

Name: _____ Date: _____ Period: _____

Chemical Bonding

How does chemical bonding determine molecule shape?

1. On your own...Read pp. 381-392
2. What is meant by the phrase "geometric structure"?

3. Describe the Valence Shell Electron-Pair Repulsion model:

4. Describe the following molecular structures:

- **Linear:** # atoms in molecule: _____ Sketch of ball/stick model:
of bonds: _____
lone pairs: _____

An example of a molecule with this structure is: _____

- **Tetrahedral:** # atoms in molecule: _____ Sketch of ball/stick model:
of bonds: _____
lone pairs: _____

An example of a molecule with this structure is: _____

- Bent or V-shaped:** # atoms in molecule: _____ Sketch of ball/stick model:
of bonds: _____
lone pairs: _____

An example of a molecule with this structure is: _____

5. Draw Lewis Structures and predict the geometric structures of:

Compound or Ion	Name	Lewis Structure (circle any lone pairs)	Molecule Geometry Name	Draw shape
CCl_4				
CO_2				
PO_4^{-3}				
H_2O				