**Chemistry A Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Practice #4 Period\_\_\_\_\_\_\_**

**Percent, Actual, and Theoretical Yield**

1) LiOH + KCl 🡪 LiCl + KOH

a) I began this reaction with 20 grams of lithium hydroxide. What is my theoretical yield of lithium chloride?

b) I actually produced 6 grams of lithium chloride. What is my percent yield?

2) C3H8 + 5 O2 🡪 3 CO2 + 4 H2O

a) If I start with 5 grams of C3H8, what is my theoretical yield of water?

b) I got a percent yield of 75% How many grams of water did I make?

3) Be + 2 HCl 🡪 BeCl2 + H2

My theoretical yield of beryllium chloride was 10.7 grams. If my actual yield was 4.5 grams, what was my percent yield?

4) 2 NaCl + CaO 🡪 CaCl2 + Na2O

What is my theoretical yield of sodium oxide if I start with 20 grams of calcium oxide?

5) FeBr2 + 2 KCl 🡪 FeCl2 + 2 KBr

a) What is my theoretical yield of iron (II) chloride if I start with 34 grams of iron (II) bromide?

b) What is my percent yield of iron (II) chloride if my actual yield is 4 grams?

6) TiS + H2O 🡪 H2S + TiO

What is my percent yield of titanium (II) oxide if I start with 20 grams of titanium (II) sulfide and my actual yield of titanium (II) oxide is 22 grams?

7) U + 3 Br2 🡪 UBr6

What is my actual yield of uranium hexabromide if I start with 100 grams of uranium and get a percent yield of 83% ?

8) H2SO4 🡪 H2O + SO3

If I start with 89 grams of sulfuric acid and produce 7.1 grams of water, what is my percent yield?

**Chemistry A Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Limiting Reactants Practice #3 Period\_\_\_\_\_\_\_**

Work these limiting reactant practice problems:

1. Seventy five grams of calcium oxide react with one hundred thirty grams of hydrochloric acid to produce a salt and water. What is the limiting reactant?
2. How much aluminum oxide are produced when 46.5g of Al react with 165.37g of MnO?
3. Five grams of copper metal react with a solution containing twenty grams of silver nitrate to produce copper (II) nitrate and silver.
   1. What is the limiting reactant?
   2. How much of the limiting reactant would be needed to react completely with the given amount of excess reactant?
4. A solution containing 20.0 g of sodium sulfite reacts with 7.0 ml of phosphoric acid. Determine the following:
   1. Grams of water produced.
   2. Moles of sodium phosphate produced.
   3. Grams of sulfur dioxide produced.

5. What mass of water can be produced by 14g of H2 reacting with 22g of O2?