Name _____ Date _____ Class _____

SECTION 1 Study Guide

Chemical Formulas and Equations

Chapter 2

Directions: *Use the terms from the word bank to fill in the blanks in front of the correct phrases below.*

balanced	endothermic	products
bubbles	exothermic	reactants
chemical reaction	iron oxide	silver sulfide
conservation of mass	precipitate	subscripts

_____ 1. substances that are about to take part in a chemical reaction

_____ 2. the numbers in a chemical formula that tell you the ratio of atoms in a compound

_____ 3. the law Lavoisier devised, that says that matter is neither created nor destroyed during a reaction

_____ 4. tarnish on silver

_____ 5. what you call a chemical equation when it is written with the same number of each type of atom on both sides

_____ 6. the process of changing some substances into other substances

_____ 7. a reaction that releases heat to its surroundings. Energy appears on the products side of the equation.

_____ 8. a sign that a gas has been produced

_____ 9. rust

_____ 10. the substances that are formed by a chemical reaction

_____ 11. a reaction that absorbs heat. Energy appears on the left side of the equation.

_____ 12. a solid formed in a reaction by mixing two solutions

Directions: *List four ways you can detect a chemical reaction.*

13. _____

14. _____

15. _____

16. _____

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Name _____ Date _____ Class _____

SECTION 1 Reinforcement

Chemical Formulas and Equations

Directions: *Complete the following sentences by writing the correct terms in the blanks.*

1. Chemical changes in a substance result in _____

_____

2. Physical changes in a substance result in _____

_____

3. A chemical reaction begins with substances called _____ and ends with substances called _____.

4. In a word equation, the substances on the left of the arrow are the _____, and the substances on the right side of the arrow are the _____. The arrow should read as _____.

Directions: *Answer the following questions on the lines provided*

5. Give two reasons why scientists prefer to use chemical equations instead of word equations.

   a. _____

   b. _____

6. What do the subscripts in a chemical equation tell about the equation?

_____

7. Suppose you have a holiday celebration and over the evening six logs are burned in a fireplace. All that's left is ashes, but you know that there are just as many atoms as there were before—they're just in a different form. Explain how you know that.

_____

8. The fire in the fireplace is an example of an exothermic reaction. Explain what happens in an exothermic reaction.

_____

9. In one of the lab experiments you observed, water was split into hydrogen and oxygen in an endothermic reaction. Explain what happens in an endothermic reaction.

_____

10. If the equation below is balanced, write **Yes** on the line provided. If it is not balanced, write **No**.

   _____ a. $2Na + 2H_2O \rightarrow 2NaOH + H_2$

   _____ b. $4Al + 3O_2 \rightarrow Al_2O$

   _____ c. $NH_4OH + HC_2H_3O_2 \rightarrow NH_4C_2H_3O_2 + H_2O$

   _____ d. $2Al + 6NaOH \rightarrow 2Na_3AlO_3 + 2H_2$

Meeting Individual Needs

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