**Chapter 12: Stoichiometry practice wksht #1 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Given the equation: 2 C4H10 + 13 O2 🡪 8 CO2 + 10 H2O, write the following molar ratios for:**
   1. **C4H10 / O2 d. C4H10 / CO2**
   2. **O2 / CO2 e. C4H10 / H2O**
   3. **O2 / H2O**
2. **Given the following equation: 2 KClO3 🡪 2 KCl + 3 O2** 
   1. **How many moles of O2 can be produced by letting 12.00 moles of KClO3 react?**
3. **Given the following equation: 2 K + Cl2 🡪 2 KCl**
   1. **How many grams of KCl is produced from 2.50 g of K and excess Cl2?**
   2. **How many grams of KCl is produced from 1.00 g of Cl2 and excess K?**
4. **Given the following equation: Na2O + H2O 🡪 2 NaOH**
   1. **How many grams of NaOH is produced from 1.20 X 102 grams of Na2O?**
   2. **How many grams of Na2O are required to produce 1.60 X 102grams of NaOH?**
5. **Given the following equation: 8 Fe + S8 🡪 8 FeS** 
   1. **What mass of iron is needed to react with 16.0 grams of sulfur? (NOTE THAT IT IS S8)**
   2. **How many grams of FeS are produced?**
6. **Given the following equation: 2 NaClO3 🡪 2 NaCl + 3 O2**
   1. **How many grams of O2 will be produced if there are 12.00 moles of NaClO3?**
   2. **How many grams of NaCl are produced when 80.0 grams of O2 are produced?**
7. **Given the following equation: Cu + 2 AgNO3 🡪 Cu(NO3)2 + 2 Ag**
   1. **How many moles of Cu are needed to react with 3.50 moles of AgNO3?**
   2. **If 89.5 grams of Ag were produced, how many grams of Cu reacted?**
8. **Given the equation: Fe2O3 + 3 C 🡪 2 Fe + 3 CO**
   1. **If 25.0 kg of pure Fe2O3 is used, how many kg of iron can be produced?**
9. **Give the reaction for photosynthesis: 6 CO2 + 6 H2O 🡪 C6H12O6 + 6 O2**
   1. **If the average human requires 120.0 grams of glucose, how many grams of CO2 are needed (called carbon sequestration)?**
10. **Given the equation: 4 NH3 + 5 O2 🡪 4 NO + 6 H2O**
    1. **When 1.20 mole of ammonia reacts, how many total number of moles of product is formed?**