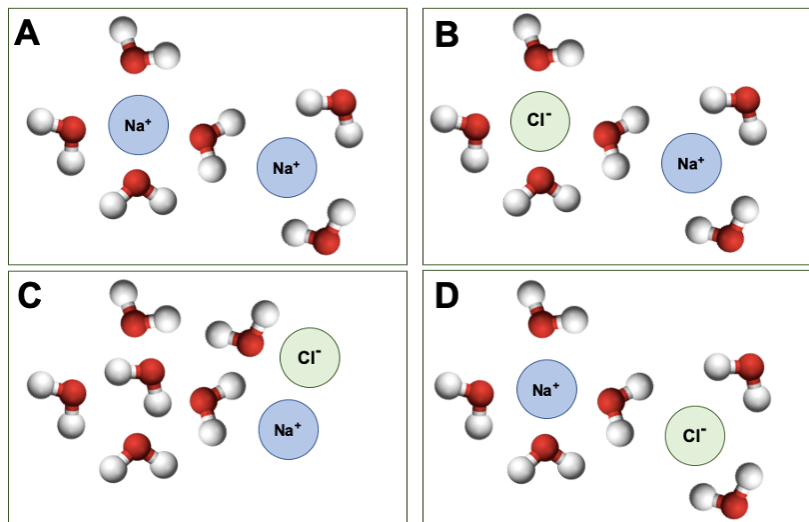


## CHEM 1032 – Week 3 Questions

1. Which image best shows NaCl in water?



2. A solution is prepared by dissolving 37.5 g of fructose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ) in 570.0 g of  $\text{H}_2\text{O}$ . The final volume of the solution is 605 mL. Assume the density of water is 1 g/mL.

Molarity?

Molality?

3. For solids, solubility generally increases with increasing temperature. Why?
4. For gases, solubility \_\_\_\_\_ with increasing temperature.
5. What is the sign for  $\Delta H_{\text{hydration}}$ ?
6. Which solution will have a lower vapor pressure?

0.25 moles sugar

+ 300 mL  $\text{H}_2\text{O}$

0.25 moles NaCl

+ 300 mL  $\text{H}_2\text{O}$

At 25 °C  $P^{\circ}_{\text{vap H}_2\text{O}} = 23.8 \text{ mmHg}$

$$P_{\text{solu}} = (X_{\text{solv}})(P^{\circ}_{\text{solvent}})$$

7. Which solution will boil first?

- A. Salt  
B. Sugar