

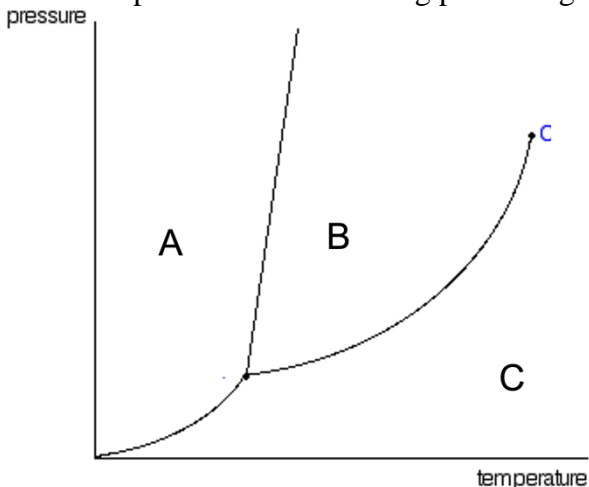
**Faculty Submitting:** Siobhan Toal

**Specify here whether “Pre” or “End” of Unit and the Unit #:** Pre Unit 10

<i>LOs:</i> Describe the steps and energetics of forming a solution  Describe and calculate the impact of colligative properties (freezing point depression, boiling point elevation, osmotic pressure, vapor pressure) of solutions  Calculate the partial pressure of solution components and the vapor pressure of a solution using Raoult’s Law  <i>Readings: Ch 11</i>	
<b>Unit 10_</b> <b>Question 1</b>	<b>Canvas Question Type:</b> Fill in Multiple Blanks GROUP
a	<b>Question Text:</b> In the dissolution process, expansion of solute particles [blank1] energy in order to overcome [blank2] interactions.  <b>Blank 1</b> Correct Answer Requires Wrongs Answer Releases  <b>Blank 2</b> Correct Answer Solute-solute attraction Wrong Answer Solute-solute repulsion Solute-solvent attraction Solute-solvent repulsion Solvent-solvent attraction
b	<b>Question Text:</b> In the dissolution process, expansion of solvent particles [blank1] energy in order to overcome [blank2] interactions.  <b>Blank 1</b> Correct Answer Requires Wrongs Answer Releases

	<p><b>Blank 2</b>  Correct Answer  Solvent-solvent attraction  Wrong Answer  Solute-solute attraction  Solute-solute repulsion  Solute-solvent attraction  Solute-solvent repulsion</p>
Read More	<a href="https://openstax.org/books/chemistry-2e/pages/11-1-the-dissolution-process">https://openstax.org/books/chemistry-2e/pages/11-1-the-dissolution-process</a>
<b>Unit 10_ Question 2</b>	<b>Canvas Question Type:</b> Multiple Choice
	<p><b>Question Text:</b> Which of the following is <u>not</u> a colligative property?</p> <p>Correct Answer:  Solubility</p> <p>Wrong Answers  freezing point depression  boiling point elevation  vapor pressure lowering  Osmotic Pressure</p>
Read More	<a href="https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties">https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties</a>
<b>Unit 10_ Question 3</b>	<b>Canvas Question Type:</b> Multiple Choice
	<p><b>Question Text:</b> The phrase "like dissolves like" refers to the fact that:</p> <p><b>Correct Answer:</b>  solvents more readily dissolve solutes of similar structure and polarity</p> <p><b>Wrong Answer:</b>  solvents can only dissolve solutes of similar molar mass  polar solvents dissolve nonpolar solutes and vice versa</p>
Read More	<a href="https://openstax.org/books/chemistry-2e/pages/11-3-solubility">https://openstax.org/books/chemistry-2e/pages/11-3-solubility</a>
<b>Unit 10_ Question 4</b>	<b>Canvas Question Type:</b> Matching
	<b>Question Text:</b>

	<p>Unsaturated Solution – non-equilibrium solution in which solute concentration is below solubility</p> <p>Saturated Solution – equilibrium solution where solute concentration is at solubility</p> <p>Supersaturated Solution – nonequilibrium solution above solubility</p>
<b>Read More</b>	<p><a href="https://openstax.org/books/chemistry-2e/pages/11-1-the-dissolution-process">https://openstax.org/books/chemistry-2e/pages/11-1-the-dissolution-process</a></p> <p><a href="https://openstax.org/books/chemistry-2e/pages/11-3-solubility">https://openstax.org/books/chemistry-2e/pages/11-3-solubility</a></p>
<b>Unit 10_ Question 5</b>	<b>Canvas Question Type: Fill in the blank</b>
	<p><b>Question Text:</b> The vapor pressure above miscible solution is [blank] that of a pure solvent.</p> <p>Correct Answer: &gt;</p> <p>Wrong Answers: &lt; = Not enough information given</p>
<b>Read More</b>	<p><a href="https://openstax.org/books/chemistry-2e/pages/10-3-phase-transitions">https://openstax.org/books/chemistry-2e/pages/10-3-phase-transitions</a></p> <p><a href="https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties">https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties</a></p>
<b>Unit 10_ Question 6</b>	<b>Canvas Question Type: Multiple Answers/Checkbox</b>
	<p><b>Question Text:</b> According to Raoult’s Law the partial pressure that volatile substance “A” exerts above a solution depends directly on:</p> <p>Correct Answer: Mole fraction of substance A in solution (<math>X_A</math>) Moles of A in solution Total moles of all volatile substances in solution Vapor Pressure of pure substance A (<math>P_A</math>)</p> <p>Wrong Answers: none</p>
<b>Read More</b>	<a href="https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties">https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties</a>
<b>Unit 10_ Question 7</b>	<b>Canvas Question Type: Multiple blanks</b>
	<p><b>Question Text:</b> The freezing point of a dilute solution compared to that of the pure solvent [blank1], while the boiling point of a silute solution compared to that of the pure solvent [blank2]</p>

	Blank 1: depresses (lowers) Blank 2: elevates (raises)
<b>Read More</b>	<a href="https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties">https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties</a>
<b>Unit 10_ Question 7</b>	<b>Canvas Question Type:</b> Matching
	<p><b>Question Text:</b> Label the phases in the following phase diagram:</p>  <p>The diagram is a phase diagram with pressure on the vertical axis and temperature on the horizontal axis. It shows three regions labeled A, B, and C. Region A is on the left, bounded by the vertical axis and a steep curve. Region B is in the middle, bounded by the steep curve and a horizontal line. Region C is on the right, bounded by the horizontal line and a curve that rises to a point labeled 'c'. The horizontal line is at a higher pressure than the point where the steep curve meets the horizontal axis.</p>
	<p><b>A – solid</b> <b>B- liquid</b> <b>C-gas</b></p>
<b>Read More</b>	<a href="https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties">https://openstax.org/books/chemistry-2e/pages/11-4-colligative-properties</a>