

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 ¹⁺	Mg ²⁺	Al ³⁺	NH ₄ ¹⁺	Ba ²⁺
Cl ¹⁻ (chloride)					
Br ¹⁻ (bromide)			<i>AlBr₃</i>		
I ¹⁻ (iodide)					
O ²⁻ (oxide)					
S ²⁻ (sulfide)					
N ³⁻ (nitride)					
OH ¹⁻ (hydroxide)					
CO ₃ ²⁻ (carbonate)					
NO ₃ ¹⁻ (nitrate)					
SO ₄ ²⁻ (sulfate)					
PO ₄ ³⁻ (phosphate)					
SO ₃ ²⁻ (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) MgCO_3 Polyatomic ion: CO_3^{2-} Name: Carbonate
- 2) 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) NaSO_4 Polyatomic ion: _____ Name: _____
- 7) MgSO_3 Polyatomic ion: _____ Name: _____
- 8) NH_4Br Polyatomic ion: _____ Name: _____

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