

AP Chemistry Mid-Year Examination Review Sheet 2009-10

Definition of heat of formation and heat of combustion
Calculation of Specific Heat
Representative elements and electronic structure
Wavelength vs frequency calculation
endo and exthermic reactions comparisons
Groups vs electronic configurations.
Calorimeters
Electron configurations of transition metals
Rutherford's experiment
Predicting salt present in acid base reaction
Electron configuration and identity of type of element
ID basic oxide or acid oxide
Solubility rules
Orbital notations
ID of reaction types
Quantum numbers and electron structure
Oxidation number identification
Coordination Numbers in complex ions
Weak and strong electrolytes
Heat of combustion calculation
Predicting precipitates in reactions
Products of neutralization reactions
Colorimetry Beer's Law
Atomic structure of ions
ID reducing and oxidizing agents
Temperature conversions
Predicting products of single replacement reactions
Classification of elements based on electronic structure
ID of oxidation and reduction reactions
Pressure, Volume and number of gases particles compared
Interpreting the Combined Gas Law
Ions present in a reaction product
Average molecular speeds of gaseous molecules
common chemical behavior and atomic structure
Pressure of a gas in a manometer
Kinetic energy and temperature
Solution Stoichiometry
Formula and name of acids
Atomic emission cause
Atomic number and electrons
Deviations from the Ideal Gas Concept
Calculation of density of a gas using Ideal Gas Law
Prediction of abundance of isotopes
molar mass of a gas using Ideal gas law
Balancing chemical equations
Calculation of temperature change using $Q=mc\Delta T$
Mass to moles etc.
Rutherford experiment
Physical and Chemical Properties
Stock system naming

Open Ended

A. Atoms Molecules and Ions

Formula writing and naming of compound (binary, ternary, acids, and complex ions and compounds)

B. Stoichiometry

Calculation of Empirical and Molecular formulas

Sequential equation stoichiometry

Calculation of percentage yield

C. Reactions and Solution Stoichiometry

Percentage of an element present in a compound involving precipitation reactions

Molarity and equation stoichiometry

Balancing redox reactions in acid or basic medium

Predicting chemical reactions/balancing equations

D. Gases

Combined Gas Law calculations

Ideal Gas Law calculations

Molecular formula from calculations involving Ideal Gas Law

Volume-Volume calculation at conditions other than STP

Grahams Law of effusion

E. Thermochemistry

Hess' Law indirect

Hess' Law direct for heat of formation or heat of combustion

Calculation using calorimeter constant

F. Atomic Structure and Periodicity

Electron configurations and orbital notations of atoms and ions

Beers Law calculations

Calculation of energy of given wavelength or frequency