



# **L-5, Solids, Liquids and Gases**

## Learn and write the words(Dictation)

1. materials

2. tumblers

3. molecules

4. independently

5. volume

6. loosely

7. vessel

8. interchangeable

9. disappear

10. solvent

11. scatter

12. dissolves

13. experiment

14. container

I. Answer the following in brief:

Q1. What is matter ?

Ans. A matter is referred to as a substance which has a certain mass and takes up space. Matter is made up of molecules.

eg. pen, car, bus, water, steam etc.

Q2. What are molecules ?

Ans. The smallest particles of a substance that have all the physical and chemical properties of that substance and can exist independently are called molecules.

**Q3. When sugar is dissolved in water , the volume of the solution does not change. Why ?**

**Ans. As we know that molecules of water are loosely packed and there is space in between the molecules of water. When sugar is dissolved in water, it takes up the empty space between the molecules of water and fit into it. Hence its volume does not change .**

**II. Answer in detail :**

**1. How can you say that states of matter are interchangeable ?**

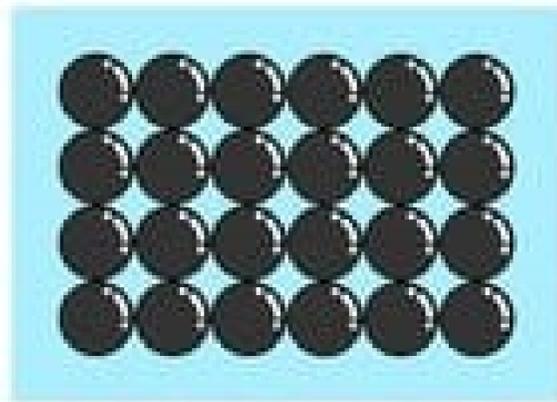
**Ans. The states of matter are interchangeable i.e. a substance can be changed from its solid state to liquid state and vice-versa. Also transitions from the liquid state to the gaseous state and vice-versa are possible. Some substances directly change into gaseous state.**

## 2. Write the properties of different states of matter .

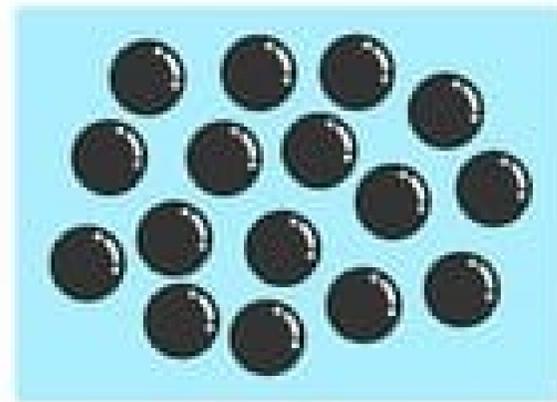
Properties	Solids	Liquids	Gases
a) Mass	They have definite mass.	They have definite mass.	They have definite mass.
b) Shape	They have definite shape.	They take the shape of the container.	<u>They take</u> the shape of the container .
c) Volume	They have definite volume.	They have definite volume	They have indefinite volume
d) Space between particles	Particles are tightly packed.	Particles are loosely packed.	Particles are very loosely packed.

3. Draw a diagram showing molecular arrangement in different states of matter.

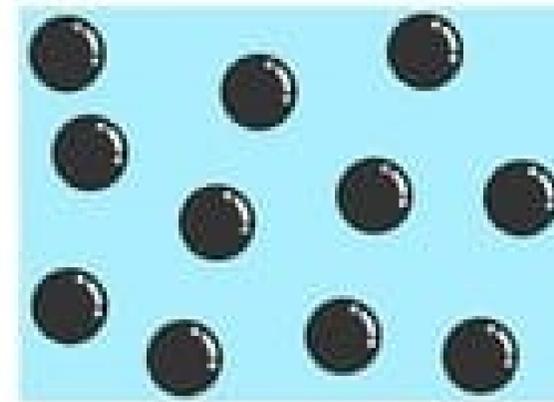
## States of matter



Solid



Liquid



Gas

### III. Give reason why ?

1. We always need to store liquids in containers.

Ans. The molecules in liquids are loosely packed unlike solids. Hence they have tendency to flow. Therefore we always need to store liquids in containers.

2. The smell of perfume spreads very quickly from one corner of the room to the other.

Ans. Perfume contains gas particles and we know that gas particles move very fast because the molecules of gas are very loosely packed. So, when we spray perfume, its particles travel from one corner of the room to the other leaving its smell.

# Book Work

Tick (✓) the correct sentences.

1. You can hold a book in your hand. ✓
2. You can walk on water. ✗
3. You can pour air into a pot. ✗

## CHECKPOINT



## ENRICHMENT ACTIVITY

Circle the correct answers.

1. ( Solids / Liquids / Gases ) have a fixed shape and a fixed volume.
2. ( Solids / Liquids / Gases ) take the shape of the container in which they are kept.
3. Ice changes to liquid water on ( heating / cooling / crushing ).

### EXPERIMENT 2

Look at Fig. 5.2 very carefully. Follow the sequence and fill in the table.

STEP	INITIAL STATE	HEATING/COOLING	FINAL STATE
A	ice	heating	water
B	<i>water</i>	<i>heating</i>	<i>water vapours</i>
C	<i>water vapour</i>	cooling	<i>water</i>
D	<i>Water</i>	<i>cooling</i>	ice

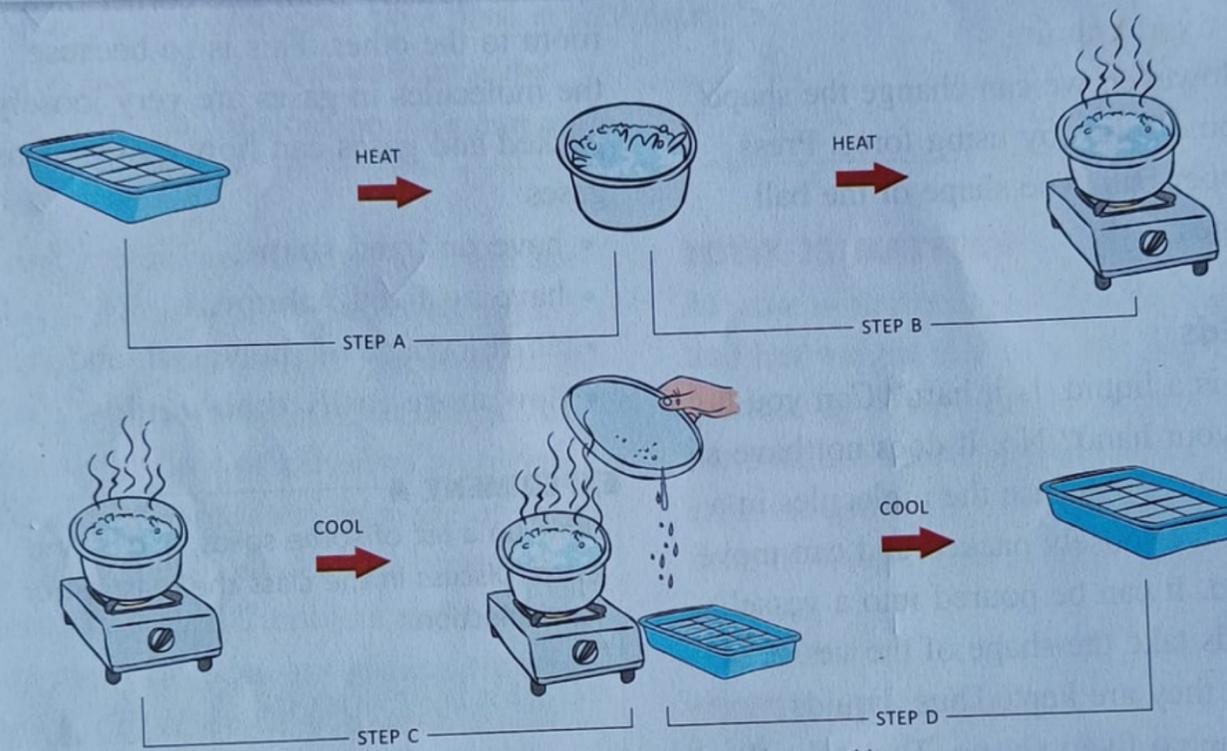


Fig. 5.2 States of matter are interchangeable.

## Read and ANSWER



### A. Tick (✓) the correct answers.

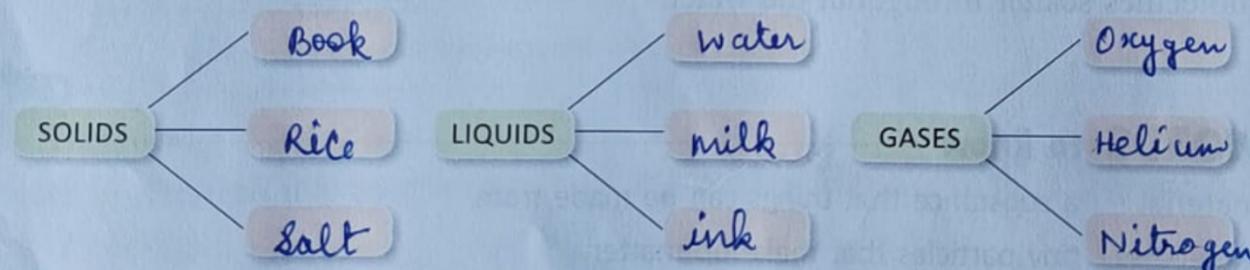
- This is a state of matter.  
✓ a. solid \_\_\_\_\_ b. sugar \_\_\_\_\_ c. salt \_\_\_\_\_ d. wax \_\_\_\_\_
- Which of the following is not a solid?  
a. sugar \_\_\_\_\_ b. button \_\_\_\_\_ ✓ c. ink \_\_\_\_\_ d. rice \_\_\_\_\_
- Which of the following has a fixed shape?  
✓ a. stone \_\_\_\_\_ b. smoke \_\_\_\_\_ c. air \_\_\_\_\_ d. water \_\_\_\_\_
- Which of the following is soluble in water?  
a. stone \_\_\_\_\_ ✓ b. salt \_\_\_\_\_ c. sand \_\_\_\_\_ d. rice \_\_\_\_\_

### B. Write T for True or F for False.

- The molecules of solids are held together very loosely.
- Liquids do not have a fixed volume.
- Water changes into water vapour on cooling.
- In a water-sugar solution, water is the solute.
- Sugar is soluble in water.

F  
F  
F  
F  
T

### C. Fill in the names of any three solids, liquids and gases in the empty boxes.



### D. Write short answers.

- What is matter made up of?
- What are molecules?
- Name a solid that turns to liquid when taken out from the refrigerator. *ice cube*
- Name a liquid that you drink often. *water*
- Name a gas that you use for breathing. *oxygen*



## WORKSHEET 1

## SOLIDS, LIQUIDS AND GASES

## A. Write T for True or F for False.

1. Things around us are made of different materials. T
2. Matter is made up of molecules. T
3. Solids have no fixed shape. F
4. Liquids have no fixed shape but a fixed volume. T
5. Gases fill the space of the vessel. T

## B. Find the odd one out in each.

1. salt, sand, sugar (they dissolve in water)
2. apple, milk, bread (they are solids)
3. salt water, sweet water, hot water (they are solutions)
4. oxygen, coal, carbon dioxide (they are gases)
5. sugar, cough syrup, sugar syrup (they are liquids)

## C. Give reasons for the following.

1. When we make a solution of water and sugar, the volume of the solvent does not increase.
2. Solids have a fixed shape and a definite volume.
3. Gases flow more easily than liquids.

## WORKSHEET 2

### SOLIDS, LIQUIDS AND GASES

#### A. Fill in the blanks.

1. Matter is anything that occupies space and has mass (weight).
2. There are three states of matter.
3. Liquid take the shape of the container in which they are kept.
4. In a sugar solution, sugar is the solute and water is the solvent.

#### B. Rewrite the false statements correctly.

1. All the things around us are made up of the different same material.
2. The molecules in the solids are very loosely packed. tightly.
3. One form of matter cannot be changed into another. can be
4. Ice melts to form steam. water.
5. Sand dissolves in water. Sugar

#### C. Answer these questions.

1. What are molecules?
2. What are the three states of matter?
3. What do you understand by the term solution? Give an example.