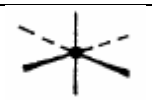
Summary of Molecular Geometries
Memorize and Understand this Information

Adapted from Van Koppen and Offen; Tro; and Chang

Steric Number (SN)	Electronic Arrangement	Lone pairs on central atom	Molecular Geometry	Bond Angle	Schematic	Examples	Hybridization of central atom
2	Linear	0	Linear	180°		$BeCl_2$ CO_2	sp
3	Trigonal planar	0	Trigonal planar	120°		BF_3 NO_3^-	sp^2
		1	Bent	<120°		SO_2 NO_2^-	
4	Tetrahedral	0	Tetrahedral	109.5°		CH_4 ClO_4^-	sp^3
		1	Trigonal pyramidal	<109.5°		NH_3 ClO_3^-	
		2	Bent (V-shaped)	<<109.5°		H_2O SCl_2	
5	Trigonal bipyramidal	0	Trigonal bipyramidal	90° 120°		PCl_5	dsp^3 (or sp^3d)
		1	See-saw	<180° <120°		SF_4	
		2	T-shaped	<90°		ClF_3	
		3	Linear	180°		XeF_2	
6	Octahedral	0	Octahedral	90°		SF_6	d^2sp^3 (or sp^3d^2)
		1	Square Pyramidal	90° <90°		BrF_5	
		2	Square planar	90°		XeF_4	