

## SHAPES OF MOLECULES

	Number of high electron density regions	Number of non-bonding electron pairs	Arrangement of electron pairs	Arrangement of atoms (shape of molecule)	Hybridization (HL only)	Angle (°)	Example
SL and HL	2	0	Linear	Linear	sp	180	CO <sub>2</sub>
	3	0	Trigonal planar	Trigonal planar	sp <sup>2</sup>	120	BF <sub>3</sub> C <sub>2</sub> H <sub>4</sub>
	3	1	Trigonal planar	V-shape	sp <sup>2</sup>	117	SO <sub>2</sub>
	4	0	Tetrahedral	Tetrahedral	sp <sup>3</sup>	109	CH <sub>4</sub>
	4	1	Tetrahedral	Trigonal pyramid	sp <sup>3</sup>	107	NH <sub>3</sub>
	4	2	Tetrahedral	V-shape	sp <sup>3</sup>	105	H <sub>2</sub> O
HL only	5	0	Trigonal bipyramid	Trigonal bipyramid	(dsp <sup>3</sup> )	90 / 120	PF <sub>5</sub>
	5	1	Trigonal bipyramid	Saw horse	(dsp <sup>3</sup> )	90 / 117	SF <sub>4</sub>
	5	2	Trigonal bipyramid	T-shape	(dsp <sup>3</sup> )	90	ICl <sub>3</sub>
	5	3	Trigonal bipyramid	Linear	(dsp <sup>3</sup> )	180	XeF <sub>2</sub>
	6	0	Octahedral	Octahedral	(d <sup>2</sup> sp <sup>3</sup> )	90	SF <sub>6</sub>
	6	1	Octahedral	Square pyramid	(d <sup>2</sup> sp <sup>3</sup> )	≈90	BrF <sub>5</sub>
	6	2	Octahedral	Square planar	(d <sup>2</sup> sp <sup>3</sup> )	90	XeF <sub>4</sub>