

Quiz for Module 3 – Ions and Molecules

- Which of the following denotes an ion with a positive charge?
 - Anion
 - Cation
 - Proton
 - Neutron
- What is the total charge on an ionic compound (the sum of charges from all anions and cations)?
 - +1
 - +2
 - 1
 - 0
- How can we predict the charge on many monatomic ions (i.e. the charge on Oxygen)?
 - Using its group on the periodic table
 - We must memorize it
 - From the molar mass
- State the charge for the following polyatomic ions:
 - Carbonate -2
 - Ammonium +1
 - Phosphate -3
 - Hydroxide -1
 - Permanganate -1
- What types of bonds are present between atoms within a polyatomic ion?
 - Covalent bonds
 - Ionic bonds
 - Metallic Bonds
 - No Bonds
- How many chloride ions are present in one formula unit of Iron (III) Chloride
 - 1
 - 2
 - 3
 - 4
- How can we determine the charge on a transition metal cation in a compound based on the formula of the compound?
 - From the charge of the anions
 - From on the periodic table
 - From the name of the ion
 - From our knowledge of the compound
- The covalently bound molecule carbon monoxide is required to describe the number of each atom present. Why is this not necessary for ionic compounds?
 - Covalent compounds can combine in multiple proportions
 - Ionic compound proportions are based on charges
 - Atoms in compounds may share different numbers of electrons
 - All of the above
- What occurs when a soluble ionic compound is put into water?
 - It dissolves
 - It dissolves and dissociates
 - It does not dissolve
 - Not enough information
- Why can we not describe “molecules” of ionic compounds?
 - Ionic compounds exist as a crystal lattice
 - There are no discrete molecular units for ionic compounds
 - Ionic compounds pair based on charge, not electron sharing
 - All of the above