

Molecular Geometries and Bond Angles

Chemical Formula	AXE Formula	Pair Arrangement	Molecular Geometry	Bond Angle
BeCl ₂	AX ₂ E ₀	Linear	Linear	180°
BCl ₃	AX ₃ E ₀	Trigonal Planar	Trigonal Planar	120°
CH ₄	AX ₄ E ₀	Tetrahedral	Tetrahedral	109.5°
NH ₃	AX ₃ E ₁	Tetrahedral	Trigonal Pyramidal	107°
H ₂ O	AX ₂ E ₂	Tetrahedral	Bent	104.5°
PCl ₅	AX ₅ E ₀	Trigonal Bipyramidal	Trigonal Bipyramidal	120° and 90°
SeF ₄	AX ₄ E ₁	Trigonal Bipyramidal	See-Saw	120° and 90°
BrF ₃	AX ₃ E ₂	Trigonal Bipyramidal	Tee	120° and 90°
TeF ₆	AX ₆ E ₀	Octahedral	Octahedral	90°
XeF ₄	AX ₄ E ₂	Octahedral	Square Planar	90°

Molecular Geometries and Dipole Moments

Chemical Formula	AXE Formula	Molecular Geometry	Dipole Moment
BeCl ₂	AX ₂ E ₀	Linear	No
BCl ₃	AX ₃ E ₀	Trigonal Planar	No
CH ₄	AX ₄ E ₀	Tetrahedral	No
NH ₃	AX ₃ E ₁	Trigonal Pyramidal	Yes
H ₂ O	AX ₂ E ₂	Bent	Yes
PCl ₅	AX ₅ E ₀	Trigonal Bipyramidal	No
SeF ₄	AX ₄ E ₁	See-Saw	Yes
BrF ₃	AX ₃ E ₂	Tee	Yes
TeF ₆	AX ₆ E ₀	Octahedral	No

Electron Pair Arrangements and Bond Hybridization

Chemical Formula	AXE Formula	Pair Arrangement	Bond Hybridization
BeCl ₂ and C ₂ H ₂	AX ₂ E ₀	Linear	sp
BCl ₃ and C ₂ H ₄	AX ₃ E ₀	Trigonal Planar	sp ²
CH ₄ and C ₂ H ₆	AX ₄ E ₀	Tetrahedral	sp ³
NH ₃	AX ₃ E ₁	Tetrahedral	sp ³
H ₂ O	AX ₂ E ₂	Tetrahedral	sp ³
PCl ₅	AX ₅ E ₀	Trigonal Bipyramidal	sp ³ d
SeF ₄	AX ₄ E ₁	Trigonal Bipyramidal	sp ³ d
BrF ₃	AX ₃ E ₂	Trigonal Bipyramidal	sp ³ d
TeF ₆	AX ₆ E ₀	Octahedral	sp ³ d ²