

5. Which one of the following decreases as the strength of the attractive intermolecular forces increases?
- The heat of vaporization.
 - The normal boiling temperature.
 - The extent of deviations from the ideal gas law.
 - The sublimation temperature of a solid.
 - The vapor pressure of a liquid.
6. You are given the following boiling point data:
- | | |
|---|---------|
| a) water, H_2O | 100°C |
| b) methanol, CH_3OH | 64.96°C |
| c) ethanol, $\text{CH}_3\text{CH}_2\text{OH}$ | 78.5°C |
| d) diethyl ether, $\text{CH}_3\text{OH}_2\text{-O-CH}_2\text{CH}_3$ | 34.5°C |
| e) ethylene glycol, $\text{HO-CH}_2\text{-CH}_2\text{-OH}$ | 198°C |

Which one of the above liquids would you expect to have the highest vapor pressure at room temperature?

7. Which of the following is most likely to be a solid at room temperature?
- Na_2S
 - HF
 - NH_3
 - N_2
 - H_2O
8. Which of the following should have the lowest boiling point?
- Na_2S
 - HF
 - NH_3
 - N_2
 - H_2O
9. Which of the species below would you expect to show the least hydrogen bonding?
- NH_3
 - H_2O
 - HF
 - CH_4
 - all the same