**Chemistry Objectives: Bonding**

**Objective 1: Relate the properties of simple compounds to the type of bonding, shape of molecules, and intermolecular forces.**

**Be able to:**

1. Generalize, from investigations, the physical properties (e.g., malleability, conductivity, solubility) of substances with different bond types.
2. Identify how intermolecular forces of hydrogen bonds in water affect a variety of physical, chemical, and biological phenomena (e.g., surface tension, capillary action, boiling point).
3. Understand the concepts of chemical bonding as it deals with:
   1. The difference between ionic, covalent and metallic bonds
   2. Predicting of the type of bond that may form between two atoms
4. Using VSEPR theory, draw Lewis structures of simple covalent molecules then:
   1. Predict the geometry of the molecule
   2. Given a model, describe the shape and resulting polarity of water, ammonia, and methane molecules