



# Molecular Models

During this lab you will be constructing models of molecules to help you to visualize the shape they take in three-dimensional space. The model kits that you will be using are composed of small wooden balls to represent that atoms, and springs to represent the bonds. The balls are drilled to have as many holes as the element tries to make bonds. In other words the black balls, which represent carbon, have 4 holes because carbon makes 4 bonds.

**Materials:**

Molecular Model kit

**Procedure:**

For each of the molecules listed on the following pages, draw the Lewis Dot Structure, build a model of the molecule, draw the shape to the best of your ability, and label the shape.

For construction of the models, use the following color code:

Black = carbon	White = hydrogen
Red = oxygen	Orange = nitrogen
Green = halogens	Yellow = Sulfur

If you cannot find the color you need, or if you do not have enough of a color use a different color that has the same number of holes.

	Lewis Dot Structure	Drawing of Shape	Name of Shape
H <sub>2</sub>			
O <sub>2</sub>			
N <sub>2</sub>			
F <sub>2</sub>			
CO <sub>2</sub>			
CH <sub>4</sub>			
H <sub>2</sub> O			

	Lewis Dot Structure	Drawing of Shape	Name of Shape
H <sub>2</sub> O <sub>2</sub>			
CH <sub>3</sub> OH			
C <sub>2</sub> H <sub>6</sub>			
C <sub>2</sub> H <sub>5</sub> OH			
CH <sub>2</sub> O			
CHBrCl			

	Lewis Dot Structure	Drawing of Shape	Name of Shape
$C_3H_8$			
HNO			
$NCl_3$			
$H_2N_2$			
$C_3H_4$			
HCN			

	Lewis Dot Structure	Drawing of Shape	Name of Shape
$C_6H_6$ (it forms a ring)			
$S_8$ (also a ring)			
$C_6H_{12}$ (another ring)			