

Building Molecules

Name: _____

Objective: To build and observe 3-dimensional models of various molecules and determine their shape.

Model Key: Black-Carbon
White-Hydrogen
Red-Oxygen
Green-Halogens
Orange-Nitrogen
Yellow-Sulfur

For easy manipulation and protection of the springs, models should be assembled by inserting the springs and turning clockwise.

Procedure: For each molecule listed draw a lewis-dot structure, and complete the chart BEFORE building your model. Sketch the model you build.

Molecular Formula	Lewis-dot structure	ABE Formula	VESPR shape	Polar or non-polar	Sketch
CH ₄					
H ₂ O					
NH ₃					
CCl ₄					
HF					
OF ₂					
H ₂ S					
Br ₂					
O ₂					
CO ₂					

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Conclusion Questions:

1. Carbon is said to have "4 bonding points". What does this mean in terms of the carbon atom when bonding?
2. Which of your molecules had double bonds? Why were there double bonds in this molecule?
3. Which of your molecules was linear? Why were they linear?
4. It is said that "like dissolves like" which means "polar dissolves polar" and "non-polar dissolves non-polar". If you were making a solution with water, which of the compounds on your chart could be used as the solute?
5. It is said that "like dissolves like" which means "polar dissolves polar" and "non-polar dissolves non-polar". If you were making a solution with alcohol(non-polar), which of the compounds on your chart could be used as the solute?
6. Which of the compounds in your chart are covalent? How do you know?