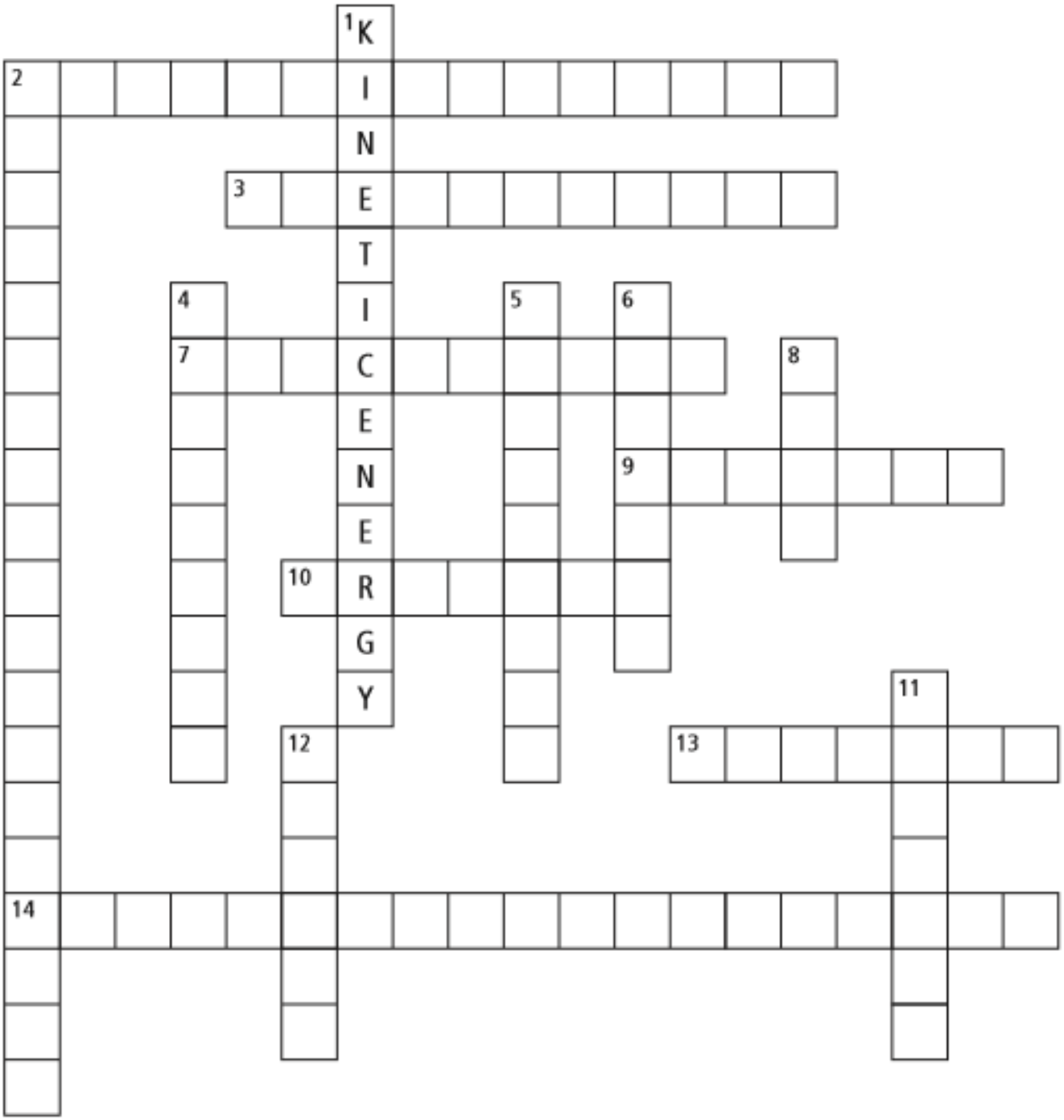
Use with textbook pages 270–275.

Electricity crossword puzzle



Across	Down
2. stored energy 3. electrodes are placed in a substance that conducts electricity 7. two terminals in a battery 9. unit for charge 10. battery in flashlights 13. amount of electric potential energy per one coulomb of charge 14. converts chemical energy into electrical energy	1. energy a moving object has 2. another name for voltage 4. positive and negative end points of a battery 5. device used to measure voltage 6. battery in cars 8. unit for potential difference 11. converts a form of energy into electrical energy 12. ability to do work

Use with textbook pages 280–285.

True or false?

Read the statements given below. If the statement is true, write "T" on the line in front of the statement. If it is false, write "F" and rewrite the statement to make it true.

1. _____ An electric circuit is a complete pathway through which electrons can flow.

2. _____ An electric load transforms light energy into electrical energy.

3. _____ Light bulbs, heaters, and batteries are all examples of electric loads.

4. _____ The wire through which electric current flows is a conductor.

5. _____ A switch is the source of electric potential energy in a circuit.

6. _____ Circuit diagrams use circuit symbols to illustrate actual electrical circuits.

7. _____ Current electricity is charge that remains stationary on an insulator.

8. _____ Electric current is the amount of charge passing a point in a conducting wire each second.

9. _____ Electric current is measured in volts.

10. _____ An ammeter is used to measure the current in a circuit.

Use with textbook pages 290–297.

Calculations with Ohm's law

Use Ohm's law to complete the following table. Write the formula you will use and substitute the known values into the formula. Show all your work and include the correct unit with your answer. The first question has been done to help guide you.

	Question	Show your work	Answer
1.	A current through a resistor in a circuit is 1.5 A. If the potential difference across the resistor is 6 V, what is the resistance of the resistor?	$R = V \div I$ $= 6\ \text{V} \div 1.5\ \text{A}$ $= 4\ \Omega$	4 Ω
2.	A toaster is plugged into a 120 V outlet. What is the resistance of the toaster if the current in the toaster is 10 A?		
3.	A light bulb with a resistance of 30 Ω is connected to a battery. If the current in the light bulb is 0.2 A, what is the voltage of the battery?		
4.	What is the current in a flashlight bulb with a resistance of 24 Ω if the voltage provided by the flashlight battery is 3 V?		
5.	An electric iron plugged into a wall socket has a resistance of 20 Ω. If the current in the iron is 6 A, what is the voltage provided by the wall socket?		

Complete the following table. The table has been partially completed to help you.

	Current	**Voltage**	**Resistance**
Symbol	/		
Unit			ohm (Ω)
Meter used for measurement			
Formula			