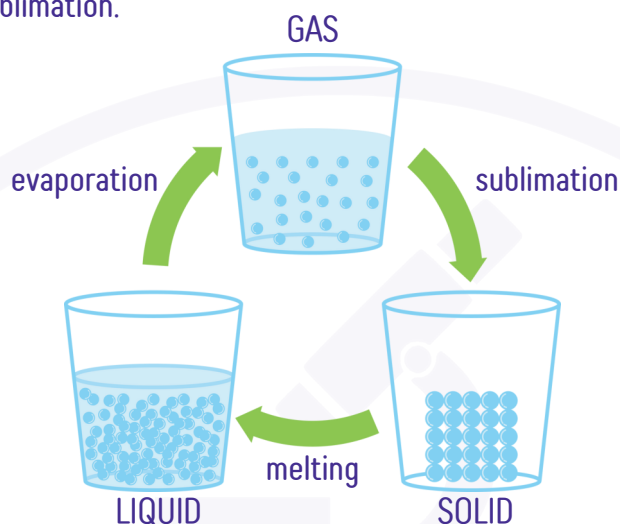


STATES OF MATTER

Key Concepts

- Matter exists in three states: solid, liquid, and gas.
- Solids have fixed shapes, liquids take the shape of their container, and gases spread out to fill the space.
- Changes of state occur when a substance gains or loses heat: melting, freezing, evaporation, condensation, and sublimation.



Key Facts to Remember

- In solids, particles are tightly packed in a fixed, regular pattern and only vibrate in place.
- Liquids have particles that are close together but can slide past each other, allowing liquids to flow.
- Gases consist of particles that are far apart, moving quickly in all directions and filling the space available.
- Changes of state occur at specific temperatures: melting point (solid to liquid) and boiling point (liquid to gas) are unique to each substance.
- During changes of state, the arrangement and movement of particles change, but the substance remains the same.

Quick Questions

1. What happens to particle movement during melting?
2. Name a process where a gas turns directly into a solid.
3. What state of matter has particles that are far apart?
4. What happens to particles during freezing?
5. Which state of matter can be compressed easily?
6. What process changes a solid directly into a gas?

Fun Fact

Did you know dry ice (solid CO_2) sublimates directly into gas without becoming liquid?