**Review Chemical Reactions #1**

1. **Circle the subscripts and underline the coefficients. (use different colors)**
   1. N2 2N2 3N2

* 1. H2O 4H2O 5H2O
  2. Fe(SO4) 2Fe(SO4) 3Fe(SO4)

1. **Determine the number of each of atom in the following chemical formulas.**
   1. NaCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2NaCl \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. C2H6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2C2H6  \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. KNO3 \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ 3KNO3 \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_
   4. Fe2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2Fe2O3  \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Polyatomics usually stay together during a chemical reaction. Keep them together here in parentheses when “counting” atoms.

* 1. Al2(SO4)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 Al2(SO4)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Cu(NO3)2  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 Cu(NO3)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Place an “R” over each reactant and a “P” over each product in the following chemical equations.**
   1. 2Ca + O2 ----> 2CaO
   2. N2 + 3H2 ----> NH3
   3. 2Cu2O + 2C ----> 4Cu + 2CO2
   4. 2H2O2 ----> 2H2O + O2
2. **Identify the reactants and the products in the following.**
   1. Magnesium metal reacts with oxygen to produce magnesium oxide
      1. reactants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      2. products \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Chlorine gas reacts with sodium metal to produce sodium chloride.
      1. reactants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      2. products \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. **Word Equations**

Write the word equations, including the plus sign and arrows.

**Example: Phosphorous reacts with bromine to produce phosphorus tribromide.**

**Phosphorous + Bromine phosphorus tribromide**

* 1. Silver nitrate reacts with magnesium chloride to produce silver chloride and magnesium nitrate.
  2. Sodium chloride reacts with fluorine gas to make sodium fluoride and chlorine gas.
  3. Sulfur reacts with oxygen to make sulfur trioxide.

1. **Formula Equations**

Write the formula equation, including the plus sign and arrows. If the formula is not given you should be able to figure it out from the name.

**Example: Dinitrogen pentoxide reacts with water to produce nitric acid (HNO3).**

**N2O5 + H2O HNO3**

* 1. Copper(II) Chloride reacts with dihydrogen monosulfide to make copper(II)sulfide and hydrochloric acid (HCl).
  2. Potassium metal reacts with magnesium bromide to make potassium bromide and magnesium metal.
  3. Phosphorous reacts with Oxygen gas (O2) to make tetraphosphorous pentaoxide.
  4. **Challenge:** add the right ***coefficients*** to the formula equations above to balance the equation. That means there will be an *equal number of each atom type on both sides of the arrow.*