Drawing Molecules
(Lewis structures)

When drawing molecules we try, whenever possible, to have all of the atoms obey the ***rule of eights,*** which is sometimes called the ***"octet rule"***.

*" when atoms form molecules they **tend** to achieve an outside level with **eight** electrons"*

Follow these steps when creating drawings of molecules:

1. **Count up all the valence electrons .....add them together.**
   These electrons are going to be given out, organized, and shared so that each atom gets what it needs!

2. **Decide how the atoms are to be bonded to each other....organize them.**
   Usually the first atom in the formula will be the *central* atom and the others will be arranged around it.
   [the exception is hydrogen which can *never* be in the center !]
   If there are only two atoms in the molecule then they will go beside each other.

3. **Place *a pair* of electrons in each bond....(bond the atoms together!)**
   By doing this you will bond the central atom to the atoms around it.

4. **Give the atoms on the outside eight electrons each by adding electrons in *pairs*.**
   What you are doing is completing the "octet rule" for these outside atoms.
   [Remember that hydrogen is an exception..... it only gets 2 !]

5. **Place any leftover electrons on the central atom *in pairs*.**

6. **Now check that the central atom has *at least* 8 electrons!**
   If it doesn't, then you will have to create a *double* or a *triple* bond!
   This is done in order to give the central atom more electrons if it needs them.

Exceptions:

There are times that the central atom will have *more* than eight electrons. If this happens don't worry about it..... just make sure that it has **at least** 8 !
(But if it has more than 8 electrons it will not need a double bond on it!)

There are some formulas of molecules on the attached sheet. Try to draw their structures!