

# Light, Sound and Force

## SPECIFIC OBJECTIVES

- The students learn about
- ❖ light, sources of light, luminous and nonluminous objects
  - ❖ shadows, features of shadow
  - ❖ sound, sound production in humans, noise and music
  - ❖ force and effects of force on an object

### TEACHING AIDS

Any light source such as torch/bulb/tube/candle; globe or ball; Pictures/animation of sunrise, sunset and noon (showing shadow of an object); Picture/chart of sound box of man; Animation on sound production in man; Clay, rubber band/string

### LESSON PLAN

- ❖ Teacher will start the chapter by asking simple questions on pulling and pushing activities.
- ❖ Teacher will explain the need of light and tell that the sun is a natural and ultimate source of light on the earth.
- ❖ To demonstrate the need of light for looking objects around us, teacher can perform the activity given at the starting of chapter.
- ❖ Teacher will explain difference between natural and artificial sources of energy.
- ❖ With the help of teaching aids, teacher will explain difference between luminous and nonluminous objects.
- ❖ Now, teacher will explain the process of shadow formation by a simple experiment as given in the chapter. For performing the experiment, teacher can use torch/candle or any light source and globe/ball or any other object.
- ❖ With the help of teaching aids, teacher will show the shadow formation on sunrise, at noon and on sunset emphasising the difference between their sizes.
- ❖ To evaluate the understanding of topic taught so far, teacher will ask students to solve 'Checkpoint 1'.
- ❖ Now, before starting on sound, teacher will ask some simple questions based on previous knowledge of students.
- ❖ Teacher can demonstrate sound production by vibrating a string or a stretched rubber band.

- ❖ Now, teacher will explain what vibration is and explain when an object vibrates, it produces sound.
- ❖ Now using teaching aids, teacher will show the sound producing organ of man and explain that sound is produced by the vibration in vocal cords.
- ❖ Now, teacher will explain the difference between noise and music and give the brief idea of noise pollution and its harms.
- ❖ Teacher will emphasise on to minimise noise pollution.
- ❖ Now, teacher will discuss on force and explain the changes that a force can bring in an object as described in the chapter.
- ❖ Using clay, teacher will demonstrate how force can change the shape of an object.
- ❖ 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 and discuss the information given in the 'Knowledge Desk'.
- ❖ Teacher should help students to find the answers of questions given in 'Think Zone' section and encourage to do the activity given in 'Beyond the Text'.
- ❖ Teacher can encourage the students to experiment themselves with different objects for shadow formation.
- ❖ Teacher can ask students to collect pictures of noisy areas and write 5 lines on the harms of noise.
- ❖ Students can check the effects of force themselves by experimenting with other objects.

### EXPECTED LEARNING OUTCOMES

The students understand

- ❖ about light, its sources and luminous and nonluminous objects.
- ❖ what is a shadow, its features and how it forms.
- ❖ about sound, how it produces, can differentiate between noise and music.
- ❖ about a force and how it brings different changes in an object.

### EVALUATIVE QUESTIONS

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

1. What is a natural and the ultimate source of light on the earth?
2. What are man-made sources of light?
3. Name some natural luminous objects.
4. What is a shadow and how does it form?
5. How is sound produced?
6. What is a force?