# Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period: \_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

# *Conversion Problem Set*

***Directions*:**

1. **Write the formula name of each reactant and product.**
2. **Balance each equation.**
3. ***Solve each of the following problems. Show your work, including proper units, to earn full credit.***

1. \_\_\_ CaCl2 + \_\_\_ AgNO3 🡪 \_\_\_ Ca(NO3)2 + \_\_\_ AgCl

Formula names:

Convert 45.9 grams of silver chloride to moles.

2. \_\_\_ CuO + \_\_\_ H2 🡪 \_\_\_ Cu + \_\_\_ H2O

Formula names:

At STP, how many liters of hydrogen are present if you have 34.01 grams of hydrogen?

3. \_\_\_ Na + \_\_\_ H2O 🡪 \_\_\_ NaOH + \_\_\_ H2

Formula names:

If 3 liters of hydrogen (at STP) are produced in the above reaction, how many moles of hydrogen are produced?

4. \_\_\_ KClO3 🡪 \_\_\_ KCl + \_\_\_ O2

Formula names:

If 8.65 x 1025 molecules of potassium chloride are produced, what is the moles and mass of potassium chloride?

Balanced Equations and Mole Ratios

1. Balance each equation.
2. Write a mole ratio between the two chemicals with a star (\*). Follow the example in the first problem.

*Mole ratio*

\* \*

1.    \_\_1\_\_\_NH4NO2 --> \_\_2\_\_\_H2O + \_\_\_1\_\_N2

1 mole NH4NO2 = 2 mole H2O

\* \*  
2.    \_\_\_\_\_H2 + \_\_\_\_\_N2 -->  \_\_\_\_\_NH3

\* \*  
3.    \_\_\_\_\_MgCO3 --> \_\_\_\_\_MgO + \_\_\_\_\_CO2

\* \*  
4.    \_\_\_\_\_P4  + \_\_\_\_\_Cl2 --> \_\_\_\_\_PCl5

\* \*  
5.    \_\_\_\_\_CrO3 --> \_\_\_\_\_Cr2O3  + \_\_\_\_\_O2

\* \*  
6.    \_\_\_\_\_IF5 + \_\_\_\_\_H2O --> \_\_\_\_\_HF + \_\_\_\_\_HIO3

\* \*  
7.    \_\_\_\_\_NH3  + \_\_\_\_\_O2 --> \_\_\_\_\_NO + \_\_\_\_\_H2O

\* \*  
8.    \_\_\_\_\_HBrO3  --> \_\_\_\_\_Br2O5 + \_\_\_\_\_H2O

\* \*

9.    \_\_\_\_\_NO2 + \_\_\_\_\_H2O --> \_\_\_\_\_HNO3 + \_\_\_\_\_NO

\* \*  
10.    \_\_\_\_\_NH4NO3  --> \_\_\_\_\_N2O + \_\_\_\_\_H2O