Elizabethtown Area School District
Scope & Sequence - Quick Reference

Department: Science

Course: Honors Chemistry II

Grade Level(s): 11 & 12

Unit Title	*General Topic(s)*	*Pacing in Blocks*
1. How does this decompose?	• Review of laboratory skills	2 - 3
2. Reactions in Aqueous Solutions	• General properties of solutions • Precipitation reactions • Acid-base reactions • Oxidation-reduction reactions • Concentrations of solutions • Gravimetric analysis • Acid-base titrations • Redox titrations	8
3. Intermoleuclar Attractive Forces and Liquids and Solids	• The kinetic molecular theory of liquids and solids • Intermolecular forces • Properties of liquids • Crystal structure • Types of crystals • Amorphous solids • Phase changes • Phase diagrams	8
4. Physical Properties of Solutions	• Types of solutions • Molecular view of the solution process • Concentration units	7

	● Effect of temperature on solubility ● Effect of pressure on solubility of gases ● Colligative properties of nonelectrolyte solutions ● Colligative properties of electrolyte solutions ● Colloids	
5. Qualitative Analysis	● Using solutions to identify other solutions	10
6. Gases	● Substances that exist as gases ● Pressure of a gas ● The gas laws ● The ideal gas equation ● Gas stoichiometry ● Dalton's law of partial pressures ● KMT of gases ● Deviation from ideal behavior	7
7. Thermochemistry	● Nature and types of energy ● Energy changes in chemical reactions ● Introduction to thermodynamics ● Enthalpy in chemical reactions ● Standards enthalpy of formation and reactions ● Heat of solution and dilution	7
8. Acids and Bases	● Bronsted Acids and bases ● Acid-Base properties of water ● pH ● Strength of acids - bases ● Weak acids/bases and acid/base ionization constants ● Ionization constants and conjugates ● Diprotic and polyprotic acids ● Molecular structure asnd strength of acids ● Acid/base properties of salts ● Acid / base anhydrides	7
9. Acid Base Equilibria and Solution Equilibria	● Homogeneous v heterogeneous equilibria ● Common ion effect ● Buffer solutions ● Acid -base titrations ● Solubility equilibria	8

	● Fractional precipitation ● Common ion effect and solubility ● pH and solubility ● Complex ion equilbria and solubility	
10. Chemical Kinetics	● Rate of a reaction ● Rate law ● Relationship between reactant concentration and time ● Activation energy and temperature dependence of rate constants ● Reaction mechanisms ● Catalysis	7
11. Chemical Equilibrium	● Concept of equilibrium and equilibrium constant ● Writing equilibrium constant expressions ● Relationship between chemical kinetics and chemical equilibrium ● What does the equilibrium constant tell us? ● Factors that affect chemical equilibrium	7