



## Summary of shapes of molecules

Number of valence electrons	Number of bonding pairs of electrons	Number of lone pairs of electrons	Total number of electron pairs	Arrangement of orbitals	Arrangement of atoms	Examples
4	2	0	2	linear	linear	BeCl <sub>2</sub>
6	3	0	3	trigonal planar	trigonal planar	BF <sub>3</sub>
8	4	0	4	tetrahedral	tetrahedral	CH <sub>4</sub>
	3	1	4		trigonal pyramidal	NH <sub>3</sub>
	2	2	4		bent line	H <sub>2</sub> O
10	5	0	5	trigonal bipyramidal	trigonal bipyramidal	PF <sub>5</sub>
	4	1	5			SF <sub>4</sub>
	3	2	5			ClF <sub>3</sub>
	2	3	5		linear	I <sub>3</sub> <sup>-</sup>
12	6	0	6	octahedral	octahedral	SF <sub>6</sub>
	5	1	6		square pyramidal	IF <sub>5</sub>
	4	2	6		square planar	ICl <sub>4</sub> <sup>-</sup>

Go to <http://www.creative-chemistry.org.uk/molecules/> for animated models of these shapes.