

Study Topics for Exam 5

- Lecture 20: Electron Configuration Exceptions
 Cu Atom Configuration
 Group B Elements and Mendeleev's Table
 Simple Bonding
 Cl₂ vs. NaCl
 Ionic vs. Covalent Bonding
 Ionic Bonding
 Ion Lattice Structures
 Typical Group A Ions
 Go Thru Group A Ions on "Common Ion" Sheet
 Cases Where a Cation forms Multiple Common Ions
 Polyatomic Ions
 Chemical Formulas of Ionic Compounds
 Determining Chemical Formulas
 Determining Cation Charge
- Lecture 21: Naming Binary Ionic Compounds
 Case I: Metal forms a Single Common Ion
 -ide endings
 Case II: Metal forms Multiple Common Ions
 Case III: Polyatomic Ions
 Solubility of Salts
 Solubility Rules
 Precipitation Reactions
 Double Displacement (Metathesis) Reactions
 Net Ionic Equation
 Spectator Ions
- Lecture 22: Valence
 Frankland's Observations
 Abegg's Rule
 Lewis and the Cubical Atom
 Lewis Structures
 Covalent Bonds
 Simple Cases
 Bonding and Lone Pairs
 Multiple Bonds
 Expanded Chemical Formulas
 Exceptions to the Octet Rule
 Too Few Valence Electrons

Too Many Valence Electrons
Polyatomic Ions

Lecture 23: Naming Covalent Compounds

Ordering of non-Metals

The Mole Concept

Counting Schemes

Dozen, Gross, Mole

Definition of the Mole

Avogadro's Number

Entity - Mole Conversions

Relationship between Mass and Mole

Molar Mass (Atomic and Molecular Weight)

Mole - Mass Conversions