

POGIL# 1

Name \_\_\_\_\_

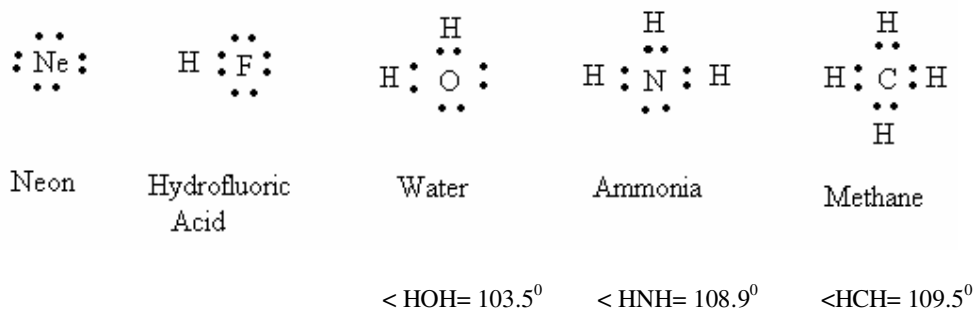
## Molecular Shape

*How can you determine the shape of a molecule?*

### Information: Bonding and Non-Bonding Electrons

- **Bonding pair:** a pair of valence electrons localized between two core atoms.
- **Bonding domain:** is the space this pair of valence electrons occupies.
- **Non-bonding domain:** is the region of space near the core atom where a pair of valence electrons is NOT involved in a bond.
- **Lone pair:** is the non-bonding pair of electrons.
- **Bond angle:** is the angle made by lines joining the nuclei of the atoms in the molecule.

The following are lewis dots representations of four molecules with and without lone pairs:



### Critical Thinking Questions

1. How many lone pairs does neon have?
2. How many bonding pairs/ lone pairs does water have?
3. What is the bond angle between H and F in the hydrofluoric acid?
4. What is the bond angle between H N H in ammonia? Is the given structure below correct? Why and why not?

