

SECTION
1**Reinforcement****Chemical Changes****Chapter 19.1**
Review

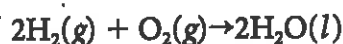
Directions: Use the equations below to answer the following questions.



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?



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_3 , 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.

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 is 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
chemical equation
new
arrow

right
take part
chemical
reactants

physical
yields
reaction
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. $\text{CuCl}_2 \longrightarrow \text{Cu} + 2 \text{Cl}_2 \uparrow$
2. $\text{Fe} + \text{S} \longrightarrow \text{FeS}$
3. $\text{N}_2 \uparrow + 3 \text{H}_2 \uparrow \xrightarrow{\Delta} 2 \text{NH}_3 \uparrow$
4. $\text{H}_2\text{CO}_3 \xrightarrow{\Delta} 2 \text{H}_2\text{O} \uparrow + \text{CO}_2 \uparrow$
5. $2 \text{KBr} + \text{H}_2\text{SO}_4 \longrightarrow \text{K}_2\text{SO}_4 + 2 \text{HBr}$
6. $\text{H}_2\text{SO}_4 + \text{BaCl}_2 \longrightarrow 2 \text{HCl} + \text{BaSO}_4 \downarrow$
7. $3 \text{Mg} + \text{N}_2 \uparrow \longrightarrow 2 \text{Mg}_3\text{N}_2$
8. $\text{NaCl} + \text{AgNO}_3 \longrightarrow \text{NaNO}_3 + \text{AgCl} \downarrow$
9. $2 \text{Al} + 6 \text{HCl} \longrightarrow 2 \text{AlCl}_3 + 3 \text{H}_2 \uparrow$
10. $3 \text{Na} + \text{I}_2 \longrightarrow 2 \text{NaI}$