gary. *Understanding Electricity.* Copper Beech Books, 1995.