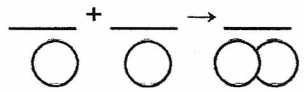
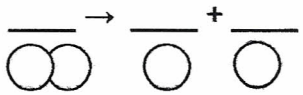
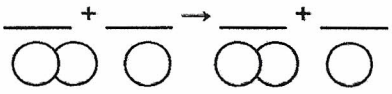
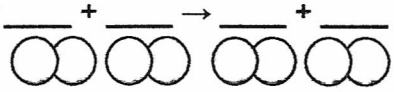
Chemical Reactions

Name _____

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

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

____ $HgO \rightarrow Hg + O_2$

____ $Cl_2 + NaBr \rightarrow NaCl + Br_2$

____ $Na + Br_2 \rightarrow NaBr$

____ $HgO + Cl_2 \rightarrow HgCl + O_2$

____ $KClO_3 \rightarrow KCl + O_2$

____ $BaCl_2 + Na_2SO_4 \rightarrow NaCl + BaSO_4$

____ $Mg + O_2 \rightarrow MgO$

____ $Al_2O_3 \rightarrow Al + O_2$

____ $H_2 + N_2 \rightarrow NH_3$

____ $CuCl_2 + H_2S \rightarrow CuS + HCl$

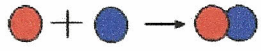
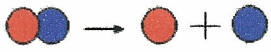
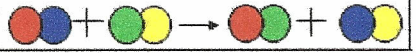
____ $C + H_2 \rightarrow CH_4$

____ $S_8 + F_2 \rightarrow SF_6$

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 ___ $P + O_2 \rightarrow P_2O_{10}$

D ___ $HgO \rightarrow Hg + O_2$

SR ___ $Cl_2 + NaBr \rightarrow NaCl + Br_2$

S ___ $Na + Br_2 \rightarrow NaBr$

SR ___ $HgO + Cl_2 \rightarrow HgCl + O_2$

D ___ $KClO_3 \rightarrow KCl + O_2$

DR ___ $BaCl_2 + Na_2SO_4 \rightarrow NaCl + BaSO_4$

S ___ $Mg + O_2 \rightarrow MgO$

D ___ $Al_2O_3 \rightarrow Al + O_2$

S ___ $H_2 + N_2 \rightarrow NH_3$

DR ___ $CuCl_2 + H_2S \rightarrow CuS + HCl$

S ___ $C + H_2 \rightarrow CH_4$

S ___ $S_8 + F_2 \rightarrow SF_6$

Note: SO4 is a polyatomic ion.