

Name _____ Bell _____ Date _____

Stoichiometry (mass-mass) Problems

- $\text{FeS}_2 + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2$
Given 75 grams of iron (IV) sulfide, how many grams of sulfur dioxide are produced?
- $\text{MnO}_2 + \text{HCl} \rightarrow \text{Cl}_2 + \text{MnCl}_2 + \text{H}_2\text{O}$
Given 145 grams of manganese (IV) oxide, how many grams of hydrochloric acid are required for this reaction? How many grams of water are produced with this reaction?
- In a blast furnace, iron (III) oxide reacts with coke (carbon) to produce molten iron and carbon monoxide. How many kilograms of iron would be formed from 125 kg of iron (III) oxide? ($\text{Fe}_2\text{O}_3 + \text{C} \rightarrow \text{Fe} + \text{CO}$)
- $\text{Ca} + \text{AlCl}_3 \rightarrow \text{CaCl}_2 + \text{Al}$
If you react 100 grams of aluminum chloride with the required amount of calcium, how many grams of aluminum metal are produced?
- Ethane gas (C_2H_6) burns in air to form carbon dioxide and water. How many grams of carbon dioxide are produced for each 8.00 grams of water produced?
- A quantity of zinc reacts with sulfuric acid to produce 0.10 grams of hydrogen along with some zinc sulfate. How many grams of zinc are required?
- In a reaction between magnesium and oxygen, the only product is 80.0 grams of magnesium oxide. How many grams of magnesium were burned?