Ionic and Covalent Bonding

Textbook References:

- Addison-Wesley ***Chemistry***, Chapter 13 *Ionic Bonds*, and Chapter 14 *Covalent Bonds*
- Merrill ***Chemistry A Modern Course***, Chapter 12 *Chemical Bonding*, Chapter 13 *Molecular Structure*, and Chapter 14 *Polar Molecules*
- Heath ***Chemistry: Experiments and Principles***, Chapter 10 *Chemical Bonding*

1. Define the following terms:
   a) valence electrons
   b) electron dot symbols
   c) octet rule
   d) cations
   e) anions
   f) ionic bond
   g) covalent bond
   h) single covalent bond
   i) double covalent bond
   j) triple covalent bond
   k) polar covalent bond
   l) nonpolar covalent bond
   m) van der Waals forces
   n) London Dispersion forces
   o) Dipole interactions
   p) hydrogen bonds

2. List the properties of ionic compounds.

3. List the properties of covalent compounds.

4. What is VSEPR?

5. Give an example of compounds with the following shapes. Include a sketch of the shape.
   a) linear
   b) trigonal planar
   c) trigonal pyramidal
   d) tetrahedral
   e) bent or angular
   f) trigonal bipyramidal