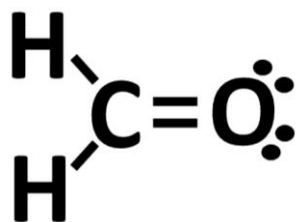


VSEPR Theory Worksheet 3

For each of the following compounds, complete the following:

- Illustrate the **structural formula**
- Illustrate the VSEPR structure using a **perspective drawing**
- Identify the **VSEPR shape** of the molecule by name
- Identify the **types of bonds** present around the central atom

1. Formaldehyde, CH₂O *Example*



Both Structural Formula &
Perspective Drawing

Shape is Trigonal Planar

C-H bonds are both sigma (σ) bonds

C=O bond has 1 sigma (σ) bond & 1 pi (π) bond

2. Carbon tetrachloride, CCl₄

3. Borane, BH₃

4. Carbon dioxide, CO₂

Name _____ Period _____ Date _____

5. Acetylene, C_2H_2 *(just use one carbon as the central atom as everything is mirrored)*

6. Phosphorus trifluoride, PF_3

7. Hydrogen cyanide, HCN

8. Ammonium, NH_4^+

9. Ethylene (*Ethene*), C_2H_4 *(just use one carbon as the central atom as everything is mirrored)*