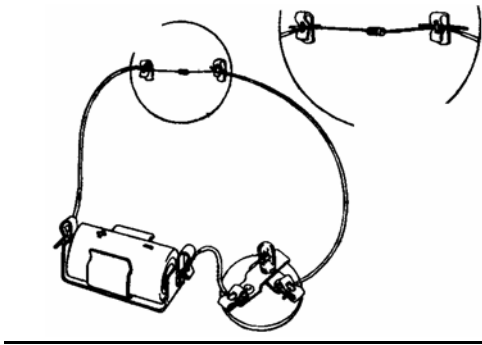


Electricity

Working with a Diode

(Lesson 14)

Background: (What you're studying today) A semiconductor diode is an electronic device that is used in the circuits of computers, radios and televisions. A diode looks like a small cylinder with wires coming out of each end. The cylinder is the working part of the diode and the wires connect the diode to the rest of the circuit. What do you think a diode does in the circuit? Today you will be testing a diode with a circuit tester to try and answer that question.



Diode in a Circuit

Question: (What you want to find out) What does a diode do in a circuit?

Hypothesis: (Prediction) I think that putting a diode in a circuit will...

stop the flow of electricity

allow the electricity to flow in both directions

allow the electricity to flow in one direction only.

(Circle the ending to the sentence that you think is correct)

Materials: (What you'll need)

1 circuit tester

1 diode

Procedure: (Numbered steps needed to complete the investigation)

1. Test your circuit tester to make sure that the bulb lights up when you touch the wires together.
2. Touch the wires to each end of the diode. Observe and record if the bulb lights or not.
3. Turn the diode around, test it again and record the results.

Data: (What happened)

Diode:	Diode facing one Direction	Diode turned around
Bulb lights?	Yes	Yes
	No	No

Conclusion: (What you learned) My hypothesis was **proven** **disproved** because the diode...

stopped the flow of electricity **allowed the electricity to flow in both directions**
allowed the electricity to flow in one direction only.

- When I first tested the diode, the bulb **did** **did not** light up.
- When I turned the diode around, the bulb **did** **did not** light up.
- If a diode stops the flow of electricity, the bulb would **always** **never** light up when a diode is in the circuit.
- If a diode allows electricity to flow in both directions, the bulb would **always** **never** light up when a diode is in the circuit.
- Since the bulb lit up when the diode faced one direction and didn't light when the diode faced the other direction, the diode must allow electricity to flow in **only one** **more than one** direction.

Discussion: (What else can you say?)

1. If you look closely at the diode, you will notice a circular gray band around one end. In this lesson, you learned that the diode must always face the same direction in relation to the battery for the electricity to flow and the bulb to light. The gray band can help you know which way the diode must face in the circuit. Test the diode again and see if the gray band must face towards the battery or towards the bulb. Ask other students in your class if they got the same results. In the space below, write what you learned from this test.

