# CHEMICAL FORMULA ⬄ NAMING

## ***COMPOUND FORMULA TO NAME***

**IONIC COMPOUND NAMING STEPS:**

1. First write the name of the metal as it is on the periodic table
2. If it is a transmission metal, you must add the Roman Numeral in the middle. Remember there are 6 exceptions (Ag, Zn, Cd, Al, Ga, In) which do not use Roman Numerals.



1. If the second element is a nonmetal, write its name with an -ide ending.
2. If the second element is a polyatomic ion, write the name of the polyatomic ion as it appears on the polyatomic list.

**IONIC COMPOUND SUMMARY FLOWCHART**

1. Is the formula

BINARY (2 elements) or NOT BINARY?



2. Is the 1st element a \*\*\*Polyatomic Ions\*\*\*

METAL? Ex. CaCO3 Calcium Carbonate



Cu(NO3)2 Copper (II) Nitrate



3. Is the Metal’s charge

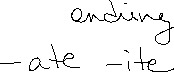


KNOWN or UNKNOWN?



Group 1 +1, Group 2 +2 Indicate the charge

Al Group +3, of the metal with a



Zn +2, Cd +2, Ag +1 Roman Numeral.

Ex. Ex

MgS Fe3N2



Magnesium sulfide iron (II) nitride

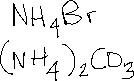


Ag2O FeN

Silver oxide iron (III) nitride



**PRACTICE**



1. ***NAME TO COMPOUND FORMULA***

NOTE: Compound charges have to add up to zero.

**IONIC COMPOUND FORMULA WRITING FORMAT**

1. Identify the first element or polyatomic ion, write the symbol and charge.
2. Identify the second element or polyatomic ion, write the symbol and charge.
3. Criss Cross the charges. If you have a polyatomic ion you must put it inside the parentheses before you crisscross the numbers. The number that you crisscross, make sure that you put the number on the outside of the parentheses not on the inside with the polyatomic ion.
4. Check to see if the subscripts are in the lowest form. If subscripts are not in the lowest whole number ratio always remember, to reduce them. Special Note: The number attached to the polyatomic ion cannot be changed or reduced. Only reduce the numbers that were crisscrossed from the charges.

**IONIC COMPOUND WRITING FLOWCHART**

1. If the compound name starts with ammonium, start with NH4+



2. Does the compound name end in

-ate or –ite OR -ide?



**Polyatomic Ion** 3. Is it hydroxide, cyanide, or peroxide?



Ex. aluminum sulfate



Al2(SO4)3 **YES** **NO**

Iron(II) nitrite **Polyatomic Ion** **Binary**



Fe(NO2)2 Ex. Calcium hydroxide

Ca (OH)2



**Metal**

sodium nitride

Na3N



**PRACTICE**

**A screenshot of a cell phone

Description automatically generated**

