Exp. No. Lab 9	Experiment/Subject Molecular Modeling	Date 3/9/23	
Name Christopher Hunt	Lab Partner	Locker/ Desk No.	Course & Section No.

Purpose:

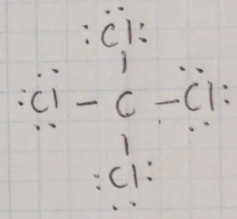
Experimental: The purpose of this lab is to expand on molecular modeling by investigating the VSEPR theory.

Theoretical: VSEPR theory goes beyond Lewis structures and attempts to create a 3D geometrical modeling method. This lab uses Molview to accomplish this lab.

Practic Problems:

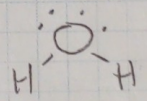
1. CCl_4

C - $4e^-$
Cl - $7e^- \cdot 4$
$\rightarrow 32e^- \rightarrow 16\ e^-$ pairs



H_2O

H - $1e^- \cdot 2$
O - $6e^-$
$\rightarrow 8e^- \rightarrow 4\ e^-$ pairs



2. CCl_4

Electron Geometry: Tetrahedral
Molecular Geometry: Tetrahedral

H_2O

Electron Geometry: Trigonal Planar
Molecular Geometry: Bent

3. CCl_4 → nonpolar $\quad \Delta EN_{C-Cl} = |3.0 - 2.5| = 0.5$

H_2O → Polar $\quad \Delta EN_{H-O} = |2.1 - 3.5| = 1.4$

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Procedure:

1. Recreate Results Table 1
2. Draw the Lewis Structure for each chemical
3. Use VSEPR to predict electron geometry, and molecular geometry of the central atom in each Lewis Structure.
4. Construct each molecule using MolView.

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