

Solar System and the Blue Planet

14

SPECIFIC OBJECTIVES

- The students learn about
- ❖ stars, constellations, planets, satellites 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 by asking some simple questions on solar system based on previous knowledge of students.
- ❖ Teacher will describe the solar system with the help of teaching aids.
- ❖ Now, teacher will 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.
- ❖ Teacher will also discuss about constellation by showing some pictures or animations.
- ❖ Then, teacher will discuss about planets of our solar system (as given in chapter).
- ❖ Teacher will also describe satellites, and explain inner and outer planets.
- ❖ Teacher will also discuss about dwarf planets and special features of Mercury, Venus, Mars, Jupiter and Saturn (as given in chapter).
- ❖ To check the learning of students, 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 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 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, 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 discuss information given in the 'Knowledge Desk'.
- ❖ Teacher should help students to find the answers of questions given in 'Think Zone' and 'Beyond the Text'.
- ❖ Teacher should also discuss the facts given in 'Interesting Information' section.
- ❖ 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, constellations, planets, satellites 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 are axis and equator of the earth?
9. What are Northern and Southern hemispheres?