

## Chapter 11: Intermolecular Forces of Attraction

- Using your decision matrix, determine the predominant intermolecular force of attraction that is found in each of the following substances.
  - AgCl (s)
  - Ne (g)
  - CaBr<sub>2</sub> (aq)
  - HBr (l)
  - O<sub>3</sub> (g)
  - XeF<sub>4</sub> (s)
  - BCl<sub>3</sub> (s)
  - H<sub>2</sub>O (l)
  - CH<sub>3</sub>NH
- Look at each of the following PAIRS and determine which has the higher melting or boiling temperature. To do this first determine what type of Intermolecular force is predominant in each cpd or element. (The stronger the Intermolecular force the higher the temperature at which it melts. If the two cpds/substances have the same type of IF then the one with the higher mass/electron density will have the higher melting/boiling temperature)
  - SF<sub>4</sub> (s) or NaCl (s)
  - SF<sub>4</sub> (s) or XeF<sub>4</sub> (s)
  - NH<sub>3</sub> (g) or H<sub>2</sub>S (g)
  - BCl<sub>3</sub> (s) or PCl<sub>3</sub>(s)
  - Sulfur (s) or Boron (s)
  - CH<sub>3</sub>CH<sub>3</sub> (l) or CH<sub>3</sub>OH (l)
- Look at each of the following PAIRS and determine which will evaporate faster. To do this determine the predominant IF. (The higher the force, the slower it will evaporate. The lower the force the faster it evaporates and the higher its vapor pressure will be.)
  - H<sub>2</sub>O (l) or K<sub>2</sub>O (s)
  - CO<sub>2</sub> or SeO<sub>2</sub> (draw first)
  - Kr (s) or I<sub>2</sub>(s)
  - CH<sub>4</sub> or CCl<sub>4</sub>
  - NH<sub>3</sub> or BH<sub>3</sub>