

Solids, Liquids, and Gases ▪ *Reading/Notetaking Guide***Changes of State** (pp. 96–101)

This section explains what happens to substances during changes of state.

Use Target Reading Skills

As you read, complete the outline about changes in state. Use the red headings for the main ideas. Use the blue headings for subtopics when possible. Add supporting ideas to the subtopics.

| Changes of State |
|---|
| I. Changes Between Solid and Liquid |
| A. Melting |
| 1. Melting point |
| 2. Particles vibrate faster and break free from fixed position. |
| B. |
| II. Changes Between Liquid and Gas |
| A. |
| B. |
| C. |
| III. |

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Changes of State *(continued)*

Changes Between Solid and Liquid (pp. 97–98)

1. A change from a solid to a liquid involves a(n) _____ in thermal energy.
2. A change from a liquid to a solid involves a(n) _____ in thermal energy.
3. The change in state from a solid to a liquid is called _____.
4. In most pure substances, melting occurs at a characteristic temperature called the _____.
5. Describe what happens to the water molecules in an ice cube that is set on the kitchen counter. What does this action cause?

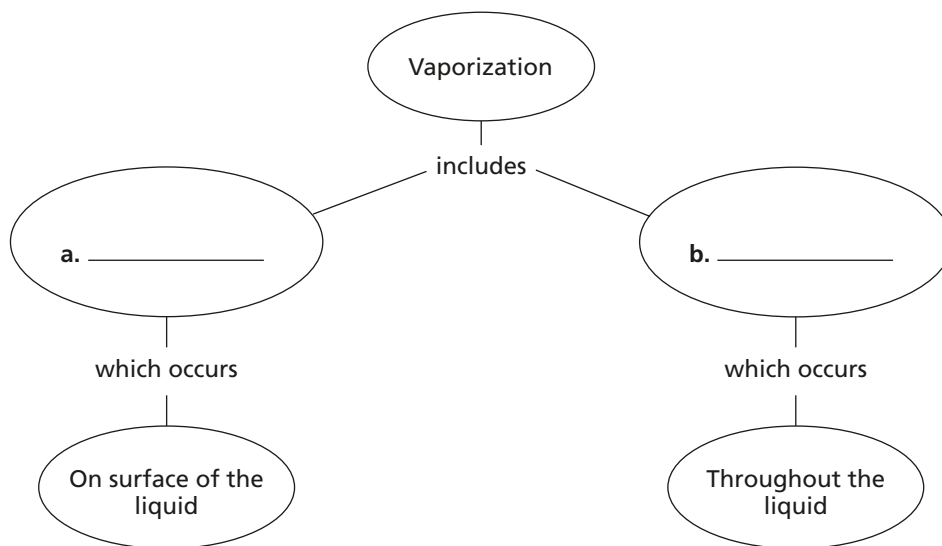
6. The change of state from liquid to solid is called _____.
7. Is the following sentence true or false? At its freezing point, the particles of a solid are vibrating so fast that they break free from their fixed positions. _____

Changes Between Liquid and Gas (pp. 98–100)

8. The change from a liquid to a gas is called _____.
9. When does vaporization take place?

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10. Complete the concept map.



11. The temperature at which a liquid boils is called its _____.

12. Why is the boiling point of water lower in the mountains than it is at sea level?

13. Is the following sentence true or false? Condensation is the opposite of vaporization. _____

14. When condensation occurs, does a gas lose or gain thermal energy?

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Match the term with its example.

| Term | Example |
|-------------------------|--|
| _____ 15. boiling point | a. As a pot of water is heated, bubbles form below the surface and rise. |
| _____ 16. evaporation | b. A temperature of 100°C. |
| _____ 17. boiling | c. Clouds form from water vapor in the sky. |
| _____ 18. condensation | d. A puddle dries up after a rain shower. |

Changes Between Solid and Gas (p. 101)

19. During _____, particles of a solid do not pass through the liquid state as they form a gas.

20. Give an example of sublimation.
