

Revised June 2005



VSEPR SUMMARY

Number of electron pairs around central atom		Full description of the molecule					
BONDING (B)	LONE (E)	Example	Bond angles °	Geometry of Electron Pairs	Geometry of Atoms	3D Shape	Type
2	0	BeCl ₂	180	Linear	Linear		AB ₂
3	0	BF ₃	120	Trigonal planar	Trigonal Planar		AB ₃
2	1	SO ₂	Slightly less than 120	Trigonal planar	Bent or V Shaped		AB ₂ E
4	0	CH ₄	109.5	Tetrahedral	Tetrahedral		AB ₄
3	1	NH ₃	107.5	Tetrahedral	Trigonal Pyramidal		AB ₃ E
2	2	H ₂ O	104.5	Tetrahedral	Bent or V Shaped		AB ₂ E ₂
5	0	PCl ₅	120 in plane. 90 perpendicular to plane	Trigonal bipyramidal	Trigonal Bipyramidal		AB ₅
4	1	SF ₄	Complex	Trigonal bipyramid	Seesaw		AB ₄ E
3	2	ClF ₃	Approx. 90	Trigonal bipyramidal	T-Shaped		AB ₃ E ₂
2	3	XeF ₂	180	Trigonal bipyramid	Linear		AB ₂ E ₃
6	0	SF ₆	90	Octahedral	Octahedral		AB ₆
5	1	BrF ₅	Approx. 90	Octahedral	Square Pyramidal		AB ₅ E
4	2	XeF ₄	90	Octahedral	Square Planar		AB ₄ E ₂