

LATENT HEAT - GENERAL CHEMISTRY FORMATIVE ASSESSMENT



STUDENT CHECK FOR UNDERSTANDING

Concepts:
Types of Phase Change, Melting/Freezing Point, Boiling/Condensation Point, Relative Energy of Phase Change, Breaking/Forming IMFs

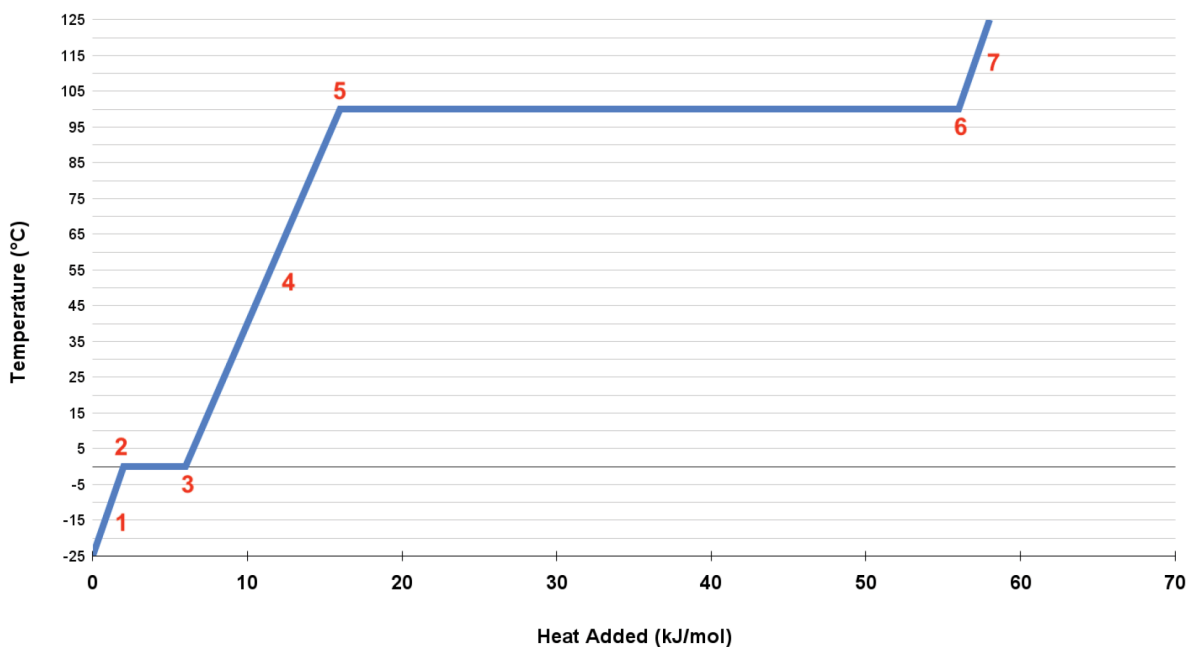
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DIRECTIONS:

Below is a simplified heating curve made for a substance **at a pressure of 1 atmosphere**.

It shows the temperature changes that occur in a quantity of the substance as it is heated. Use the graph to answer the questions on the next page.

Heating Curve of an Unidentified Substance



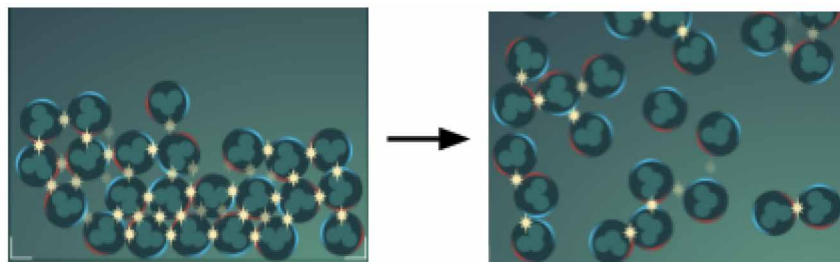
1. At which point is the average kinetic energy of the molecules the greatest? Explain your answer.

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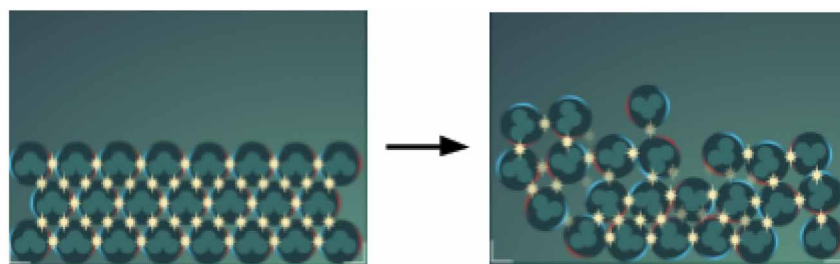
2. What is the condensation point of this substance at 1 atmosphere of pressure? How do you know?

3. In some instances, ALL added heat energy is going into the disruption of the intermolecular forces between particles. Identify two such areas in the heating curve (using adjacent points), and explain the visible evidence for your answer.

4. The image below represents a phase change occurring between two adjacent points on the heating curve. Identify the points at which this phase change occurs, and name the type of phase change.



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6. The substance in the heating curve is capable of hydrogen bonding. Explain **two ways** that the positions of points **2** and **3** as well as points **5** and **6** would be different in a molecule of a similar size but with only London dispersion forces.

7. Considering points **1**, **4**, and **7**, at what point is the substance showing the most resistance to a change in its temperature? Explain how you know.
