**FPS – Bonding and Naming Chapter 6 - Unit 10 Review**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

1. ***Bonding***
2. Define the following bonding types and give examples of the compounds that are bonded in that way.
	1. Ionic
		1. Examples:
	2. Covalent
		1. Examples:
	3. Metallic
		1. Examples:
3. What are some identifying properties of ionic bonds? How are the ions arranged?

1. What are some identifying properties of covalent bonds? How are the units different from ions?
2. What are some identifying properties of metallic bonds? How are the electron interactions unique?
3. Describe the differences in valence electron behavior for each of the 3 bonding types.
4. What is the octet rule? How do atoms satisfy the octet rule?
5. How are the bonds in H2O different from the bonds in Li2O?
6. On the periodic table below, identify the ***3 main categories*** of elements. Then, label the charges for each column.

7. ***Lewis Dot Structures and Bonding***
8. What is depicted in a Lewis dot structure?
9. Draw the Lewis dot structures for the following elements:
	1. Carbon
	2. Aluminum
	3. Lithium
	4. Helium
	5. Argon
	6. Phosphorus
	7. Silicon
	8. Oxygen
	9. Fluorine
10. Draw the Lewis dot structures for the following compounds. Remember, subscripts tell you the number of atoms present per unit.
	1. H2O
	2. CH4
	3. LiCl
	4. Na2S
	5. O2
11. Write the chemical formulas for the ionic compounds containing the following elements. Refer to #8 for charges to use the crossing method.
	1. Na and O
	2. Ca and Cl
	3. Mg and N
	4. Cs and F

***C. Naming Binary Compounds***

1. What are the differences in naming covalent and ionic compounds?
2. When do you NOT use a prefix for a covalent compound?
3. Fill in the prefix table below.

|  |  |
| --- | --- |
| ***Prefix*** | ***Number*** |
|  | 1 |
|  | 2 |
|  | 3 |
|  | 4 |
|  | 5 |
|  | 6 |
|  | 7 |
|  | 8 |
|  | 9 |
|  | 10 |

1. Name the following ***ionic*** compounds:
	1. NaCl
	2. MgF2
	3. AlCl3
	4. BeO
2. From the following names, write the chemical formula for the ionic compounds. Write the ions first, then use the crossing method.
	1. Sodium oxide
	2. Magnesium oxide
	3. Barium fluoride
	4. Lithium bromide
3. Write the names for the following ***covalent*** compounds.
	1. CO
	2. CO2
	3. N2H4
	4. SO4
	5. N3O5
	6. CS6
4. Write the formula for the following names.
	1. trisilicon tetrafluoride
	2. carbon trioxide
	3. dichlorine heptoxide
	4. tetracarbon decasulfide
	5. boron hexachloride
	6. dihydrogen dioxide
5. Below is a mixed set of chemical compounds. Ionic and covalent are both present. Name or give the chemical formula.
	1. CaO h. Potassium bromide
	2. H2O2  i. Nitrogen trioxide
	3. Carbon dioxide j. NO
	4. Magnesium oxide k. SF6
	5. PCl3 l. Strontium nitride
	6. NH2  m. Diphosphorus pentoxide
	7. Dinitrogen monoxide