

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 and help students to write answer to question asked in 'Warm Up' section.
- Teacher will explain the need of light and tell that the sun is the only source of energy on the earth.
- To demonstrate the need of light for looking objects around us, teacher can perform an activity before students 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 chapter under the head 'Shadows'.
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 chapter 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 the 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, the teacher will make students revise the new terms given under the head 'Remember These Terms' and sum up the lesson by going through the points given under the head 'At One Go'.
- Teacher will ask the students to solve all the questions given under the head 'Check Your Study'.

BOOST UP

- 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.
- what is 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. Name a natural and 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?