

Lesson Outline**LESSON 2*****Electric Current and Electric Circuits*****A. Electric Current—Moving Electrons**

1. The movement of electrically charged particles in one direction can occur in a(n) _____.
 - a. Because of their motion, moving electrons contain _____ energy.
 - b. As electrons move from atom to atom, this energy can transform into _____ or _____ energy.
2. Electric current can be either a(n) _____ current or an alternating current.
 - a. An electric current that flows in only one direction is a(n) _____ current.
 - b. An electric current that frequently changes direction is a(n) _____ current.
 - c. Most current used in homes and businesses is _____ current.

B. The Circuit—A Path for Electric Current

1. The path through which an electric current flows is called a(n) _____.
2. _____ circuits are found in flashlights, doorbells, and many _____ appliances.
 - a. Sources of energy can come from _____, generators, solar cells, and fuel cells.
 - b. chemical reactions within a battery move electrons from the _____ terminal to the _____ terminal.
3. A circuit needs a device to _____ electric energy to other forms of energy.
 - a. Energy transformations occur when current flows through a circuit that has _____.
 - b. Electric resistance is a measure of how _____ it is for a current to pass through a material.

Lesson Outline continued

- c. Materials with _____ electric resistance transform more electric energy into other types of energy, such as _____.
 - 4. A circuit also needs an electric _____ to carry the current to and from the other components of the circuit.
 - a. Most conductors in a circuit are in the form of _____.
 - b. A good conductor has low electric _____.
 - 5. Electric circuits can be _____ circuits, in which there is only one path for the current to follow, or _____ circuits, which contain more than one path for current.
- C. Voltage and Electric Energy**
- 1. The unit used for counting electrons in a circuit is the _____.
 - 2. The _____ of an electric energy source is the amount of energy used to move a(n) _____ of electrons through the circuit.
- D. A Practical Electric Circuit**
- 1. An electric circuit could contain a(n) _____ that allows you to start or stop a device.
 - 2. The circuit could contain a heating device, which transforms electric energy into _____ energy.
 - 3. The circuit could also contain an electric _____, which transforms electric energy into _____ energy.
 - 4. The circuit could contain a temperature-sensitive _____ switch that would automatically turn the device off if it becomes dangerously _____.

Content Practice B**LESSON 2*****Electric Current and Electric Circuits***

Directions: *On each line, write the term that correctly completes each sentence.*

1. The movement of _____ charged particles is an electric current.
2. Portable devices such as flashlights often use _____ current.
3. A simple circuit needs a source of _____ such as a battery.
4. A simple circuit also needs a conductor such as a(n) _____.
5. The positively charged end of a battery is called the _____ terminal.
6. The negatively charged end of a battery is called the _____ terminal.
7. Generators transform _____ energy to _____ energy.
8. Copper and aluminum make good wires in electric circuits because they are excellent _____.
9. A(n) _____ is the unit used to count electric charges.
10. A high _____ reading means that an electric circuit is transforming large amounts of energy.

School to Home

LESSON 2

Electric Current and Electric Circuits

Directions: Use your textbook to respond to each statement.

1. Electric current is the movement of electrically charged particles.

Describe direct current and alternating current and explain how they differ.

2. A closed, or complete, path in which an electric current flows is called an electric circuit.

Identify the three basic parts of a circuit and explain the function of each.

a. _____

b. _____

c. _____

3. The two types of circuits are series circuits and parallel circuits.

Make two diagrams—one that shows a series circuit and one that shows a parallel circuit. Label the three main components of each circuit.

Key Concept Builder 

LESSON 2

Electric Current and Electric Circuits

Key Concept What are the parts of a simple electric circuit?

Directions: Answer each question or respond to each statement in the space provided.

Question	Answer
1. What is an electric circuit?	
2. What are the parts of a simple electric circuit?	
3. Give an example of a source of electric energy.	
4. Explain how electrons move through a battery.	
5. Give an example of a conductor used in an electric circuit.	
6. Should a conductor have high or low electric resistance? Explain.	
7. Give an example of a device that transforms electric energy in an electric circuit.	
8. What determines how much electric energy flowing through a circuit is transformed to other forms of energy?	

Key Concept Builder 

LESSON 2

Electric Current and Electric Circuits

Key Concept How do the two types of electric circuits differ?

Directions: Write the correct term from the word bank on each line. Terms will be used more than once.

battery conductor lightbulb switch

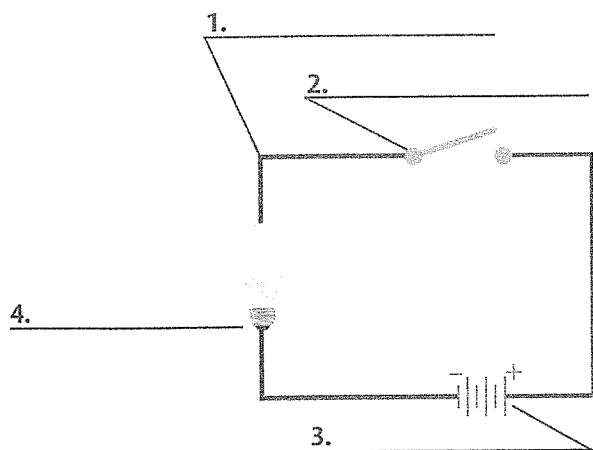


Figure A

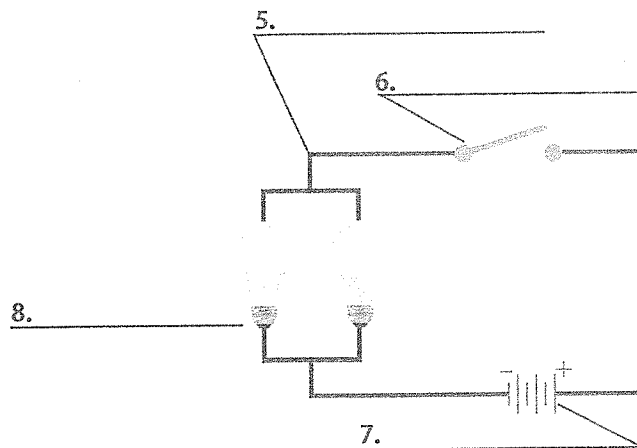


Figure B

Directions: Use the diagram to answer each question on the lines provided.

9. Which figure above shows a series circuit? Which one shows a parallel circuit?

10. How were you able to distinguish between the two circuits?

11. In the figures above, which parts are sources of energy?

12. Which parts are devices for transforming electric energy into another form of energy?

13. Which parts are the conductors?
