REVIEW SHEET

Class: Chemistry 2

Text: Concepts and Applications, Glencoe

The final exam includes 40 multiple-choice questions from Chapters 9-21.

Ch. 9 Chemical Bonding

- Define:
    - electronegativity
    - single, double and triple bonds
    - malleable
    - metallic bond polar covalent bond
- What defines the geometric shape of a molecule?
- What is an Ion? Shape of an Ion?
- How do atoms share electrons?

Ch. 10 Kinetic Theory of Matter

- Define:
    - Absolute zero
    - Boiling point, freezing point, melting point
    - Kinetic Theory
- Describe the 4 states of matter.
- How does temperature and pressure affect Kinetic Energy?
- What are elastic and inelastic collisions?

Ch. 11 Behavior of Gases

- Know the gas laws: Charles Law, Boyle's Law and Combined Gas Law.
- Know the units for measuring Pressure and Temperature

Ch. 12 Chemical Quantities

- What is Avogadro's number?
- What is an Atomic Mass Unit? Can you calculate Molar Mass?
- Define Stoichiometry.

Ch. 13 Water and Solutions

- Define:
  - Hydrogen bonding
  - osmosis
  - surface tension
  - Tyndall effect
- Explain why water is polar.
- Why is water the universal solvent?

Ch. 14 Acids, Bases, pH

Define:
- hydroxide
- hydronium
- strong acids and bases
- weak acids and bases

- Describe the properties of Acids and Bases.
- Understand how to read a pH scale, and the factor of 10 levels.
- Know all indicator, and what the colors represent. (Thymol blue, Bromothymol, Methyl red, Phenolphthalein and Universal Indicator)

Ch. 15 Acid, Bases and reactions

- Know the types of Acid-Base Reactions, define the products.
- How does a buffer work? What is neutralization?
- What is an Acid-Base Titration?

Ch. 16 Oxidation-Reduction Reactions

Define:
- Anode
- Cathode

- What is Oxidation-reduction??
- Identify a Redox Reaction
- Describe/illustrate Chemiluminecent Redox.

Ch. 17 Electro Chemistry

Define: Electrolysis

- Describe the different Batteries used in Oxidation-Reduction and Electrochemistry?

Ch. 18 Organic Chemistry

Define: Alkenes, Alkynes, and Alkanes

Polymer and fractional distillation

- Give example of saturated and unsaturated Hydrocarbons?
- Describe carbon bonding, single, double and triple, and sources of the compounds.

Ch. 19 The Chemistry of Life

- Know how biochemistry works with proteins, carbohydrates, lipids, nucleic acids, amino acid, lactic acid and vitamins in the body.
- Explain the bonding of nucleic acids in the structure of DNA.

Ch. 20 Chemical Reactions and Energy

- Review Exothermic and Endothermic reactions.
- What forces drive a reaction forwards and backwards?
- How does a catalyst affect a reaction? Activation Energy?
- What is the difference between Chemical and Electrical Energy and how do they change from one to the other (conversions)?
- Explain carbon in Photosynthesis.

Ch. 21 Nuclear Chemistry

- Define the types and radiation (alpha, beta, gamma) and their differences?
- What is Radioactive Decay? Why is it measured in ½ life?
- Explain the difference between Nuclear Fission and Fusion.
- What is Phosphorescence?