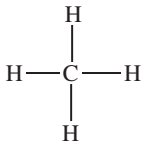
FLINN SCIENTIFIC

Name_____

VSEPR: Using Lewis Structures and VSEPR to Determine Molecular Geometry

Post-Lab Questions

Calculate the valence electrons for each compound and draw its Lewis structure. Predict the Electron Pair Geometry (draw and name it) and the Molecular Geometry (draw and name it) for each of the compounds given.

Compound Formula (Count the valence electrons and find the number of electron pairs.)	**Draw the Lewis structure**	**Electron Pair Geometry Diagram/Name**	**Molecular Geometry Diagram/Name**
CH_4 **Ex: C: 4 × 1 = 4** **H: 1 × 4 = 4** **8e⁻ ÷ 2 or 4 Pairs**		 Tetrahedral	 Tetrahedral
BCl_3			
$SbCl_6^-$			
PCl_3			
TeF_4			
NH_4^+			
$BeCl_2$			
AsH_3			

Covalent Bonding and Molecular Structure Worksheet

Draw the Lewis structure for each of the following compounds. Using VSEPR, determine the electron pair geometry, the molecular geometry, and the bond angle (in degrees) for each compound.

1. BeF_2

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

2. H_2O

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

3. BCl_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

4. NH_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

5. CH_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

6. XeF_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

7. ClF_5

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

8. ClF_3

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

9. SF_4

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):

10. OF_2

Lewis Structure:	Electron Geometry:	Molecular Geometry:	Bond Angle(s):