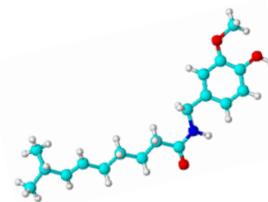


Chemical Bonding



*“Be less curious about people and more curious about ideas.”
–Marie Curie*

FORMAT

The test will consist of five: vocabulary, short answer, periodic trends, Lewis dot symbols, electron configuration and review. Many of the questions will require critical thinking on your part. So think! Study and you will do well.

VOCABULARY

formula unit
covalent bond
chemical bond
metallic bond

diatomic
halides
resonance
ionic bond

electronegativity
pure covalent bond
valence electrons
lone pair

bonding electrons
polar covalent bond
coordinate covalent bond
nonpolar covalent bond

KNOW

- the general rules for chemical bonds
- the properties of ionic, covalent and metal substances
- ionic and covalent bonds
- nonpolar and polar covalent bonds
- the driving force behind chemical bonding

BE ABLE TO

- draw electron dot structures
- determine the number of possible bonds for an element
- predict the predominate type of chemical bond
- determine polar and nonpolar covalent bonds
- predict a compound's molecular formula
- list the diatomic elements

REVIEW

- electronegativity
- ionization energy
- the periodic law
- Lewis dot symbols
- the octet rule
- the periodic table's tendencies
- cations and anions
- element's electron configuration

Practice

LIST properties of ionic compounds.

LIST properties of a covalent compound.

LIST properties of a metallic compound.

WHAT is the driving force behind chemical bonding?

DRAW the Lewis dot symbols, then determine the charge and possible bonds: Ca; N; O; Cl; Se; Zn; Cr

DETERMINE which type of bond, (**I**onic, (**C**ovalent or (**M**etallic, predominates in each:

_____ SnCl₄ _____ GeH₄ _____ CaF₂ _____ Fe₃Al _____ Na₂O _____ N₂H₄

_____ CsF _____ MgCl₂ _____ HCN _____ LiBr _____ XeF₆ _____ CO₂

DRAW the Lewis dot symbols for the following: CH₄; N₂; H₂O; CH₃Cl;

DESCRIBE a polar bond?

DESCRIBE a double covalent bond?

DIRECTIONS: Tell whether the bond between these atoms is **polar** or **nonpolar**.

_____ C—H _____ S—F _____ S—H

_____ O—F _____ F—F _____ H—O

“The road to success is a toll road, are you willing to pay the price?”
– Mr. Causey