

How to Draw Diagrams of Molecules  
(Electron Dot Diagrams)

Example: CF<sub>4</sub>

1. Add Valence Electrons	32
2. Draw a skeleton structure. What goes in the middle? Usually the element closest to the middle of the periodic table goes in the middle. Or.....the element with the most bonding sites (empty spots in the valence shell).....or the least electronegative.	
3. Subtract 2 electrons for each bond.	$32 - 8 = 24$
4. Distribute the remaining electrons per the octet rule. NOTE: hydrogen does not follow the octet rule.	(distribute the electrons so that there are 8 around each element)
5. If there are not enough electrons to put 8 around everything, then add a double bond and start over. If 2 short, add one double bond. If 4 short, add two double bonds or a triple bond.	Rule 5 is not applicable to CF <sub>4</sub> since you had enough electrons to complete all of the octets.
6. If there are too many electrons, put them around the center atom.	