Chapter 9:

- Properties of acids and bases, and household examples of each

- Three definitions of acids and bases
  - Arrhenius
  - Brønsted-Lowry
    - the hydronium ion
    - amphoteric properties of water (can act as an acid or a base)
    - acid/base conjugate pairs
  - Lewis

- Acid/base neutralization reactions

- Strong and weak acid and bases
  - Complete ionization/dissociation versus partial ionization
  - 6 strong acids and strong bases

- Polyprotic acids and multistep ionization

- Relative strengths of conjugates in a conjugate pair
  - Determining if a salt is acidic, basic, or neutral by looking at the conjugates of the ions

- Auto Ionization of Water
  - Equations
  - Concentrations
  - Relationship between $[H^+]$ and $[OH^-]$

- pH and Logarithms
  - Definition of a logarithm
  - pH equation
  - pH scale
  - Relationship between a pH unit and $[H^+]$
  - Relationship between pH and pOH
  - Calculating the pH of a strong acid or a strong base solution

- Indicators
  - Definition
  - How an indicator works

- Titration
  - Uses for the analytical technique
  - Experimental set-up
  - Acid/base neutralization equation
• Buffers
  o Definition and making a buffered solution
  o Le Châtelier’s principle
  o Buffering capacity

• Three ways to write a chemical equation
  o Formula equation
  o Complete ionic equation
    ▪ substances are shown as formula units
    ▪ substances that split into ions
    ▪ spectator ions
  o Net ionic equations

Manage your time wisely as you study. Cover all the basic concepts before delving too deeply into any one topic. If you have a specific question, you can e-mail me at albi.romero@cabrillo.edu I will reply to e-mails several times the night before an exam. Continue to study other topics while you wait for a response.