NOMENCLATURE RULES

BINARY IONIC: Group I, Group II and Aluminum (metal + nonmetal)

a. Metal's name (cation) is written first
b. Nonmetal's name (anion) is written last and the ending is changed from "ine" to "ide"

ACIDS WITHOUT OXYGEN IN THE ANION: (Acids begin with Hydrogen)

If the anion does NOT contain oxygen: use the prefix "hydro" and the suffix "ic"
EX: HCl hydrochloric acid

ACIDS WITH OXYGEN IN THE ANION:

a. When the anion contains oxygen, the acid name is formed from the root name of the polyatomic anion and using the suffix "ic" or "ous"
b. If the polyatomic ends in "ate" use "ic"
   EX: H_2SO_4 (SO_4 sulfate): sulfuric acid
c. If the polyatomic ends in "ite" use "ous"
   EX: H_2SO_3 (SO_3 sulfite): sulfurous acid

BINARY COVALENT COMPOUNDS: (TWO NONMETALS)

Prefixes are used to denote the number of atoms present of the two nonmetals.
Prefix "mono" is NNEVER used for the name of the first nonmetal.

CO	carbon monoxide
CO_2	carbon dioxide
N_2O_5	dinitrogen pentoxide

Mono	= 1	Hexa	= 6
Di	= 2	Hepta	=7
Tri	=3	Octa	=8
Tetra	=4	Nona	=9
Penta	=5	Deca	=10

BINARY IONIC COMPOUNDS WITH TRANSITION METALS:
(USING STOCK NAMING SYSTEM)

a. The charge of the transition metal must be specified.
b. Exceptions: Ag, Zn, Cd never use roman numerals, their oxidation numbers are understood
c. Roman numerals are used to indicate the charge (oxidation number) of the transition metal

EX: $FeCl_2$ iron (II) chloride
$FeCl_3$ iron (III) chloride

Classical Name: $FeCl_2$ ferrous chloride
$FeCl_3$ ferric chloride

NAMING HYDRATED COMPOUNDS: (compounds with water attached)
Name the compound by whatever rule it falls under, then indicate how many water molecules are attached. ES: $MgSO_4 \cdot 7H_2O$ Magnesium Sulfate Heptahydrate

METALLOIDS: B, Si, As, Te, At

a. when acting as aa anion use ionic binary naming
b. when acting as a cation & paired with a nonmetal – use covalent naming