

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

## IONS AND CHEMICAL BONDING PRACTICE SHEET

**Part I.** From the given ions below, write the formula of the neutral compound in the space provided.  
Rules: 1) the cation goes first, 2) charges must neutralize each other. See example below.

	Na <sup>1+</sup>	Mg <sup>2+</sup>	Al <sup>3+</sup>	NH <sub>4</sub> <sup>1+</sup>	Ba <sup>2+</sup>
Cl <sup>1-</sup> (chloride)					
Br <sup>1-</sup> (bromide)			<i>AlBr<sub>3</sub></i>		
I <sup>1-</sup> (iodide)					
O <sup>2-</sup> (oxide)					
S <sup>2-</sup> (sulfide)					
N <sup>3-</sup> (nitride)					
OH <sup>1-</sup> (hydroxide)					
CO <sub>3</sub> <sup>2-</sup> (carbonate)					
NO <sub>3</sub> <sup>1-</sup> (nitrate)					
SO <sub>4</sub> <sup>2-</sup> (sulfate)					
PO <sub>4</sub> <sup>3-</sup> (phosphate)					
SO <sub>3</sub> <sup>2-</sup> (sulfite)					

**Part II.** Identify whether the atom below will either gain or lose electrons when it becomes an ion. How many electrons will it gain or lose? What will be its ionic charge? See example below.

- 1) Sulfur will gain / lose 2 electrons. Ionic charge = 2-.
- 2) Calcium will gain / lose \_\_\_\_\_ electrons. Ionic charge = \_\_\_\_\_.
- 3) Lithium will gain / lose \_\_\_\_\_ electrons. Ionic charge = \_\_\_\_\_.
- 4) Argon will gain / lose \_\_\_\_\_ electrons. Ionic charge = \_\_\_\_\_.
- 5) Potassium will gain / lose \_\_\_\_\_ electrons. Ionic charge = \_\_\_\_\_.
- 6) Hydrogen will gain / lose \_\_\_\_\_ electrons. Ionic charge = \_\_\_\_\_.

**Part III.** Identify the polyatomic ions in each of the formulas below and write the names of the polyatomic ions in the space provided.

- 1)  $\text{MgCO}_3$  Polyatomic ion:  $\text{CO}_3^{2-}$  Name: Carbonate
- 2)  $\text{AlPO}_4$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 3)  $\text{Al}(\text{NO}_3)_3$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 4)  $\text{Ba}(\text{OH})_2$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 5)  $\text{Cu}(\text{C}_2\text{H}_3\text{O}_2)_2$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 6)  $\text{NaSO}_4$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 7)  $\text{MgSO}_3$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_
- 8)  $\text{NH}_4\text{Br}$  Polyatomic ion: \_\_\_\_\_ Name: \_\_\_\_\_

*Get to know your polyatomic ions, you will be tested on them!*