So, to name a molecular compound, we follow the relevant rules we learned when determining the proper order to list the elements in the chemical formula, which I will repeat here. (Since we are naming a molecular compound, we ignore the first one about there being a metal in the compound because there is no metal present in a molecular compound):

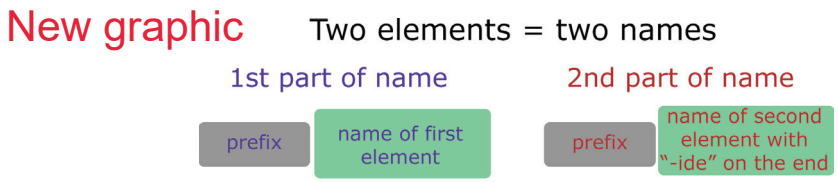
- If the compound contains only elements from the list of 10, then they are named in the following order:

  1st—carbon (C)
  2nd—phosphorous (P)
  3rd—nitrogen (N)
  4th—hydrogen (H)
  5th—sulfur (S)
  6th—iodine (I)
  7th—bromine (Br)
  8th—chlorine (Cl)
  9th—oxygen (O)
  10th—fluorine (F)

- If the compound contains one non-metal and one element from the list of 10, then follow the Periodic Table rules to determine which of the elements is more metallic and that element is named first.

Once the order of the elements is determined, the naming map looks like this:

New graphic



The new piece here is the "prefix." The prefix indicates the number of atoms of each element in the compound. Due to the phenomenon of single, double and triple bonding in covalently-bonded compounds, the number of actual atoms of each element in the compound is ambiguous and the prefixes provide the necessary clarity. I'll show you the prefixes we use and then check out **Figure 8.6.2** for examples. Here are the prefixes used to indicate the number of atoms of each in a molecular compound:

"mono-" = one	"hexa-" = six
"di-" = two	"hepta-" = seven
"tri-" = three	"octa-" = eight
"tetra-" = four	"nona-" = nine
"penta-" = five	"deca-" = ten