

**find the charge on the metal ion**

Chemistry: <http://genest.weebly.com>

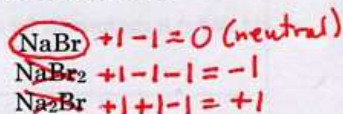
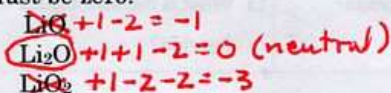
Stop in for help every day at lunch and Tues & Thurs after school



Name \_\_\_\_\_

Period \_\_\_\_\_

1. Directions: cross out impossible compounds. Circle possible compounds. Use the rule: stable compounds must always be neutral; the total charge of a compound must be zero.



■ -1    ■ +1  
■ -2    ■ +2

- Color and label the part of the table where the elements often form a -1 ion.
- Color and label the part of the table where the elements often form a -2 ion.
- Color and label the part of the table where the elements always form a +1 ion.
- Color and label the part of the table where the elements always form a +2 ion.
- Write +1, +2, +3 on the 'One-Two-Three zone' near the middle of the table.

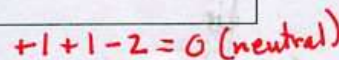
7. The big, big rule for forming compounds is "the total charge of a compound is always (+1 / zero / -1)". When a compound has this charge we say the compound is neutral.

8. For the compound **lithium oxide**, write the symbol for the lithium ion in the left box and the symbol for the oxide ion in the right box.

Cation Symbol:  
 $Li^+$   
 or  $Li^{+1}$   
 or  $Li^{1+}$

Anion symbol:  
 $O^{2-}$   
 or  $O^{-2}$

Finally, write the formula of the neutral compound here:



9. For the compound aluminum fluoride, write the symbol for the cation in the left box and the symbol for the oxide ion in the right box.

Cation:  
Al<sup>3+</sup>  
or Al<sup>3+</sup>

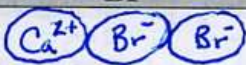
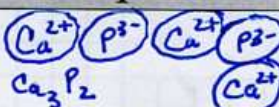
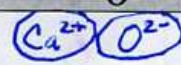
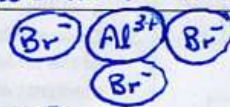
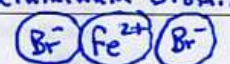
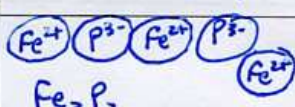
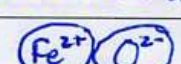
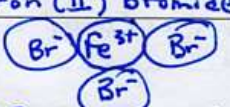
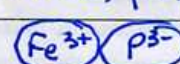
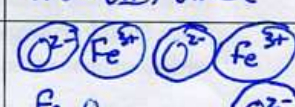
Anion:  
F<sup>-</sup>  
or F<sup>-1</sup>  
or F<sup>1-</sup>

Finally, write the formula of the neutral compound here:  
AlF<sub>3</sub>  
+3-1-1-1=0 (neutral)

10. What is the formula for sodium nitride? Na<sub>3</sub>N  
11. What is the formula for calcium phosphide? Ca<sub>3</sub>P<sub>2</sub>

12. What is the formula for beryllium fluoride? BeF<sub>2</sub>  
13. What is the formula for magnesium fluoride? MgF<sub>2</sub>

14. In each box,
- draw a cartoon of the compound that will form. Use the same rule you used in Problem #1 on the front.
  - write the formula of what you formed (like K<sub>2</sub>O)
  - write the name (like "potassium oxide")

	Br <sup>-</sup>	P <sup>3-</sup>	O <sup>2-</sup>
Ca <sup>2+</sup>	 CaBr <sub>2</sub> calcium bromide	 Ca <sub>3</sub> P <sub>2</sub> calcium phosphide	 CaO calcium oxide
Al <sup>3+</sup>	 AlBr <sub>3</sub> aluminum bromide	 AlP aluminum phosphide	 Al <sub>2</sub> O <sub>3</sub> aluminum oxide
Fe <sup>2+</sup>	 FeBr <sub>2</sub> <del>iron bromide</del> iron (II) bromide	 Fe <sub>3</sub> P <sub>2</sub> iron (II) phosphide	 FeO iron (II) oxide
Fe <sup>3+</sup>	 FeBr <sub>3</sub> iron (III) bromide	 FeP iron (III) phosphide	 Fe <sub>2</sub> O <sub>3</sub> iron (III) oxide

the quiz will be on Thursday

Day 8, Unit 6, February 3, 2016

**Purpose:**

What is the name of a metal compound if it has two different charges possible on the metal?

**WARMUP :**

"When metals bump into nonmetals they tend to form ( cations / anions )"

*Hint: Look at your notes from yesterday*

1. Some groups have names (memorize these):

halogen

alkali metals

alkaline earth metals

noble gases

transition metals

Check your understanding:

The only noble gas in Period 3 is

ARGON

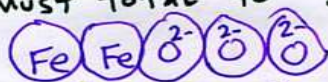
The only alkali metal in in Period 4 is

POTASSIUM

2. Ions combine to form compounds so that compounds are ALWAYS neutral. All

2. Ions combine to form compounds so that compounds are ALWAYS neutral. All compounds are neutral.

MUST TOTAL TO ZERO CHARGE



↑ what is the charge?

Answer: +2 on each Fe

#3 How will this new substance act?

looks like	METAL NON METAL	NON METAL NON METAL
conducts in water?	yes	no
melts easily?	no	yes
call it this	IONIC SUBSTANCE	MOLECULAR SUBSTANCE
melting temperature	high	low

IMPORTANT TO MEMORIZE:

IONIC SUBSTANCES ARE OFTEN METAL with NON METAL

MOLECULAR SUBSTANCES ARE NON METAL with NON METAL