Name _____ Date _____ Class _____

Batteries (pp. 702–705)

This section describes what the first battery was made of. It also explains how an electrochemical cell works.

Use Target Reading Skills

After you read the section, reread the paragraphs that contain definitions of Key Terms. Use the information you have learned to write a definition of each Key Term in your own words.

a. chemical energy

Energy that chemical compounds store within the compounds

b. chemical reaction

Process in which substances change into other substances with different properties than original substances.

c. electrochemical cell

An electrical device that transforms chemical energy into electrical energy

d. electrode

Metal in an electrochemical cell that is covered with electrolyte

e. electrolyte

Substance that conducts electric current

f. terminal

Part of an electrode above the surfaces of the ~~electrode~~ electrolyte

g. battery

electrochemical cells in combination

h. wet cell

electrochemical cell that has liquid as its electrolyte.

i. dry cell

electrochemical cell that has paste as its electrolyte

Name _____ Date _____ Class _____

Electricity ▪ *Guided Reading and Study*

The First Battery (p. 703)

1. The energy stored in chemical compounds is called
Chemical energy

2. What is a chemical reaction?
Process in which substances change into new substances with different properties

3. In Volta's battery, a chemical reaction between which two metals produced a current?
Silver & Zinc

4. What did Volta place between layers of metals?
Paper soaked in salt water NaCl

5. In the year 1800, who designed the first electric battery?
Alessandro Volta

Electrochemical Cells (pp. 704–705)

6. A device that transforms chemical energy into electrical energy is called a(n) electrochemical cell

Match the term with its definition.

	Term	Definition
B	7. electrode	a. The part used to connect the cell to a circuit
C	8. electrolyte	b. A metal in an electrochemical cell
A	9. terminal	c. A substance that conducts electric current

10. What occurs between the electrodes and the electrolytes in an electrochemical cell?
Chemical reactions occur

11. How do the chemical reactions charge the electrodes?
One electrode = neg charge
other = pos. charge

Batteries *(continued)*

12. Why is there voltage between the electrodes of an electrochemical cell?
Electrodes have opposite poles/charges

13. Circle the letter of the correct sequence through which charge flows in an electrochemical cell
    a. terminal, electrolytes, wire, terminal
    b. electrolytes, terminal, terminal, wire
    c. terminal, wire, terminal, electrolytes
    d. wire, terminal, terminal, electrolytes

14. A combination of two or more electrochemical cells in a series is called a(n) battery.

15. Is the following sentence true or false? The voltage of a battery is the sum of the voltages of the cells. true

16. Complete the table about wet and dry cells.

Electrochemical Cells		
Type of Cell	**Electrolyte—Liquid or Paste?**	**Example**
Wet Cell	a. Liquid	b. Auto Battery
c. Dry cell	Dry	Flashlight battery