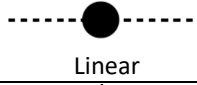
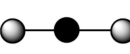
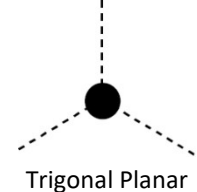
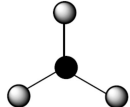

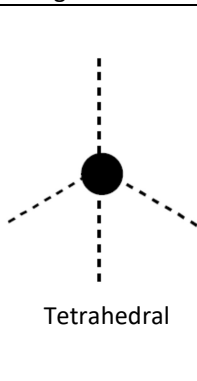
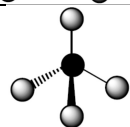
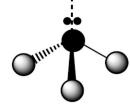
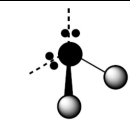
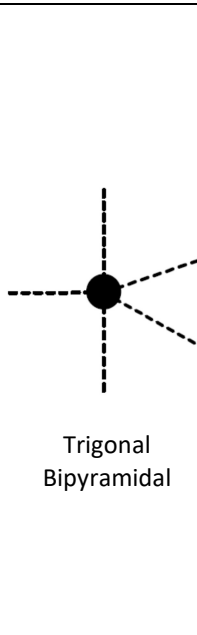
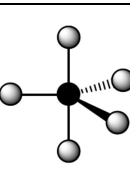
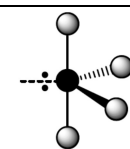
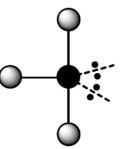
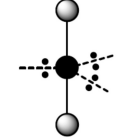
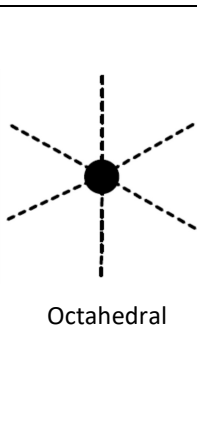
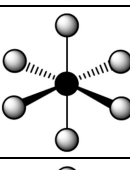

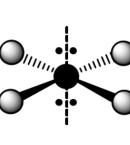


Electron Geometry, Molecular Geometry, Polarity, and Hybridization

No. of e ⁻ groups	Electronic Geometry	Molecular Geometry	"AXE" symbol	Angles	Polarity (Polar: non-zero dipole moment) (Non-polar: zero dipole moment)	Hybridization (sp ³ d & sp ³ d ² aren't real)
2	 Linear	 Linear	AX ₂	180°	Both peripheral atoms the same? Yes → Non-polar No → Polar	sp
3	 Trigonal Planar	 Trigonal Planar	AX ₃	120° (distorted if polar)	Peripheral atoms all the same? Yes → Non-polar No → Polar	sp ²
		 Bent	AX ₂ E	< 120°	Polar	
4	 Tetrahedral	 Tetrahedral	AX ₄	109.5° (distorted if polar)	Peripheral atoms all the same? Yes → Non-polar No → Polar	sp ³
		 Trigonal Pyramidal	AX ₃ E	< 109.5°	Polar	
		 Bent	AX ₂ E ₂	< 109.5°	Polar	
5	 Trigonal Bipyramidal	 Trigonal Bipyramidal	AX ₅	120° 90° 180° (distorted if polar)	Peripheral atoms all the same? Yes → Non-polar No → 2 Axial atoms same <u>and</u> 3 Equatorial atoms same? Yes → Non-polar No → Polar	(sp ³ d)
		 See-saw	AX ₄ E	<120° < 90° < 180°	Polar	
		 T-shaped	AX ₃ E ₂	< 90° < 180°	Polar	
		 Linear	AX ₂ E ₃	180°	Both peripheral atoms the same? Yes → Non-polar No → Polar	
6	 Octahedral	 Octahedral	AX ₆	90° 180° (distorted if polar)	Peripheral atoms all the same? Yes → Non-polar No → Same in opposite directions? Yes → Non-polar No → Polar	(sp ³ d ²)
		 Square pyramidal	AX ₅ E	< 90° < 180°	Polar	
		 Square planar	AX ₄ E ₂	90° 180° (distorted if polar)	Peripheral atoms all the same? Yes → Non-polar No → Same in opposite directions? Yes → Non-polar No → Polar	

A=central atom
X=peripheral atom
E=lone pair