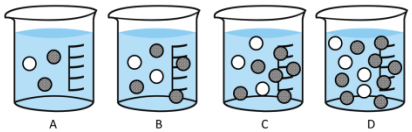
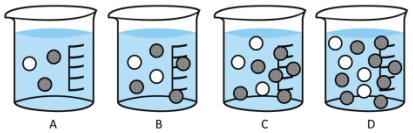
- **Vapor Pressure**
  - Which of the following would have a higher vapor pressure? Explain your answer.



- **Freezing Point and Boiling Point**
  - 31.65 g of sodium chloride is added to 220.0 g of water at 34 °C. How will this affect the freezing point and boiling point of the water? (Given: K_f water = 1.86 °C kg/mol; Kb water = 0.512 °C kg/mol)

- **Osmotic Pressure**
  - Which of the following would have a higher osmotic pressure? Explain your answer.



Colligative Properties

- _____ - properties of solutions that depend on the concentration of a solute but not its identity
  - Vapor Pressure
    - As the concentration of the solute is _____, the vapor pressure of the solvent is _____.
  - Freezing Point
    - As the concentration of the solute is _____, the freezing point of the solvent is _____.
    - We can calculate the change in freezing point that will result using the formula:

$$\Delta T_f = K_f \times m \times i$$

    - ΔT_f = _____
    - K_f = _____
    - m = _____
    - i = _____
  - Boiling Point
    - As the concentration of the solute is _____, the boiling point of the solvent is _____.
    - We can calculate the change in freezing point that will result using the formula:

$$\Delta T_b = K_b \times m \times i$$

    - ΔT_b = _____
    - K_b = _____
  - Osmotic Pressure
    - As the concentration of the solute is _____, the osmotic pressure required to overcome osmosis _____