

Lewis Structures and Molecular Geometry

Data Table A

Name	Molecular Formula	Valence Electrons	Lewis Structure
Boron Trichloride			
Methane			
Ethylene	C ₂ H ₄		
Ammonia			
Ammonium Ion			
Hydrogen Sulfide			

Data Table A (continued)

Name	Molecular Formula	Valence Electrons	Lewis Structure
Sulfur Trioxide			
Acetylene	C_2H_2		
Phosphorus Trichloride			
Carbon Tetrachloride			
Iodine Pentafluoride			
Carbonate Ion			
Thiocyanate Ion	SCN^-		

Data Table A (continued)

Name	Molecular Formula	Valence Electrons	Lewis Structure
Carbon Disulfide			
Formaldehyde	H ₂ CO		
Sulfate Ion			
Arsenic Pentafluoride			
Hydrogen Cyanide			
Sulfur Hexafluoride			
Xenon Tetrafluoride			

Data Table B

Model	Bonding Pairs*†	Unshared Pairs*	Total Pairs	Sketch and Molecular Geometry
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				
K				

*Count the bonding and nonbonding pairs of electrons around the central atom only.

†In the case of double or triple bonds, count all of the electrons involved in the bond as one pair of electrons.