

Identifying Conductors and Insulators

Investigative Question: What objects or materials can be used to complete a circuit?

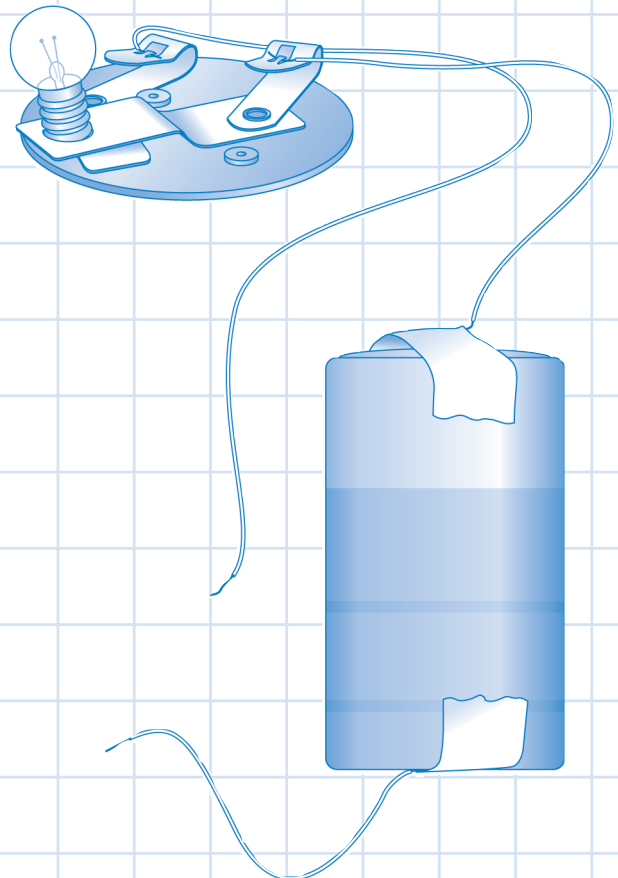
Materials:

- Bulb holder with bulb
- Three 15-cm wires with stripped ends
- D-cell battery
- Electrical tape
- Bag of conductors and insulators

Procedure:

Make a tester

1. Clip the end of one wire into the bulb holder. Tape the other end of the wire onto one end of the D-cell.
2. Clip the end of a second wire into the bulb holder. Leave the other end free.
3. Tape the end of the third wire onto the other end of the D-cell. Leave the other end of the wire free.
4. Touch the two free wire ends together. If the bulb lights, you have set up your tester right.



Date: _____

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Procedure (continued):

Test the objects

1. Fill in the table on the following page as you work.
2. Open your bag of conductors and insulators. Choose an object, and write down its name.
3. Predict whether the object is a conductor or an insulator. Don't change your prediction!
4. Touch the object with the ends of the two free wires.
 - If the bulb lights, it is a **conductor**.
 - If the bulb does not light, it is an **insulator**.
5. Record your testing result.
6. Repeat steps 2-5 for each object.
7. Wait for your class to fill in the Material column of the table together.

Date: _____

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Predictions and Results:

Object To be Tested	Prediction (circle one)	Testing Result (circle one)	Material
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	
	Conductor Insulator	Conductor Insulator	

Conclusion:

Explain your results. How are the materials that worked to complete the circuit alike?

Date: _____

Design Safe Gloves for an Electrician

3. What problems might come from making or wearing gloves from this material?