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UNDER THE AGIS OF S. S. SITARAMSINGH EDUCATIONAL AND CHARITABLE TRUST
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7. States of Matter

Word Meanings

1. **Matter** - पदार्थ
2. **Mass** - द्रव्यमान / भार
3. **Atoms** - परमाणु
4. **Molecules** - अणु
5. **Substances** - पदार्थ / तत्व
6. **Solid** - ठोस
7. **Liquid** - तरल / द्रव
8. **Gas** - गैस
9. **Volume** - आयतन
10. **Shape** - आकार
11. **Container** - बर्तन / पात्र
12. **Space** - जगह / स्थान
13. **Oxygen** - ऑक्सीजन
14. **Steam** - भाप
15. **Melting** - पिघलना
16. **Evaporation** - वाष्पीकरण

17. **Condensation** - संघनन
18. **Freezing** - जमना
19. **Droplets** - बूंदें
20. **Reversible** - प्रतिवर्ती / जिसे पलटा जा सके
21. **Irreversible** - अपरिवर्तनीय / जिसे पलटा न जा सके
22. **Restored** - बहाल किया गया / मूल रूप में लाया गया
23. **Dissolve** - घुलना
24. **Solution** - घोल / विलयन
25. **Solute** - विलेय (घुलने वाला पदार्थ)
26. **Solvent** - विलायक (घोलने वाला पदार्थ)
27. **Soluble** - घुलनशील
28. **Insoluble** - अघुलनशील
29. **Camphor** - कपूर
30. **Vapour** - वाष्प

Solved Exercises

A. Tick (✓) the correct option.

1. What are the smallest units of matter that cannot be divided further?
c) Atoms
2. Which state of matter has a fixed shape and volume?
c) Solid
3. Which process involves a solid changing into a liquid due to heating?
c) Melting

4. Which substance dissolves in water to form a solution?

b) Salt

5. The substance that causes the dissolving in a solution is called:

b) Solvent

B. Fill in the blanks.

1. When ice melts, it changes from a **solid** to a **liquid**.
2. Sugar and salt are examples of **soluble** substances.
3. Condensation occurs when water vapour **cools** down.
4. Liquids have definite **volume**.
5. Burning of wood is an example of an **irreversible** change.

C. Write T for True statements and F for False statements.

1. Gases have a fixed shape and volume. **(F)**
2. Evaporation is a process where a liquid turns into a gas. **(T)**
3. Condensation occurs when water vapour cools down and changes into liquid form. **(T)**
4. Soluble substances dissolve completely in a liquid. **(T)**
5. Sand is an example of a soluble substance. **(F)**

D. Answer the following questions.

1. **What are molecules?** When atoms join together, they form molecules.
2. **Describe the states of matter and give examples of each.**
 - **Solids:** Objects with a fixed shape and volume where molecules are tightly packed (e.g., rocks, ice cubes).
 - **Liquids:** Substances with a fixed volume but no fixed shape, taking the shape of their container (e.g., water, milk).
 - **Gases:** Substances that do not have a fixed shape or volume and spread out to fill any space (e.g., oxygen, steam).
3. **Define evaporation and condensation.**
 - **Evaporation:** When a liquid is converted into a gas by heating.

- **Condensation:** When water vapour cools down and changes back into liquid form.
4. **Distinguish between reversible and irreversible changes.**
- **Reversible changes:** Processes where the original substances can be restored after the change, such as melting ice into water.
 - **Irreversible changes:** Processes where new substances are formed that cannot be converted back into the original substances, such as burning wood into ash.
5. **What are soluble and insoluble substances?**
- **Soluble substances:** Substances that dissolve entirely in a liquid, like sugar and salt.
 - **Insoluble substances:** Substances that do not dissolve entirely in a liquid, like sand or chalk powder.

E. Identify the arrangement of molecules and name the corresponding states of matter.

(Based on the textbook descriptions of molecular arrangements)

1. **Solid:** Molecules are tightly packed together.
2. **Liquid:** There is more space between molecules compared to solids.
3. **Gas:** There is a lot of space between molecules.