Name:_____ Period: _____ Date:_____

Note-Taking Guide for Section 6.5: Part 1 (ONLY PAGES 183-187)

Read through section 6.5 and use the list below to guide your note-taking.
Take notes on the following concepts or objectives:

- Name the two things that the properties of molecules depend on.
- Describe molecular polarity.
- Describe molecular geometry.
- Name and *briefly describe* the two theories used to describe molecular geometry.
- Describe what each letter in "VSEPR" stands for.
- Describe what diatomic molecules are and what type of geometry they have and why. Give an example.
- What is the basis for VSEPR Theory?
- Describe the shorthand and subscripts used to describe the molecules containing more than one atom (i.e. what does "A", "B", and "E" stand for?)
- **Create flashcards to describe EACH geometry in the table on page 186.**

FRONT	BACK

    - Make sure your flash cards have information on Bent molecular geometry for AB_2E_2, AB_2E, and AB_3E type molecules.
- How does the VSEPR theory account for unshared electrons? (Describe how electron lone pairs affect a molecule's geometry.)

The topics covered in this section are relatively complex. TAKE YOUR TIME IN READING ABOUT THEM SO YOU CAN HAVE AN IDEA OF WHAT WE ARE TALKING ABOUT DURING OUR CLASS DISCUSSION.

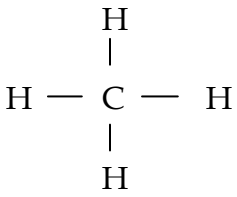
NOTES DUE FRIDAY BEGINNING OF CLASS.

HOW TO DETERMINE MOLECULAR GEOMETRY

To accurately determine the molecular geometry of a molecule, you need to use the following steps:

1. Determine what your central and outer atoms are (note: outer atom will not always just be one element).
    a. Example: CH_4 C is the central atom (A); H is the outer atom (B)

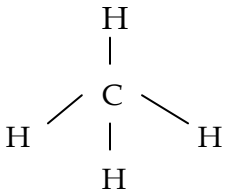
2. Draw the accurate Lewis structure for the molecule
    a. Example



3. Determine if you have any lone pairs of electrons on the central atom.
    a. Example: In the case of CH_4 there are no lone pairs on the molecule

4. Then you can determine the correct "code" to find the geometry.
    a. Example: There is one central carbon atom and 4 outer hydrogen atoms with no lone pairs. This equates to AB_4 which gives a tetrahedral geometry.
    b. Let's say CH_4 **did** have one lone pair ON THE CENTRAL ATOM (it doesn't), you would use the geometry with an E on the end. If there were 2 lone pairs you would use the geometry that represented your atom with E_2 on the end of it.

5. Redraw your molecule showing the correct geometry.



EXAMPLES: **Identify the molecular geometry** for each of the following compounds, **identify the geometry "code", and draw the Lewis structure in that geometry**.

EXAMPLE #1 : CO_2 EXAMPLE #2: H_2O