Worksheet:
Types of Reactions

Name _____
Date _____
Period _____ Table _____

Types of Chemical Reactions

1. A **synthesis** reaction starts with two reactants and ends up with one product. Which of the following reactions are synthesis reactions? (Circle the letters)

   A) $NaCl \rightarrow Na + Cl_2$
   B) $Na + HCl \rightarrow H_2 + NaCl$
   C) $H_2 + O_2 \rightarrow H_2O$
   D) $NaOH + HCl \rightarrow HOH + NaCl$
   E) $K + Cl_2 \rightarrow KCl$

2. A **decomposition** reaction starts with one reactant and ends up with two or more products. Which of the following reactions are decomposition reactions? (Circle the letters)

   A) $NaCl \rightarrow Na + Cl_2$
   B) $Na + Cl \rightarrow NaCl$
   C) $H_2O \rightarrow H_2 + O_2$
   D) $H_2 + O_2 \rightarrow H_2O$
   E) $NaOH + HCl \rightarrow HOH + NaCl$

3. A **single-replacement** reaction starts with two reactants and ends up with two products. The uncombined element takes the place of the combined element in the compound. Which of the following reactions are single-replacement reactions? (Circle the letters)

   A) $NaCl \rightarrow Na + Cl_2$
   B) $NaOH + HCl \rightarrow HOH + NaCl$
   C) $K + AgCl \rightarrow Ag + KCl$
   D) $Ca + S \rightarrow CaS$
   E) $Na + HCl \rightarrow H_2 + NaCl$

4. A **double-replacement** reaction starts with two reactants and ends up with two products. In this case both reactants are compounds and both products are compounds. They simply change partners. Which of the following reactions are double-replacement reactions? (Circle the letters)

   A) $NaCl \rightarrow Na + Cl_2$
   B) $NaOH + HCl \rightarrow HOH + NaCl$
   C) $Na + HCl \rightarrow H_2 + NaCl$
   D) $KOH + HNO_3 \rightarrow HOH + KNO_3$
   E) $Ca + S \rightarrow CaS$