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**Post Reading: Salting Roads the Solution for Winter Driving**

1. Write a summary about the article:
2. Predict which solution would have the lower freezing point. Assume the volume in both beaker is the same.



**Key:**

 = solvent

 = solute

 **Beaker A:** has high concentration of solute **Beaker B:** has low concentration of solute

1. Predict which solution would have the lower freezing point.
	1. A solution containing 5 moles of CaCl2 dissolved in 100 mL water
	2. A solution containing 10 moles of CaCl2 dissolved in 100 mL water
2. Use the supplied pictures to answer the questions below.



**Key:**

 = air

 = vapor

 = liquid

 vapor pressure is vapor pressure is

 **less than/ equal to/ greater than less than/ equal to/ greater than**

 atmospheric pressure atmospheric pressure

 will boiling occur? **yes/no** will boiling occur? **yes/no**

1. Draw 6 water molecules showing the attractive forces between the molecules. Be sure the water molecules have correct molecular geometry.

1. Draw an aqueous solution using 6 water molecules and an ionic compound. Each ion must be surround by 2 water molecules with proper orientation. Be sure to include the charge of the ions.

1. Using the pictures from questions 5 and 6, determine which liquid has the least amount of water molecules at the surface: **pure water or aqueous solution**?
2. Using the pictures from questions 5 and 6, determine which liquid will produce the lowest vapor pressure:

 **pure water or aqueous solution**?

1. Using the pictures from questions 5 and 6, determine which liquid will produce the highest boiling point:

 **pure water or aqueous solution**?

1. Describe the difference between the boiling point of pure water and the boiling point of an aqueous solution.