

Shapes of molecules and ions

Number of central atom electron pairs	Bonding pairs	Non-bonding pairs	Shape	Example
2	2	0	Linear	BeCl ₂
3	3	0	Triangular	BF ₃
3	2	1	Bent	SnCl ₂
4	4	0	Tetrahedral	CCl ₄
4	3	1	Pyramidal	NH ₃
4	2	2	Bent	H ₂ O
5	5	0	Trigonal bipyramidal (tbp)	PF ₅
5	4	1	Pseudo-tdp	BrF ₄ ⁺
5	3	2	T-shaped	BrF ₃
5	2	3	Linear	XeF ₂
6	6	0	Octahedral	SF ₆ , PF ₆ ⁻
6	5	1	Square pyramidal	IF ₅
6	4	2	Square planar	XeF ₄ , IF ₄ ⁻