

Exam 3 Review

Chapter 5.4, 5.6 and 5.7

1. Writing Chemical Formulas----Know the guidelines for writing the chemical formulas
2. Naming Chemical compounds----
3. Formulas and names of Ionic compounds
 - A. How do you identify an ionic compound?
 - A. Be able to identify and name polyatomic anions (**Polyatomic Ion handout**)
 - B. Know the guidelines for writing ionic formulas
 - C. In naming ionic compounds prefixes are not needed IE: Al_2O_3 = Aluminum oxide
Unless the cation has variable charges in which case it is noted using roman numerals in parentheses.
 - D. Know what hydrates are and how to write their chemical formula and name them. Prefixes are used before the hydrate.

Chapter 9.5

1. Solutions: What is a solution/ the solvent/ the solute?
2. Concentration problems:
 - A. Molarity (M) aka: Molar solution (moles solute/ liter solution);
 - B. Dilutions----- $M_1V_1 = M_2V_2$

Chapter 8.3 and 8.4

1. Limiting Reagents
 - A. Need to find whenever you are given amounts of more than 1 reactant. You may be given amounts in concentration and volume or grams
 - B. It is the reactant whose number of moles divided by it's stoichiometric coefficient is the smallest
 - C. Be able to determine the amount left over of the non-limiting reagent
2. Theoretical, Actual and Percent Yields.
 - A. Theoretical Yield: the yield predicted by stoichiometry. **YOU MUST USE THE LIMITING REAGENT!**
 - B. Actual Yield: the yield that you actually obtain
 - C. Percent Yield: $(\text{Actual Yield} / \text{Theoretical Yield}) \times 100$
 - D. When given the percent of product (the % efficiency of a reaction) and the desired amount of product, be able to determine how much starting material you would need