

SPECIFIC OBJECTIVES

- The students learn about
- ❖ matter, its three states
 - ❖ change of one state of matter into another
 - ❖ solution and solutions of three states of matter in liquids

TEACHING AIDS

Pictures/charts/animation/models of different types of molecules of same and different atoms (as given in the chapter); Molecules arranged in solid, liquid and gaseous states (as given in chapter); Process of freezing, melting, evaporation and condensation of water; The process of dissolution of a solid in a liquid; Samples of some soluble and insoluble solids in a water, some miscible and immiscible liquids; Soda

LESSON PLAN

- ❖ Teacher will start the chapter by asking some simple questions to students on different types of materials based on their previous knowledge.
- ❖ Now, before defining the term matter, teacher will introduce the terms 'volume' and 'mass', and explain that anything that takes space and has mass is called matter.
- ❖ With the help of teaching aids, teacher will explain about atoms that all matter is made of tiny particles called atoms.
- ❖ With the help of teaching aids, teacher will explain about molecules that atoms of a matter unite to form molecules.
- ❖ Now showing pictures/charts/models of arrangement of molecules in solids, liquids and gases, teacher will explain the three states of matter (as given in chapter).
- ❖ Now to evaluate the learning of students about the chapter, teacher will ask them to solve 'Checkpoint 1'.
- ❖ With the help of teaching aids, teacher will explain the process of freezing, melting, evaporation and condensation of water and also tell that water can exist in all three states of matter.
- ❖ Teacher will explain the term sublimation.
- ❖ With the help of teaching aids, teacher will define the terms solute, solvent and solution and explain the process of dissolution of a solid in a liquid (as in chapter).

- ❖ Teacher will explain with examples, the types of solution, i.e.,
 - solids dissolve in liquids
 - liquids dissolve in liquids
 - gases dissolve in liquids
- ❖ Now, teacher will ask students to solve 'Checkpoint 2'.
- ❖ At last, teacher will make students revise the new terms given in 'Science Vocabulary' and sum up the lesson by going through the points given in 'Wrapping it up'.
- ❖ Now, teacher will help students to solve the questions given in 'Exercises'.

BOOST UP

- ❖ Teacher should encourage students to carry out activities given in the chapter.
- ❖ Teacher should discuss the conversation of Annu and Mannu given in bubbles in between the topics.
- ❖ Teacher should help students to find the answers of questions given in 'Think Zone' and encourage to do activities or projects given in 'Beyond the Text'.
- ❖ To define the term volume, teacher should display a cuboidal or rectangular solid and explain that amount of space occupied by it is called its volume.
- ❖ While teaching liquid state of matter, teacher should demonstrate, by pouring same amount of a liquid in two different containers, that liquids do not have a definite shape.
- ❖ Teacher should demonstrate the process of freezing, melting, evaporation and condensation of water while teaching change in the state of matter.
- ❖ Teacher should demonstrate the process of dissolution of a solid in a liquid while teaching the terms solute, solvent and solution.

EXPECTED LEARNING OUTCOMES

The students understand

- ❖ matter and know its three states.
- ❖ that a matter can change its one state into other.
- ❖ differences between atoms and molecules.
- ❖ the process of dissolution of one substance in other.
- ❖ the solutions of three states of matter, i.e., solid, liquid and gas in liquid.

EVALUATIVE QUESTIONS

The teacher may ask the following questions for evaluating learning and understanding of students:

1. What is volume of an object?
2. What are three states of matter?
3. How are molecules arranged in three states of matter?
4. What is freezing and melting of a substance?
5. What is sublimation?