

## *Molecule Shapes*

**Learning Goals:** Students will be able to:

- Identify substances to which “Molecular geometry” applies.
- Name molecule and electron geometries for basic molecules.
- Explain the model being used to predict molecule geometry.
- Predict common molecular geometry from the number of electron pairs and bonded atoms around a central atom of basic compounds.

by Trish Loeblein updated October 2011

**1. Which is a molecule?**

- A. CO<sub>2</sub>**
- B. CaCl<sub>2</sub>**
- C. NH<sub>4</sub>Cl**
- D. Li<sub>2</sub>SO<sub>4</sub>**

**2. Which would have a linear shape?**

- A. HBr**
- B. CO<sub>2</sub>**
- C. Both are linear**

**3. Which has only single bonds?**

- A. HBr**
- B. CO<sub>2</sub>**
- C. Both have all single bonds**

**4. What shape is water?**

- A. Tetrahedral**
- B. Bent**
- C. Trigonal planar**
- D. Linear**

**5. Which is an example of an exception to the octet rule?**

- A. O<sub>2</sub>**
- B. N<sub>2</sub>**
- C. BF<sub>3</sub>**
- D. I<sub>2</sub>**
- E. More than one of these**

5ans. Which is an example of an exception to the octet rule?

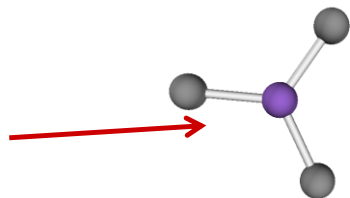
A.  $O_2$

B.  $N_2$

C.  $BF_3$

D.  $I_2$

E. More than one of these

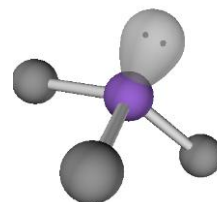


6. Which molecule could be represented with this diagram?

A.  $BH_3$

B.  $CH_4$

C.  $NH_3$



6b. What would the structural formula look like?

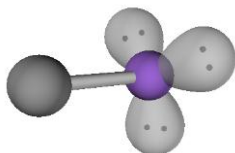
7. Which molecule could be represented with this diagram?

A.  $HCl$

B.  $CH_4$

C.  $NH_3$

D.  $F_2$



7b. What would the structural formula look like?