

* Lesson Plan # 6-5

Starting week of 2/2/09
Assess: TBA

* Textbook: Chapter 6.

* Objectives:

- 1- Explain VSEPR theory.
- 2- Predict the shapes of molecules
- 3- Explain how the shape of molecules are accounted for by hybridization theory.
- 4- Describe dipole-dipole forces
- 5- Explain what determines molecular polarity

* Define the following:-

1- VSEPR theory: Repulsion between the sets of valence-level electrons surrounding an atom causes these sets to be oriented as far apart as possible.



According to VSEPR theory, the shared pair will be as far away from each other as possible. Distance between electron pairs is maximized if the bonds to fluorine are on opposite side of the beryllium atom, 180° apart. Thus, all three atoms lie on straight line. The molecule is linear.

→ Continue
Page 1

Continue Lesson plan # 6-5

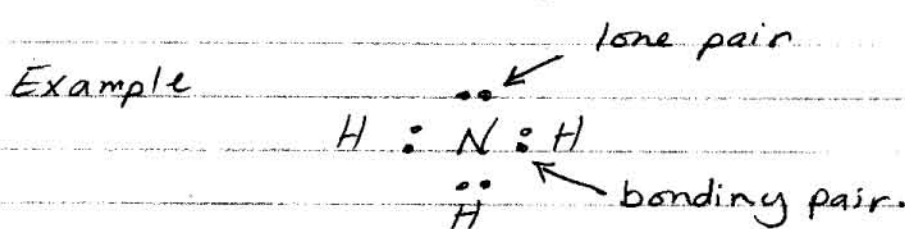
2- Bonding pair: A pair of valence electrons localized between two core atoms.

3- Bonding domain: Is the space this pair of valence electron occupies.

4- Non-Bonding domain: Is the region of space near the core atom where the pair valence electrons is not involved in a bond.

5- Lone pair: Is the non bonding pair of electrons.

6- Bonding angles: Is the angle made by lines joining the nuclei of the atoms in the molecule.



The Lewis structure of ammonia above shows that in addition to the three electron pairs it shares with the three H atoms, the central nitrogen atom has one unshared pair of electrons

Refer to table 5 page 200 for molecular shapes of molecules with different numbers of lone pairs and bonding pairs

→ Continue
Page 2