

## Valence Shell Electron Pair Repulsion (VSEPR)

Appearance	No. of Bonds	No. of Lone Pairs	Bond Angle, degrees	Example	Lewis Structure	VSEPR Structure
<b>2 pairs of electrons around the central atom - linear geometry</b>						
Linear	2	0	180	BeCl <sub>2</sub>		
<b>3 pairs of electrons around the central atom - trigonal planar geometry</b>						
Trigonal Planar	3	0	120	BF <sub>3</sub>		
Bent	2	1	<120	SiCl <sub>2</sub>		
<b>4 pairs of electrons around the central atom - tetrahedral geometry</b>						
Tetrahedral	4	0	109.5	CH <sub>4</sub>		
Pyramidal	3	1	<109.5	NH <sub>3</sub>		
Bent	2	2	<109.5	H <sub>2</sub> O		

Appearance	No. of Bonds	No. of Lone Pairs	Bond Angle, degrees	Example	Lewis Structure	VSEPR Structure
<b>5 pairs of electrons around the central atom - trigonal bipyramid geometry</b>						
Trigonal Bipyramidal	5	0	90 120	PF <sub>5</sub>		
Unsymmetrical tetrahedron	4	1	<120, <90	SF <sub>4</sub>		
T-Shaped	3	2	<90	BrCl <sub>3</sub>		
Linear	2	3	180	XeF <sub>2</sub>		
<b>6 pairs of electrons around the central atom - octahedral geometry</b>						
Octahedral	6	0	90	SF <sub>6</sub>		
Square Pyramidal	5	1	<90 90	ICl <sub>5</sub>		
Square Planar	4	2	90	XeF <sub>4</sub>		