
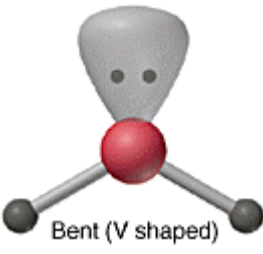
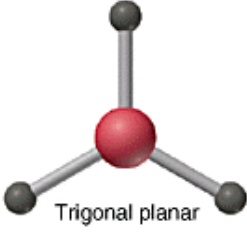
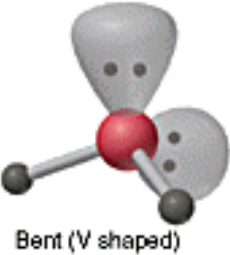
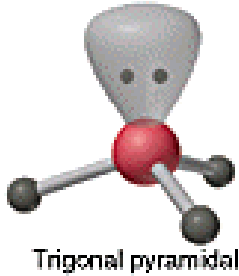
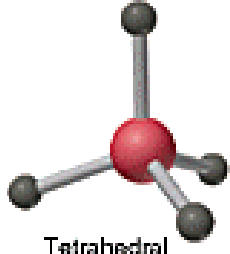
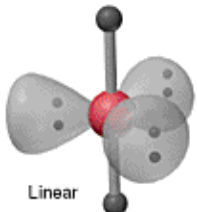
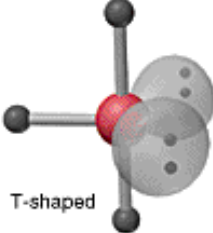
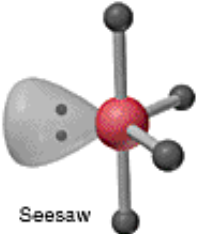
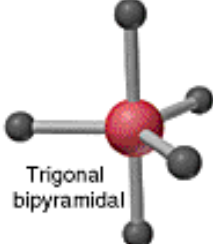
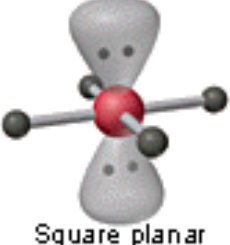
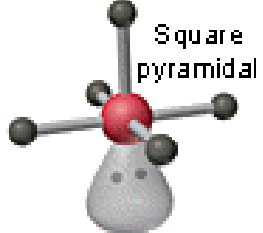
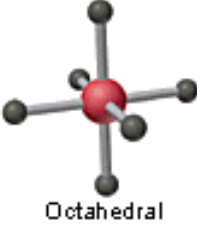


Molecular Geometry PAP

A = the central atom, **X** = an atom bonded to A, **E** = a lone pair on A

Note: There are lone pairs on X or other atoms, but we don't care. We are interested in only the electron densities or domains around atom A.

Total Electron Domains	Electron Pair Geometry	Molecular Geometry (Shape)	Bonded Pairs	Lone Pair(s)	VSEPR Notation	Molecular Geometry	Bond Angle(s)	Example
2 <i>sp</i>	Linear	Linear	2	0	AX₂	 Linear	180°	BeF₂
3 <i>sp²</i>	Trigonal Planar	Bent	2	1	AX₂E	 Bent (V shaped)	<120°	SO₂
3 <i>sp²</i>	Trigonal Planar	Trigonal Planar	3	0	AX₃	 Trigonal planar	120°	BCl₃
4 <i>sp³</i>	Tetrahedral	Bent	2	2	AX₂E₂	 Bent (V shaped)	<109.5°	H₂O
4 <i>sp³</i>	Tetrahedral	Trigonal Pyramidal	3	1	AX₃E	 Trigonal pyramidal	<109.5°	NH₃
4 <i>sp³</i>	Tetrahedral	Tetrahedral	4	0	AX₄	 Tetrahedral	109.5°	CH₄

5 <i>dsp³</i>	Trigonal bipyramidal	Linear	2	3	AX₂E₃		180°	XeF₂
5 <i>dsp³</i>	Trigonal bipyramidal	T-Shaped	3	2	AX₃E₂		<120° and 90°	ClF₃
5 <i>dsp³</i>	Trigonal bipyramidal	Seesaw	4	1	AX₄E		<120° and 90°	SF₄
5 <i>dsp³</i>	Trigonal bipyramidal	Trigonal bipyramidal	5	0	AX₅		120° and 90	PCl₅
6 <i>d²sp³</i>	Octahedral	Square Planar	4	2	AX₄E₂		90°	XeF₄
6 <i>d²sp³</i>	Octahedral	Square Pyramidal	5	1	AX₅E		90° and < 90°	IF₅
6 <i>d²sp³</i>	Octahedral	Octahedral	6	0	AX₆		90°	SF₆