Science

7

Our Solar System

SPECIFIC OBJECTIVES

The students learn about

- stars, galaxy and the solar system
- the earth
- how day and night, and change in seasons occur

TEACHING AIDS

Pictures/animation of night starry sky, Milky Way galaxy, solar system, telescope; Inside picture of earth, an erupting volcano, a globe and a torch

LESSON PLAN

- The teacher will start the chapter with 'Warm Up' section by asking some simple questions on solar system based on previous knowledge of students and help them to fill in the blank.
- Now, teacher will ask general questions on stars and with the help of teaching aids, explain that stars are huge balls of hot gases that give out heat and light. They appear small because they are far away from us. Teacher will explain that sun is also a star. It appears bigger because it is the nearest star to us.
- With the help of teaching aids, teacher will explain what a galaxy is and give a brief introduction of Milky way galaxy.
- Now, teacher will describe the solar system and with the help of teaching aids, discuss about its 8 planets (as given in the chapter).
- Teacher will also discuss about dwarf planets and special features of Mercury, Venus, Mars, Jupiter and Saturn (as given in chapter).
- Teacher will also describe about a telescope and its uses and mention that last four planets of solar system are quite far from the earth, therefore, can be seen with the help of telescope only.
- To check the learning of students about the chapter, teacher will ask them to solve 'Checkpoint 1'.
- Now with the help of teaching aids, teacher will describe the planet Earth in detail, i.e., its age and inside structure (as given in the chapter).
  - With the help of teaching aids, teacher will define volcano and lava.
  - With the help of a globe, teacher will define the axis, equator, Northern and Southern hemispheres of the earth.

- With the help of a globe, teacher will explain the two motions of the earth, i.e., rotation and revolution (as given in chapter).
- Now with the help of teaching aids (globe, torch, etc.), teacher will explain how day and night occur and how change in seasons is caused on the earth (as described in the chapter).

❍ Teacher will emphasise on the two factors that are responsible for change in seasons, i.e., tilted axis of the earth and revolution of the earth.

❍ Now, teacher will ask students to solve 'Checkpoint 2'.

❍ At last, the teacher will sum up the chapter by going through the points given under the head 'At One Go' and make students revise new terms given under the head 'Remember These Terms'.

❍ Teacher will help students to answer the questions given under the head 'Check Your Study'.

BOOST UP

❍ Teacher should arrange a visit to a planetarium or a nearby observatory for students.

❍ Teacher should give a brief idea of astronomy and encourage students to explore the name of Indian astronomers.

❍ Students should be encouraged to find out the names of some volcanoes of the world.

EXPECTED LEARNING OUTCOMES

The students know

❍ about stars, galaxies and the solar system and its eight planets.

❍ important features of the earth.

❍ about two movements of the earth.

❍ how day and night, and change in seasons is caused.

EVALUATIVE QUESTIONS

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

1. What are stars? Why do they appear so small?
2. What is the sun?
3. What is a galaxy?
4. What does our solar system consist of?
5. What is located at the centre of solar system?
6. What is a planet?
7. What is a dwarf planet?
8. What is a telescope?
9. What are axis and equator of the earth?
10. What are Northern and Southern hemispheres?
11. What is a solar year?