Chapter 16 – Solutions
Chapter 18 – Reaction Rates & Equilibrium
Chapter 19 – Acids, Bases & Salts

Vocabulary

- Concentration
- Molarity
- Saturated solution
- Solubility
- Supersaturated solution
- Unsaturated solution
- Reaction rates
- Le Chatelier's Principle
- Equilibrium constant expressions

- Acid
- Base
- Neutral
- pH
- pOH
- Neutralization reaction
- Titration
- End point
- Equivalence point

Equations/Conversions

$M = \dfrac{\text{moles of solute}}{\text{liters of solution}}$ $M_1V_1 = M_2V_2$ $K_{eq} = \dfrac{[C]^c \times [D]^d}{[A]^a \times [B]^b}$

$pH = -\log[H^+]$ $[H^+] = 10^{-pH}$

$pOH = -\log[OH^-]$ $[OH^-] = 10^{-pOH}$ $ph + pOH = 14$

Core Concepts

Chapter 16

- Solute vs. solvent
- Factors that determine how fast a substance dissolves:
  - Solids
  - Gases

- What is solubility a measure of?

- Solubility Curves
  - Determine saturated, unsaturated & supersaturated
  - Determine how much solute will precipitate out of solution if cooled
  - Determine how much solute can be dissolved in a smaller or larger quantity of solvent.
- How do you calculate molarity?
- How do you make dilutions and calculate molarity or volumes for dilute solutions?

Chapter 18

- What are the 4 factors that affect a chemical reaction?
- What three stresses can cause a change in the equilibrium of a chemical system?

Chapter 19

- Properties of acids & bases
- Arrhenius definition of acids & bases
- pH scale
  - What makes something acidic?
  - What makes something basic?
  - What makes something neutral?
- Calculating concentration of H^+ or OH^- and pH or pOH
- What are the products of a neutralization reaction (a reaction in which an acid and base react)?
- How to perform a titration calculation.