

“VSEPR”: Valence Shell Electron Pair Repulsion (Sections 2.4, 2.6)

Concept: electron groups repel, determine structure

4 electron groups: tetrahedral, 109° angle

3 electron groups: trigonal planar, 120° angle

2 electron groups: linear, 180° angle

2 Types of “Electron Groups”

1. “B” = bonds to other atoms.

- Whether it’s a single, double, or triple bond, it still counts as one “electron group” or one “bond group”

2. “L” = Lone pairs

B+L	Electron Geometry	Bond Angle	Hybridization	Remaining P-orbitals
4	Tetrahedral	≈109°	sp ³	0
3	Trigonal Planar	≈120°	sp ²	1
2	Linear	≈180°	sp	2

EXAMPLES