How do we name Binary Ionic Compounds?

Remember that the word **binary** means we are only bonding 2 different elements. When we bond Na^{+1} and Cl^{-1} we get the formula NaCl. (Remember crisscross method!)

Note: The **metal is written first and the nonmetal second**. This goes for ALL ionic compounds.

The name of NaCl is **sodium chloride**. However if you look on the Periodic Table, Cl is named chlorine.

When writing the name of a binary ionic compound, the nonmetal changes to an –ide ending.

Think of it this way:

Metals = Men
Nonmetals = Women

When a man and a woman get married (bond), the woman changes her last name.

Here are all the name changes for nonmetals you will be responsible to know:

Nonmetal	-ide ending
Chlorine	Chlor**ide**
Fluorine	Fluor**ide**
Bromine	Brom**ide**
Iodine	Iod**ide**
Nitrogen	Nitr**ide**
Phosphorus	Phosph**ide**
Oxygen	Ox**ide**
Sulfur	Sulf**ide**
Selenium	Selen**ide**

Examples:

Formula	Name
MgO	magnesium ox**ide**
Al_2N_3	aluminum nitr**ide**
LiF	lithium fluor**ide**
$CaBr_2$	calcium brom**ide**

How to Solve for the Formula when given the Name

Q1: What is the formula of potassium phosphide?

Steps to Find the Answer:

1. First start with the metal.

   potassium = K^{+1}

2. Then look at the nonmetal.

   phosphide = phosphorus = P^{-3}

3. Crisscross the charges.
   Remember to bring only the number! (No +/-)

4. Write the formula (Don't forget to reduce subscripts if necessary!)

   K_3P

Another Example

Q2: What is the formula of beryllium bromide?

Steps to Find the Answer:

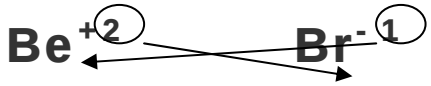
1. First start with the metal.

   beryllium = Be^{+2}

2. Then look at the nonmetal.

   bromide = bromine = Br^{-1}

3. Crisscross the charges.
   Remember to bring only the number! (No +/-)



4. Write the formula (Don't forget to reduce subscripts if necessary!)

$$BeBr_2$$