

Let's Build It!

Molecular Shape

Name _____

Date _____ Period _____

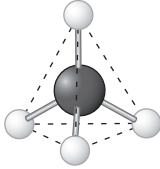
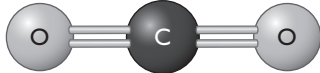
Purpose

To build ball-and-stick models from molecular formulas, using Lewis dot structures as a guide.

Materials

- ball-and-stick model-building materials

For each molecule, first draw the Lewis dot structure. Then build a three-dimensional molecular model, using the Lewis dot structures as a guide. Use black spheres to represent carbon, red for oxygen, white for hydrogen, and blue for other atoms.

Molecular formula	Lewis dot structure	Structural formula with lone pairs	Describe/draw shape
methane CH ₄			tetrahedral 
water H ₂ O			
ammonia NH ₃			
carbon dioxide CO ₂			
chloromethane CH ₃ Cl			
dichloromethane CH ₂ Cl ₂			

Molecular formula	Lewis dot structure	Structural formula with lone pairs	Describe/draw shape
methanol CH ₃ OH			
ethane C ₂ H ₆			
methyl amine CH ₃ NH ₂			
formic acid CH ₂ O ₂			
ethene (ethylene) C ₂ H ₄			
hydrogen cyanide HCN			
ethyne (acetylene) C ₂ H ₂			

Making Sense

How does the Lewis dot structure help you draw the structural formula?