





d) The prefix “**hypo-**” **subtracts** 1 oxygen atom, the prefix “**per-**” **adds** 1 oxygen atom.

example 1:       $\text{ClO}_2^{1-}$       chlorite  
                     $\text{ClO}^{1-}$         **hypochlorite**

example 2:       $\text{ClO}_3^{1-}$       chlorate  
                     $\text{ClO}_4^{1-}$         **perchlorate**

e) Similar to single element anions, two **binary** (2-element) polyatomic anions end in “**-ide**”.

example 1:       $\text{CN}^{1-}$             cyanide

example 2:       $\text{OH}^{1-}$             hydroxide

## Molecules

**Fact – Molecules** always contain 2 or more non-metals.

a) **Non-metals** are located **to the right of the stair-step** in the **period table**.

b) **Molecules** only are named using the **Greek prefix method**. NEVER reduce molecule subscripts!

example 1:      CO                  carbon **monoxide**

example 2:       $\text{S}_2\text{Cl}_4$             **disulfur tetrachloride**

c) **Greek prefixes** include:

1	mono-	3	tri-	5	penta-	7	hepta-	9	nona-
2	di-	4	tetra-	6	hexa-	8	octa-	10	deca-

## Acids

**Fact – Acids** always contain  $\text{H}^+$  cations.

a) The **H atoms** are always **listed first** in the molecule.

example 1:      HF                  hydrofluoric acid

example 2:       $\text{H}_2\text{SO}_4$             sulfuric acid

b) **Binary acids** (acids with only 2 elements) always start with “**hydro-**” and end in “**-ic**”.

example 1:      HCl                  **hydrochloric acid**

example 2:      HBr                  **hydrobromic acid**

c) Polyatomic anion or **oxyacids** always **contain oxygen** in the polyatomic anion.

example 1:       $\text{HNO}_3$             nitric acid                  (nitrate ion → nitric acid)

example 2:       $\text{HNO}_2$             nitrous acid                (nitrite ion → nitrous acid)

**Naming Flowchart – see next page!**

# Naming Compounds Flowchart

