

Matter

SPECIFIC OBJECTIVES

The students learn about

- matter and its composition, its features in three states
- classification of matter as elements, compounds and mixtures
- physical and chemical changes

TEACHING AIDS

Pictures/animation on three physical states of water (solid, liquid, gas) and molecular arrangement in three different states; formation of molecules (of different and same type of atoms); molecular composition of an element, a compound and a mixture; matchsticks, rubberband, incense stick

LESSON PLAN

- Teacher will start the chapter with 'Warm Up' section by asking some questions on the three physical states of water based on previous knowledge of students and help them to fill in the blank.
- Now, teacher will make students recall the features of matter that they learnt in previous class, i.e., matter has weight and occupies space.
- With the help of teaching aids, teacher will explain the features of three different physical states of matter (as given in table in chapter).
- With the help of teaching aids, teacher will explain that all matter is made of atoms and molecules.
- Now, to check the understanding of students about the topic, teacher will ask them to solve 'Checkpoint 1'.
- Now, teacher will define the terms 'element', 'compound' and 'mixture'. With the help of teaching aids and giving suitable examples of each, teacher will describe the distinguishing features of element, compound and mixture: that
 - Substances made of one kind of atoms are called elements.
 - Substances made of more than one kind of elements in fixed ratio are called compounds.
 - Substances made by mixing two or more substances in which the components are individually distinct are called mixtures.

- With the help of teaching aids and giving suitable examples, teacher will explain physical and chemical changes and their characteristics features (as given in chapter).
- Now, teacher will ask students to solve 'Checkpoint 2'.
- At last, teacher will sum up the chapter by going through the points given under the head 'At One Go' and make students revise the new terms given under the head 'Remember These Terms'.
- Teacher will also help students to solve the questions given under the head 'Check Your Study'.

BOOST UP

- Teacher should explain that there are 115 elements in nature.
- Teacher should display the samples of some elements, compounds and mixtures, if possible.
- Teacher should give an idea of chemical symbols of elements.
- While teaching physical and chemical changes, teacher should demonstrate some examples as given in the chapter.
- Teacher should also give some more examples, other than those given in chapter.

EXPECTED LEARNING OUTCOMES

The students

- know about matter and its composition.
- can differentiate between three states of matter.
- understand about elements, compounds and mixtures.
- can distinguish between physical and chemical changes.

EVALUATIVE QUESTIONS

The teacher may ask the following questions for evaluating the understanding of students.

1. What are the features of matter?
2. What are three states of matter?
3. Which state of matter cannot flow?
4. What is a material composed of?
5. What are the types of matter according to nature of atoms in it?
6. In which change substance remains the same?
7. In which change no new substance is formed?