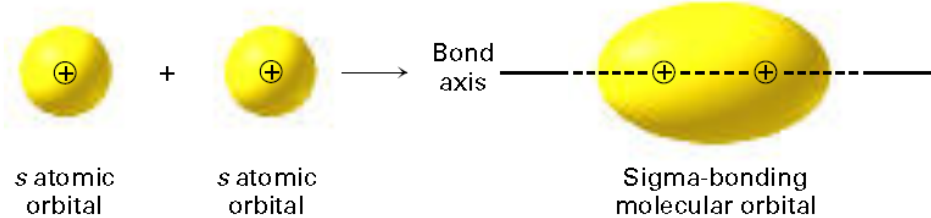


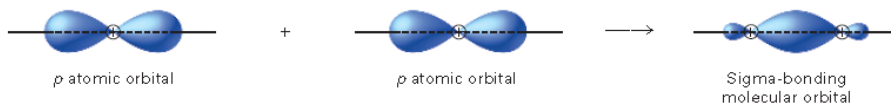
## Molecular Orbitals-p. 230

- covalent bonding results from an in-balance between the attractions and repulsions of the nuclei and the electrons.
- since nuclei are similarly charged, they will repel each other, likewise for electrons.
- however, the positively charged nuclei and negatively charged electrons will attract each other.
- when the attractive forces are stronger than the repulsive forces, the atoms are held together in a molecular bond.

⊕ represents the nucleus.



⊕ represents the nucleus.

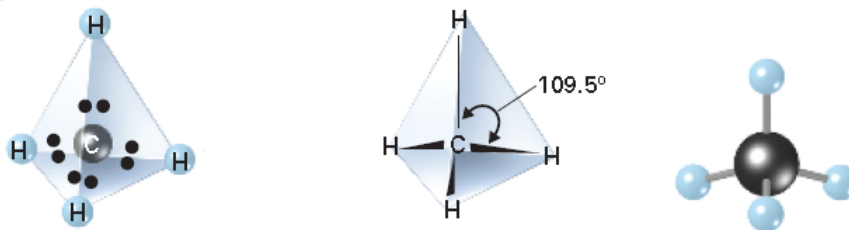


## VSEPR Theory-p. 232

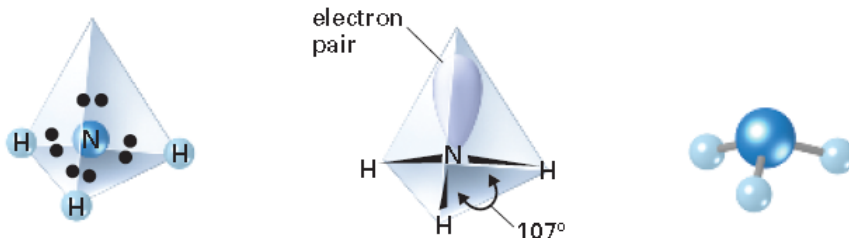
### VSEPR-Valence Shell Electron Pair Repulsion

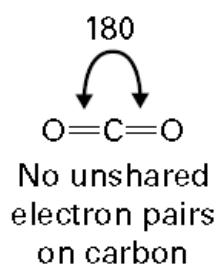
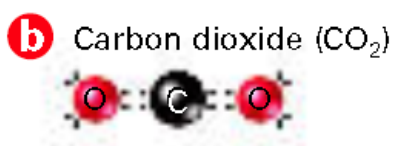
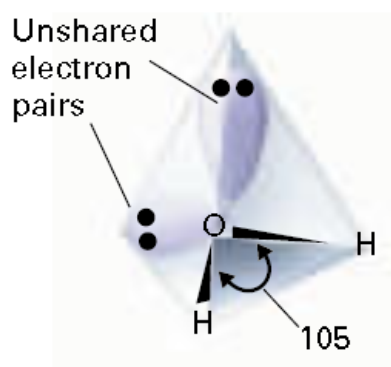
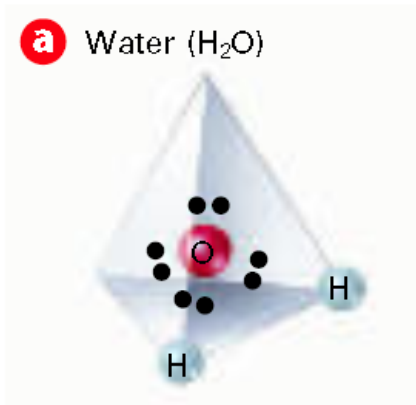
*The repulsion between electron pairs causes molecular shapes to adjust so that the valence electron pairs are as far apart as possible.*

#### a) Methane (CH<sub>4</sub>)



#### b) Ammonia (NH<sub>3</sub>)





### Possible Molecular Shapes

