**Lewis Structures Notes**

How to draw Lewis Structures for **Ionic Compounds**

1. Draw the electron dot diagram for the metal and for the nonmetal.
2. Show the transfer of valence electrons from the metal to the nonmetal.
3. Draw the positive charge for the metal cation, it’s lost electrons.
4. Draw the negative charge for the nonmetal anion, it’s gained electrons.
5. Draw the formula for the compound.

How to draw Lewis Structure for **Covalent Compounds**

1. Find the total number of valence electrons from all the atoms in the molecule.
2. Divide the total number of electrons by 2, this is the # pairs of electrons available to bond.
3. Determine the center atom, it’s the one with the lowest electronegativity (EXCEPT hydrogen, H is NEVER the center atom!)
4. Draw the center atom and the end atoms surrounding it.
5. Draw a line between the center atom and each end atom, this is a bonding pair of electrons.
6. Determine the # lone pairs of electrons, subtract the # bonding pairs (lines) from the # pairs of electrons available to bond.
7. Place the lone pairs around the molecule, starting with the end atoms and working towards the center atom. Each atom should have 4 pairs of electrons (8 total electrons) surrounding it. (EXCEPT H & He, they only need 1 pair of electrons to be stable.)
8. What if you run out of lone pairs of electrons and the center atom does NOT have 4 pairs surrounding it? Then you need to create double or triple bonds! Erase a lone pair from an end atom and make it a bonding pair between it and the center atom.