

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Notes: Ionic Compounds

What happens to the electrons of **metals**? \_\_\_\_\_

What kind of charge do metals have? \_\_\_\_\_

What do we call positively charged ions? \_\_\_\_\_

Define **oxidation**: \_\_\_\_\_

What happens to the electrons of **nonmetals**? \_\_\_\_\_

What kind of charge do nonmetals have? \_\_\_\_\_

What do we call negatively charged ions? \_\_\_\_\_

Define **reduction**: \_\_\_\_\_

Use your periodic table to predict the charges of the following ions:

Be \_\_\_\_\_ I \_\_\_\_\_ He \_\_\_\_\_ S \_\_\_\_\_

O \_\_\_\_\_ Li \_\_\_\_\_ F \_\_\_\_\_ Na \_\_\_\_\_

Cs \_\_\_\_\_ Cl \_\_\_\_\_ Xe \_\_\_\_\_ P \_\_\_\_\_

Mg \_\_\_\_\_ N \_\_\_\_\_ Ne \_\_\_\_\_ Ca \_\_\_\_\_

H																	He	
Li	Be											B	C	N	O	F	Ne	
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt										
			Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
			Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr		

What do ionic compounds contain? \_\_\_\_\_

Why are the Noble Gases chemically unreactive (inert)? \_\_\_\_\_

What is an **ion**? \_\_\_\_\_

What is a **formula unit**? \_\_\_\_\_

Why are formula units *theoretical* particles? \_\_\_\_\_

Why do Group 1 and Group 17 join together in a 1:1 ratio? \_\_\_\_\_

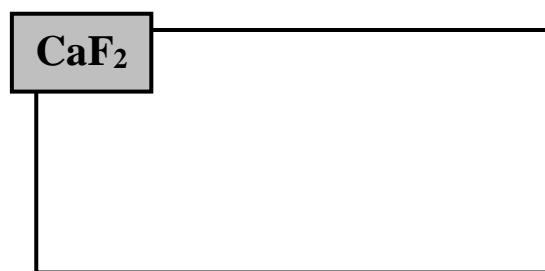
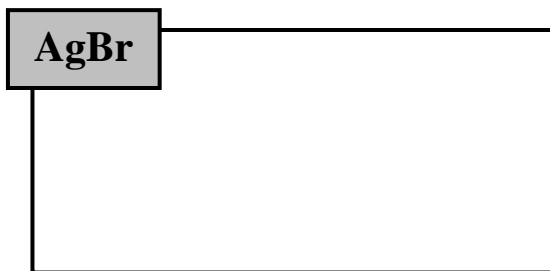
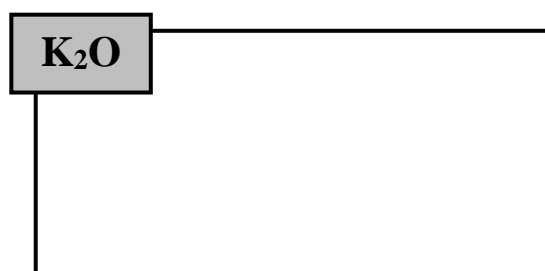
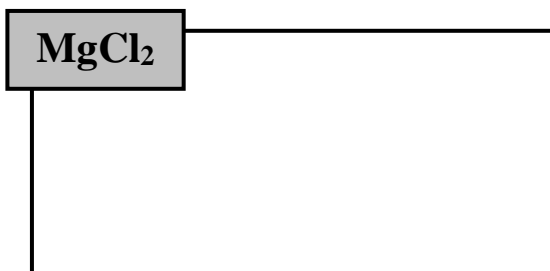
Why do Group 2 and Group 16 join together in a 1:1 ratio? \_\_\_\_\_

### Lewis Dot Structures for Ionic Compounds

How many electrons are around a **metal** ion? \_\_\_\_\_

How many electrons are around a **nonmetal** ion? \_\_\_\_\_

When are parentheses optional? \_\_\_\_\_

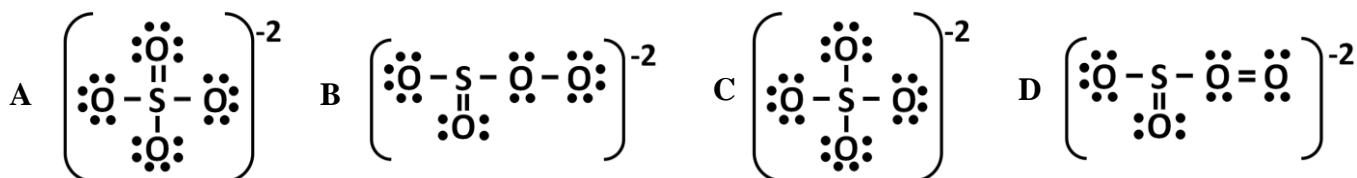


What are *polyatomic ions*? \_\_\_\_\_

**Formula for determining the number of electrons in a polyatomic ion:**

How many electrons should be found in a diagram of the sulfate ion (SO<sub>4</sub><sup>-2</sup>)?

Which structure below represents the sulfate ion (SO<sub>4</sub><sup>-2</sup>) correctly?



Determine how many electrons should be each of the polyatomic ions on your notes.

Carbonate (CO<sub>3</sub><sup>-2</sup>) \_\_\_\_\_

Hydroxide (OH<sup>-</sup>) \_\_\_\_\_

Ammonium (NH<sub>4</sub><sup>+</sup>) \_\_\_\_\_

Phosphate (PO<sub>4</sub><sup>-3</sup>) \_\_\_\_\_

Cyanide (CN<sup>-</sup>) \_\_\_\_\_

Chlorate (ClO<sub>3</sub><sup>-</sup>) \_\_\_\_\_