

Unit 1: Introduction and Background

AP Chemistry

Section 1- Measurement, Uncertainty, Matter, Periodicity, and Nomenclature

Vocabulary Terms to Know:

Theory, law, accuracy, precision, percent error, significant figures, density, matter, solid, liquid, gas, intensive, extensive, physical property, chemical property, physical change, chemical change, mixture, homogeneous mixture, heterogeneous mixture, solution, solute, solvent, soluble, insoluble, distillation, pure substance, element, compound, law of conservation of energy, law of conservation of mass, periodic law, period, group, metal, nonmetal, metalloid, luster, malleable, ductile, anions, cations, valence electrons, effective nuclear charge, shielding, atomic radius, ionic radius, ionization energy, electronegativity, electron affinity, ionic bond, covalent bond, molecule, hydrocarbon, alkane, alkene, alkyne

Textbook Practice Problems:

- Pgs. 33-38: 1.1, 1.2, 1.3, 1.5, 1.6, 1.8, 1.11, 1.13, 1.17, 1.19, 1.21, 1.23, 1.29, 1.31, 1.37, 1.39, 1.41, 1.43, 1.47, 1.51, 1.53, 1.55, 1.57, 1.61, 1.73
- Pgs. 290-293: 7.2, 7.4, 7.7, 7.13, 7.17, 7.25, 7.27, 7.29, 7.35, 7.39, 7.41, 7.43, 7.55, 7.59, 7.69
- Pgs. 73-79: 2.3, 2.4, 2.5, 2.6, 2.41, 2.51, 2.61, 2.65, 2.71, 2.73, 2.75, 2.77, 2.100

Section 2- Reactions, Moles, Stoichiometry, and Solutions

Vocabulary Terms to Know:

Chemical reaction, catalyst, coefficient, subscript, synthesis, decomposition, single replacement, double replacement, combustion, activity series, mole, molar mass, representative particles, empirical formula, molecular formula, molar ratio, limiting reagent, excess reagent, percent yield, aqueous solution, miscible, immiscible, net ionic, spectator ions, molarity, dilution

Textbook Practice Problems:

- Pgs. 112-119: 3.1, 3.2, 3.3, 3.7, 3.9, 3.11, 3.13, 3.15, 3.17, 3.19, 3.21, 3.23, 3.25, 3.27, 3.35, 3.37, 3.41, 3.43, 3.45, 3.47, 3.49, 3.51, 3.53, 3.55, 3.57, 3.59, 3.63, 3.67, 3.71, 3.73, 3.75, 3.79, 3.83, 3.89, 3.95, 3.99, 3.100, 3.101
- Pgs. 156-161: 4.1, 4.5, 4.7, 4.15, 4.17, 4.19, 4.21, 4.23, 4.25, 4.29, 4.61, 4.63, 4.65, 4.67, 4.69, 4.73, 4.75, 4.83, 4.87

Section 3- Atomic Structure

Vocabulary Terms to Know:

Law of definite proportions, law of multiple proportions, protons, neutrons, electrons, cathode ray, alpha particle, energy levels, electron cloud, atomic number, mass number, isotope, atomic mass, mass spectrometry, principle quantum number, shell, excited state, ground state, azimuthal quantum number, subshell, magnetic quantum number, spin, Aufbau principle, Pauli exclusion principle, Hund's rule, paramagnetic, diamagnetic, isoelectronic species, wavelength, frequency, electromagnetic spectrum, atomic emission spectrum, quantum, Heisenberg's Uncertainty Principle, photoelectron spectroscopy

Textbook Practice Problems:

- Pgs. 73-78: 2.1, 2.15, 2.17, 2.21, 2.22, 2.23, 2.25, 2.27, 2.29, 2.31, 2.35, 2.39, 2.88, 2.96
- Pgs. 248-252: 6.3, 6.11, 6.13, 6.15, 6.17, 6.21, 6.25, 6.27, 6.29, 6.33, 6.37a, 6.55, 6.57, 6.59, 6.71, 6.73, 6.75, 6.79