Name _____ Date _____ Class _____

SECTION 1-2 REVIEW AND REINFORCE

Describing Chemical Reactions

◆ Understanding Main Ideas

Balance the equations on the lines below. State whether the reaction is a synthesis, decomposition, or replacement reaction.

Given Equation	Balanced Equation	Type of Reaction
$FeS + HCl \rightarrow FeCl_2 + H_2S$	_____	_____
$Na + F_2 \rightarrow NaF$	_____	_____
$HgO \rightarrow Hg + O_2$	_____	_____

Answer the following questions on the back of this page or on a separate sheet of paper.

1. Describe in words the chemical composition of the molecules involved and the reaction represented by the equation: $2H_2 + O_2 \rightarrow 2H_2O$
2. Use the principle of conservation of mass to explain why the equation above is balanced.

◆ Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

_____ **3.** chemical equation

_____ **4.** chemical formula

_____ **5.** decomposition

_____ **6.** coefficients

_____ **7.** products

_____ **8.** reactants

_____ **9.** conservation of mass

_____ **10.** synthesis

_____ **11.** replacement reaction

_____ **12.** subscript

a. materials present after a reaction

b. reaction where substances combine to form a more complex compound

c. indicates how many atoms of an element are in one molecule

d. uses symbols and formulas to show chemical reactions

e. reaction where one element replaces another in a compound

f. combination of symbols that represent the elements in a compound

g. materials present before a reaction

h. numbers telling how many molecules are involved in a chemical reaction

i. reaction where compounds are broken down into simpler products

j. matter is not created or destroyed during a chemical reaction

Chemical Equation Worksheet NAME:_____

Types of Reactions: Identifying and predicting products

For each reaction equation:

1. Balance the equation.

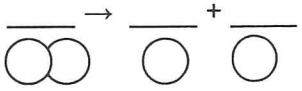
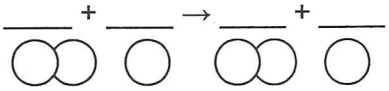
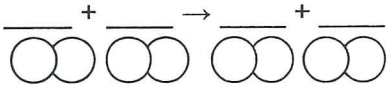
2. Identify the type of reaction (synthesis, decomposition, single displacement, double displacement or combustion).

	Reaction Type
1. $KClO_3 \rightarrow KCl + O_2$	1.
2. $KBr + F_2 \rightarrow KF + Br_2$	2.
3. $S_8 + F_2 \rightarrow SF_6$	3.
4. $Na_2SO_4 + Pb(NO_3)_2 \rightarrow NaNO_3 + PbSO_4$	4.
5. $C_3H_8 + O_2 \rightarrow CO_2 + H_2O$	5.
6. $Zn + HCl \rightarrow ZnCl_2 + H_2$	6.
7. $FeCl_3 + Na_2CO_3 \rightarrow Fe_2(CO_3)_3 + NaCl$	7.

Chemical Reactions

Name Key

1. Watch the video and then complete the chart.

Type of Reaction	Definition	★ Equation
Synthesis		
Decomposition		
Single Replacement		
Double Replacement		

Colors: A = Red, B = Blue, C = Green, D = Yellow

2. Use colored pencils to circle the common atoms or compounds in each equation to help you determine the type of reaction it illustrates. Use the code below to classify each reaction.

S = Synthesis D = Decomposition SR = Single Replacement DR = Double Replacement

____ $P + O_2 \rightarrow P_4O_{10}$

____ $HgO \rightarrow Hg + O_2$

____ $Cl_2 + NaBr \rightarrow NaCl + Br_2$

____ $Na + Br_2 \rightarrow NaBr$

____ $HgO + Cl_2 \rightarrow HgCl + O_2$

____ $KClO_3 \rightarrow KCl + O_2$

____ $BaCl_2 + Na_2SO_4 \rightarrow NaCl + BaSO_4$

____ $Mg + O_2 \rightarrow MgO$

____ $Al_2O_3 \rightarrow Al + O_2$

____ $H_2 + N_2 \rightarrow NH_3$

____ $CuCl_2 + H_2S \rightarrow CuS + HCl$

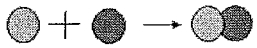
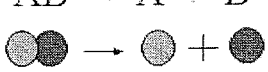
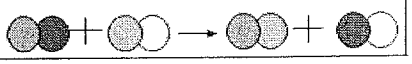
____ $C + H_2 \rightarrow CH_4$

____ $S_8 + F_2 \rightarrow SF_6$

Chemical Reactions

ANSWER KEY

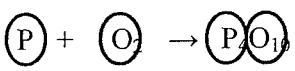
1. Watch the video and then complete the chart. **Teacher notes on next page!**

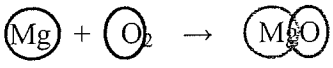
Type of Reaction	Definition	★ Equation
Synthesis	Two or more elements or compounds combine to make a more complex substance	A + B → AB 
Decomposition	Compounds break down into simpler substances	AB → A + B 
Single Replacement	Occurs when one element replaces another one in a compound	AB + C → AC + B 
Double Replacement	Occurs when different atoms in two different compounds trade places	AB + CD → AC + BD 

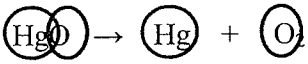
Colors: A = Red, B = Blue, C = Green, D = Yellow

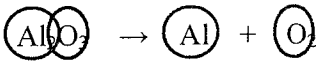
2. Use colored pencils to circle the common atoms or compounds on each side of the equations to help you determine the type of reaction it illustrates. Use the code below to classify each reaction.

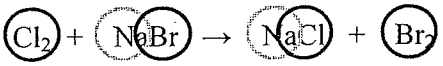
S = Synthesis D = Decomposition SR = Single Replacement DR = Double Replacement

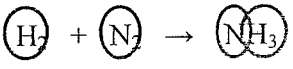
S 

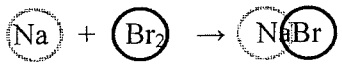
S 

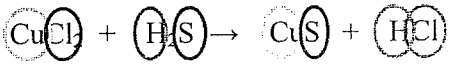
D 

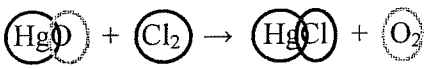
D 

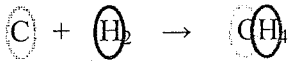
SR 

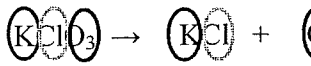
S 

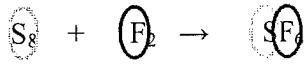
S 

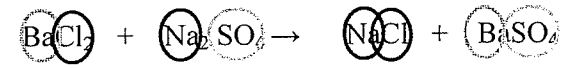
DR 

SR 

S 

D 

S 

DR 

Note: SO4 is a polyatomic ion.