Chapter 12 and 13 Objectives

Chapter 12

- Students will be able to define soluble.
- Students will be able to define solution.
- Students will be able to distinguish between a solute and a solvent to form a solution.
- Students will be able identify compounds as electrolytes or nonelectrolytes.
- Students will be able to list the three factors affecting the rate of dissolution.
- Students will be able to compare and contrast a saturated solution, unsaturated solution, and supersaturated solution using the term solution equilibrium.
- Given two substances, students will be able to determine whether the two substances are able to be mixed together using "like dissolves like".
- Students will be able to explain the effects of pressure on solubility of gases in solutions.
- Students will be able to explain the effects of temperature on solubility.
- Students can explain the difference between a dilute and concentrated solution.
- Students can properly use of a volumetric flask to make solutions of exact volumes.
- Students will be able to calculate the molarity, moles, mass and volume of a solution using the molarity equation.
- Students will be able to perform calculations involving dilutions by using M1V1 = M2V2 and explain the fact this works due to equals moles of solute before and after the dilution.
- Students will be able to calculate the molality, kg of solvent and moles of solute in molality equations.
- Students can use the molarity equation in calculating stoichiometry problems.

Chapter 13

- Students will be able to define precipitate.
- Students will be able to predict the products of a double replacement chemical reaction in aqueous solution.
- Students will be able to write the net ionic reaction when two aqueous solutions are combined.
- Students will be able to identify spectators in solution reactions.
- Given a solubility chart, students will be able determine if a substance is soluble.
- Given a solubility chart, students will be able determine if a substance is strong or weak electrolyte based on its ability to dissolve.
- Student can use stoichiometry to calculate grams, molarity, moles, volume etc. in double displacement reactions