Binary Molecular Compounds

- from the name you can anticipate that they contain 2 parts.

- Composed of 2 nonmetallic elements

- ionic charges of representative elements are NOT used in writing formulas

- most binary compounds combine in more than 1 way.
  ex) C and O can make CO, CO_2 & CO_3^{2-}

- this behavior affects how we name the compounds (otherwise we may name them all carbon oxide)

- we will use prefixes (such as in Table 8-3, pg 248) to designate how many atoms of each element appear in the formula/compound.

- the second element in the name is written with suffix -ide.

Remember - prefixes (such as monoxide) are only used in molecular formulas (non-metallic)

- prefixes tell you the exact subscript (number of atoms of each element) to use.

The name sulfur dioxide tells us that there are 2 atoms of oxide ions for every 1 sulfur.
<u>or</u> the formula is SO_2 (also known as monosulfur dioxide).

- usually if the first element is singular, we leave off the mono, but we <u>do</u> use mono to describe a singular second element

ex) CO is <u>carbon monoxide</u>
<u>not</u> monocarbon monoxide

<u>Questions</u>

Name the following molecular compounds

1) H_2O dihydrogen monoxide

2) HBr hydrogen monobromide

3) H_3N trihydrogen mononitride