

**UNIT 4 STUDY GUIDE: Chemical Names and Formulas (CH 9)**

Complete the table below.

Element symbol	Formula for ion	# of electrons gained or lost	Name of ion	Anion or Cation?
Sr	$\text{Sr}^{2+}$		strontium ion	
P		3 electrons gained		
Br				
			oxide ion	
Cs		1 electron lost		

Complete the table below.

Formula and charge for ion	Name of ion
$\text{SO}_3^{2-}$	
$\text{PO}_4^{3-}$	
	ammonium ion
$\text{CO}_3^{2-}$	
	chlorite ion
	chromate ion
$\text{C}_2\text{O}_4^{2-}$	
	bicarbonate ion

**SHORT ANSWER:**

- 1) What is the difference between an ionic compound and a molecular compound?
- 2) What is the difference between a cation and an anion?
- 3) What type of elements typically form cations?
- 4) What type of elements typically form anions?
- 5) Why do the noble gases not typically form compounds?

6) State whether the following compounds are **IONIC** or **MOLECULAR** or an **ACID**:

KF \_\_\_\_\_ Br<sub>2</sub> \_\_\_\_\_ N<sub>2</sub>Cl<sub>4</sub> \_\_\_\_\_  
 P<sub>2</sub>O<sub>5</sub> \_\_\_\_\_ FeS \_\_\_\_\_ NH<sub>4</sub>OH \_\_\_\_\_  
 H<sub>2</sub>SO<sub>4</sub> \_\_\_\_\_ CBr<sub>4</sub> \_\_\_\_\_ Mg<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub> \_\_\_\_\_

7) What charge do the ions of the elements in the following groups generally have? Give 3 examples from each group.

Group 1A (Alkali Metals): \_\_\_\_\_ Group 2A (Alkaline Earth Metals) \_\_\_\_\_

>Examples: \_\_\_\_\_ >Examples: \_\_\_\_\_

Group 7A (Halogens) \_\_\_\_\_ Group 0 (Noble Gases) \_\_\_\_\_

>Examples: \_\_\_\_\_ >Examples: \_\_\_\_\_

**Chemical Names and Formulas** – complete the chart below. NOTE: ionic and molecular compounds and acids are all mixed together!

Compound formula:	Compound name:	Ionic, Molecular, or Acid?
NaF		
CO <sub>2</sub>		
K <sub>2</sub> CO <sub>3</sub>		
H <sub>2</sub> S		
	sodium acetate	
	potassium fluoride	
	carbon monoxide	
MgCl <sub>2</sub>		
	nitrous acid	
Be(OH) <sub>2</sub>		
	strontium oxide	
	dihydrogen monoxide	
PCl <sub>5</sub>		
	calcium carbonate	
P <sub>2</sub> O <sub>5</sub>		
	iron(III) sulfate	

Compound formula:	Compound name:	Ionic, Molecular, or Acid?
	dinitrogen dioxide	
SrS		
	sulfur trioxide	
Cu <sub>2</sub> S		
ZnI <sub>2</sub>		
	sulfuric acid	
	magnesium phosphate	
SO <sub>2</sub>		
HCN		
	chloric acid	
Mn(NO <sub>3</sub> ) <sub>4</sub>		
	lead (II) sulfite	
Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>		
	lithium nitrate	
NH <sub>4</sub> I		
	ammonium hydroxide	
SiO <sub>2</sub>		
FePO <sub>4</sub>		
	tetraphosphorus octafluoride	
CoCO <sub>3</sub>		
	potassium cyanide	
	barium chloride	
H <sub>2</sub> CrO <sub>4</sub>		
	copper(I) nitrite	
	silicon trioxide	
	acetic acid	
Al(ClO <sub>2</sub> ) <sub>3</sub>		