

Quarterly #2: List of Topics: Chapters 7, 8, & 10

Open Ended & Multiple Choice

Chapter 7

-Ionic Bonding

- Being able determine the formula of an ionic compound based on the elements and ions involved.

-Names and Formulas

- Be able to name compounds by identifying the compounds as ionic, covalent or acids.
Ex. HClO_4 , Na_3PO_4 , H_2O

-Element stability

- Understand how electrons are gained or lost to achieve a lower potential energy state (noble gas configuration).

-Forming Compound

- Be able to correctly form ionic and covalent compounds.
- Be sure to check for stability with number of valence electrons and bond types.

Chapter 8

-Covalent Bonding

-Bond Polarity

- Use electronegativities to determine the polarity of a bond.

-Molecular Polarity

- Assess the polarity of a molecule by using electron pairs, bonds and shapes.

-Molecular Geometry

- Identify the shape of a molecule. Consider nonbonding and bonding electrons
- Resonance Structures. Identify the number of valid resonance structures a compound can form.
Ex: CO_3^{2-} , O_3 , SO_2
Ex: CH_4 , SO_2 , BH_3 , CO_2

-Bond Angle

- Identify the bond angle of a compound based on the molecular geometry

-Formal Charge: [# of valence electrons on atom] – [non-bonded electrons + number of bonds]

-Hybridization of central atom in molecule

Chapter 10

-Percent Composition

- Calculate the percent of a given element in a compound.

-Gram – Mol - Atoms Relationship

- Convert between amounts of given compounds or elements using the molar mass.

- Empirical Formula

- Find the empirical formula for a given set of elements.

-Molecular Formula

- Find the ratio between an empirical and molecular formula.