
It is imperative in Chemistry that you know how to write formulas from names and write names from formulas.

Step 1: Identify if it is IONIC or COVALENT
M/NM NM only

IONIC Naming Rules:

(DO NOT USE PREFIXES!!!!)

1. Name cation (metal) first. If it's a transition metal, use roman numerals (hint: un-criss cross)
2. Name anion (nonmetal) second. Its name ends in “-ide” unless it contains a polyatomic ion. If it contains a polyatomic ion, its name ends with the name of the polyatomic ion.

Example (without a transition metal or polyatomic ion): Li_2O = lithium oxide

Example (with transition metal and polyatomic ion): $\text{Cu}(\text{CO}_3)_2$ = copper(II) carbonate

IONIC Formula Writing Rules:

(BASED ON CHARGES—charges should cancel out)

1. Criss-cross charges (Remember, the pattern for charges on the P.T. is: +1,+2,+3,0,-3,-2,-1,0 AND if it's a transition metal the roman numeral indicates its charge)

Example: strontium iodide = Sr^{2+} and I^- = SrI_2

Example: iron(III) nitrate = Fe^{3+} and NO_3^{-1} = $\text{Fe}(\text{NO}_3)_3$

COVALENT Naming Rules:

(MUST USE PREFIXES!!!!)

1. First atom gets a prefix ONLY if there is more than 1 atom
2. Second atom ALWAYS gets a prefix and its name ends in “-ide”

Example: NO = nitrogen monoxide

Example: N_2O_3 = dinitrogen trioxide

COVALENT Formula Writing Rules:

(THERE ARE NO CHARGES, SO YOU CANNOT CRISS-CROSS!!!!)

1. Use the prefixes

Example: boron tribromide = BBr_3

Example: dihydrogen monoxide = H_2O

DIATOMIC MOLECULES: Know the names and formulas of the 7 diatomic molecules!!

Example: nitrogen = N_2

ACIDS: Know the names and formulas of the acids from your Elementary Knowledge

Example: sulfuric acid = H_2SO_4