Name _____ Date _____ Class _____

SECTION 1 Reinforcement

Chemical Changes

Chapter 19.1 Review

Directions: *Use the equations below to answer the following questions.*

$$Zn(s) + S(s) \rightarrow ZnS(s)$$

1. What are the reactants in this chemical reaction?

_____

2. What is the product? _____

3. What is the physical state of both the reactants and the products?

_____

4. According to the law of conservation of mass, if the total mass of the product in this chemical reaction is 14 g, what must the combined masses of the reactants be?

_____

$$2H_2(g) + O_2(g) \rightarrow 2H_2O(l)$$

5. What name describes the product in this reaction? _____

6. What names describe the reactants? _____

7. What are the physical states of the reactants in this reaction?

_____

8. What is the physical state of the product? _____

9. What do the coefficients tell you about the ratio of the reactants?

_____

10. How many units of the product are produced? _____

Directions: *Write chemical equations for the following reactions.*

11. One unit of methane gas, CH_4, plus two units of oxygen gas, O_2, produce one unit of carbon dioxide gas, CO_2, and two units of liquid water.

_____

12. One unit of aqueous aluminum sulfate, Al_2SO_4, plus three units of aqueous barium chloride, $BaCl_2$, yield two units of aqueous aluminum chloride, $AlCl_2$, plus three units of solid barium sulfate, $BaSO_4$.

_____

13. Two units of solid sodium, Na, plus one unit of chlorine gas produce two units of sodium chloride, Cl_2, a solid.

_____

Name Date Class

Directed Reading for Content Mastery

Key Terms
Chemical Reactions

Directions: *Unscramble the terms in italics to complete the sentences below. Write the terms on the lines provided.*

_____ 1. A *sonoditecimpo* reaction is one in which a substance breaks down into two or more substances.

_____ 2. A chemical *noqituae* describes a chemical reaction using chemical formulas and other symbols.

_____ 3. In an *ingrocexe* reaction, the amount of energy needed to break the original bonds is less than the energy released when new bonds form.

_____ 4. In a *glinse-spladicetnem* reaction, one element replaces another in a compound.

_____ 5. A *lamcechi* reaction is a change in which one or more substances are converted into new substances.

_____ 6. A *snteshisy* reaction is one in which two or more substances combine to form another substance.

_____ 7. In an *icehomextr* reaction, the energy given off is primarily in the form of heat.

_____ 8. The kind of reaction energy that requires energy in the form of heat is called *remdothcine.*

_____ 9. An *orhibiint* ties up a reactant and prevents it from undergoing the original reaction.

_____ 10. The insoluble compound that forms during a double-displacement reaction is called a *treaticipep.*

_____ 11. When more energy is required to break bonds than to form new ones, the reaction in called *gonderince.*

_____ 12. The numbers that represent the number of units of each substance taking part in a reaction are called *isceffoticen.*

_____ 13. A chemical reaction that has the same number of elements on both sides of the equation is *deblanac.*

COMPLETING SENTENCES

Complete the sentences with the choices below.

products	right	physical
chemical equation	take part	yields
new	chemical	reaction
arrow	reactants	left

1. A change in which *no* new products are formed is called a _____ change.
2. A change in which new products *are* formed is called a _____ change.
3. Another way of saying "chemical change" is "chemical _____."
4. A set of symbols and formulas that describes a chemical reaction is called a _____.
5. A chemical equation tells which substances _____ in a chemical reaction. It also tells which _____ substances are formed.
6. The substances that take part in a chemical reaction are called the _____.
7. The new substances that form in a chemical reaction are called the _____.
8. In a chemical equation, the reactants are on the _____ side. The products are on the _____ side.
9. In a chemical reaction, the reactants and products are separated by an _____.
10. The arrow means "produces" or "_____".

Chapter 19.1 - Counting Atoms

	L	R	
1.	.....	.....	$CuCl_2 \longrightarrow Cu + 2\,Cl_2\uparrow$
2.	.....	.....	$Fe + S \longrightarrow FeS$
3.	.....	.....	$N_2\uparrow + 3\,H_2\uparrow \xrightarrow{\Delta} 2\,NH_3\uparrow$
4.	.....	.....	$H_2CO_3 \xrightarrow{\Delta} 2\,H_2O\uparrow + CO_2\uparrow$
5.	.....	.....	$2\,KBr + H_2SO_4 \longrightarrow K_2SO_4 + 2\,HBr$
6.	.....	.....	$H_2SO_4 + BaCl_2 \longrightarrow 2\,HCl + BaSO_4\downarrow$
7.	.....	.....	$3\,Mg + N_2\uparrow \longrightarrow 2\,Mg_3N_2$
8.	.....	.....	$NaCl + AgNO_3 \longrightarrow NaNO_3 + AgCl\downarrow$
9.	.....	.....	$2\,Al + 6\,HCl \longrightarrow 2\,AlCl_3 + 3\,H_2\uparrow$
10.	.....	.....	$3\,Na + I_2 \longrightarrow 2\,NaI$