**Chemical Bonding – A Review**

**Name: Period: 2 3 4**

**Type of Bond** – Using the difference in electronegativity, determine if the bond is **ionic (>1.5)**, **covalent (>0.5)**, or **polar covalent (b/w 0.5 – 1.5)**.

1. H2S
2. Mg3P2
3. SCl6
4. CO
5. KF
6. NCl3

**Ionic Bonds**

1. How do ionic bonds form?
2. Metals form which type of ion, cation (+) or anion (-) and do they do so by gaining or losing valence electrons?
3. Nonmetals form which type of ion, cation (+) or anion (-) and do they do so by gaining or losing valence electrons?
4. Draw Lewis structures to show the transfer of electrons in forming an ionic bond between these metals and nonmetals. Remember to write the charges formed and the formula for the resulting compound.
   1. Rb and S c. Ga and P
   2. Be and N d. Ba and O

**Covalent Bonds**

1. How does a covalent bond form?
2. Draw Lewis structures for the following covalent compounds:
   1. H3P c. C2Br4
   2. H2CS d. N2O
3. Determine the VSEPR shape and bond angle of the following molecules:
   1. SiI4 c. PH3
   2. H2Se d. CO2

**Metallic Bonds**

1. What are alloys?
2. Describe πan interstitial alloy. A substitutional alloy.
3. What make compounds with metallic bonds conductive?

**Properties of Bonds**: Give at least 3 different properties of each type of compound.

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| Ionic Compounds | Covalent Compounds | Metallic Compounds |
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