

DO NOT WRITE ON!!

Name \_\_\_\_\_

Date \_\_\_\_\_

Class \_\_\_\_\_



**Section 2** ■ **Electric Current**  
**Section 3** ■ **Electrical Energy**

Directions: For each of the following write, the letter of the term that best completes each statement.

- A power rating lists the \_\_\_\_\_ required to operate an appliance.  
a. voltage      b. watts
- A closed path through which electrons can flow is \_\_\_\_\_.  
a. voltage      b. a circuit
- A fuse will melt if the \_\_\_\_\_ in a circuit becomes too high.  
a. current      b. resistance
- Current is almost always the flow of \_\_\_\_\_.  
a. electrons      b. protons
- A current has two or more branches in a \_\_\_\_\_.  
a. series circuit      b. parallel circuit
- A car battery is an example of a \_\_\_\_\_.  
a. wet cell      b. dry cell
- The tendency for a material to oppose the flow of electrons is called \_\_\_\_\_.  
a. voltage      b. resistance
- Current has only one loop to flow through in a \_\_\_\_\_.  
a. parallel circuit      b. series circuit
- Current is measured in \_\_\_\_\_.  
a. volts      b. amperes
- Electrical energy is equal to \_\_\_\_\_ x time.  
a. power      b. voltage
- Electrical power is equal to \_\_\_\_\_ x voltage difference.  
a. current      b. ohms
- Ohm's law states that the current equals \_\_\_\_\_ divided by the resistance.  
a. amperes      b. voltage difference
- A dry cell is used in a flashlight to convert \_\_\_\_\_ to light.  
a. electrical energy      b. static electricity
- Thin wires have a \_\_\_\_\_ resistance to electron flow than do thicker wires.  
a. greater      b. lesser
- One thousand watts of power used in 60 minutes is \_\_\_\_\_.  
a. 16.7 amperes      b. 1 Kilowatt-hour

Name \_\_\_\_\_

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**SECTION**      **Reinforcement**  
**Electric Current**

Directions: Circle the term in parentheses that makes each statement true.

- A negatively charged object has (more, fewer) electrons than an object that is neutral.
- Electrons flow from areas of (higher, lower) voltage to areas of (higher, lower) voltage.
- Voltage difference is measured in (amperes, volts).
- Electrons passing through a lamp (gain, lose) some voltage as they light the lamp.
- Voltage (varies, is the same) in all parts of a series circuit.
- The current in a circuit is measured in (volts, amperes).
- Current is almost always the flow of (electrons, protons)
- When a dry cell is connected in a series, the flow of electrons moves from the (positive, negative) terminal to the (positive, negative) terminal.
- In a dry cell, the carbon rod releases electrons and becomes the (positive, negative) terminal.
- The voltage difference between the two holes in a wall socket is (12 volts, 120 volts).
- A car battery is an example of a (dry, wet) cell.
- Resistance is measured in (ohms, volts).
- Copper has a (higher, lower) resistance to electron flow than tungsten.
- According to Ohm's law, ( $I = V/R$ ,  $V = IR$ )
- The symbol for ohm is ( $\Omega$ ,  $^{\circ}$ ).
- In the equation  $I = V/R$ ,  $I$  is expressed in (ohms, amperes).
- In the equation  $I = V/R$ ,  $V$  is expressed in (volts, ohms).
- The (+, -) terminal of a dry cell identifies the location of the carbon rod.
- A wire with a resistance of  $3\Omega$  has a (greater, lesser) resistance to electron flow than a wire with a resistance of  $5\Omega$ .
- If two copper wires are the same length, but different thicknesses, the (thinner, thicker) wire has greater resistance.

**Meeting Individual Needs**

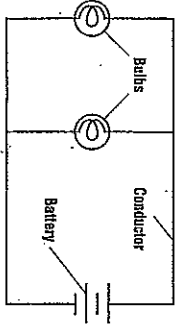
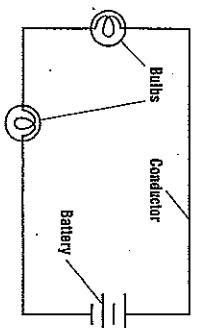
**Directed Reading for Content Mastery**  
**Overview Electricity**

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

**Directions:** Complete the sentences by circling the correct words.

- Electricity is 1. (static, parallel) when electric 2. (charges, circuits) accumulate on an object by gaining or losing 3. (branches, electrons) that move more easily in a(n) 4. (conductor, insulator) than they do in a(n) 5. (conductor, insulator).  
Electricity in the form of a 6. (current, series) flows from object to object from 7. (low, high) voltage to 8. (low, high) voltage. This voltage 9. (parallel, difference) can be produced by a 10. (battery, generator) or by a 11. (battery, generator) at a power plant. Electrical 12. (charges, circuits) can be 13. (series, branches) with one 14. (loop, current) to flow through or they can be 15. (static, parallel) with two or more 16. (series, branches) for the electricity.

**Directions:** Use the following diagrams to answer the questions below



17. This is a \_\_\_\_\_ circuit. 18. This is a \_\_\_\_\_ circuit.  
19. In which circuit will the brightness of the bulbs be diminished as more bulbs are added? \_\_\_\_\_  
20. In which circuit will both lights go out if one light is turned off? \_\_\_\_\_  
21. Which circuit is used to provide electricity to houses? \_\_\_\_\_

**SECTION 33**  
**Reinforcement Electrical Energy**

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

**Directions:** Use the terms and statements below to complete the table.

- rate at which electrical energy is converted to another form of energy  
The current has only one loop to flow through.  
kilowatt parallel circuit series circuit  
watt insulation to melt a fire  
The current has more than one branch.  
kW fuses circuit breakers  
W Power = current × voltage difference  $P = I \times V$

**Important Facts About Electric Circuits**

1. There are two types of electric circuits.	a. _____ b. _____
Two types of circuits:	c. _____ d. _____
Definitions of these circuits:	
2. A household circuit can contain many appliances.	a. _____ b. _____
Too many appliances can cause:	c. _____ d. _____
For protection, household circuits contain:	
3. The electrical power of a circuit can be measured.	a. _____
Definition of electrical power:	b. Name: _____ c. Abbreviation: _____ d. Term for 1,000 units: _____ e. Abbreviation for 1,000 units: _____
Unit of electrical power:	f. Expression: _____ g. Formula: _____
Determining the electrical power of a circuit:	