**Chapter 12: Stoichiometry practice wksht #3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **Given the equation: 4 FeCr2O7 + 8 K2CO3 + O2 🡪 2 Fe2O3 + 8 K2CrO4 + 8 CO2**
   1. **How many grams of FeCr2O7 would be needed to produce 44.0 g of CO2?**
   2. **How many grams of oxygen would be needed to produce 100.0 g of iron (III) oxide?**
   3. **If 300.0 g of FeCr2O7 react, how many grams of oxygen will be consumed?**
   4. **How many grams of iron (III) oxide will be produced from 300.0 g of FeCr2O7?**
   5. **How many grams of potassium chromate are formed per gram (1.00) of potassium carbonate used?**
2. **Given the synthesis reaction of sulfur and oxygen to form sulfur dioxide:**

**Balanced equation:**

* 1. **What mass of sulfur must be present to produce 100.0 g of sulfur dioxide?**
  2. **How many grams of oxygen must be present to produce 100.0 g of sulfur dioxide?**

1. **Given the following equation: 6 NaOH + 2 Al 🡪 2 Na3AlO3 + 3 H2**
   1. **How many grams of aluminum is required to produce 17.5 g of hydrogen?**
   2. **How many grams of Na3AlO3 can be formed from 165.0 g of sodium hydroxide?**
   3. **How many moles of sodium hydroxide are required to produce 3 g of hydrogen?**
   4. **How many moles of hydrogen can be produced from 1.0 g of aluminum?**
2. **Barium oxide reacts with sulfuric acid to produce water and barium sulfate.**

**Balanced equation:**

* 1. **How many grams of barium sulfate can be formed from 196.0 g of sulfuric acid?**
  2. **If 81.00 g water is formed during this reaction, how many grams of barium oxide was used?**

1. **Sodium chloride reacts in a double replacement reaction with silver nitrate.**

**Balanced equation:**

* 1. **78.00 g of salt should produce how many grams of silver chloride?**
  2. **How many grams of silver chloride can be produced if 107.0 g of silver nitrate are present?**

1. **Given the equation: B2O3 + 3 Mg 🡪 3 MgO + 2 B**
   1. **How many grams of boron can be obtained from 10.00 kg of B2O3?**
   2. **How many grams of magnesium are required to produce 400.0 kg of boron?**
2. **Tin (IV) oxide reacts with carbon to form tin and carbon dioxide**

**Balanced equation:**

* 1. **How many grams of carbon dioxide are formed when 1.00 kg of tin is produced?**
  2. **How many kg of tin (IV) oxide is required to produce 6.00 kg of tin?**
  3. **How many kg tin is produced per 1.00 kg of carbon used?**

1. **Given the equation: 2 KMnO4 + H2SO4 🡪 K2SO4 + Mn2O7 + H2O**
   1. **How many moles of Mn2O7 can be formed from 196.0 g of KMnO4?**
   2. **How many grams of Mn2O7 can be formed from 390.0 g of KMnO4?**
   3. **How much sulfuric acid is needed to produce 27.00 g of water?**
2. **Given the equation: HBrO3 + Ba(OH)2 🡪 Ba(BrO3)2 + H2O**
   1. **How many moles of barium bromate can be prepared from 7.000 moles HBrO3?**
   2. **How many moles of barium bromate can be prepared from 7.000 moles barium hydroxide?**
3. **Given the equation: 16 Na + S8 🡪 8 Na2S**
   1. **How many moles of sodium sulfide are produced when you have 0.2240 moles sodium AND 0.1320 moles of sulfur? (NOTE: it is S8)**