

## LESSON PLAN

### SPECIFIC OBJECTIVES

- The students will learn about
- ❖ light and its characteristics
  - ❖ sources of light
  - ❖ luminous and nonluminous objects
  - ❖ opaque, transparent and translucent objects
  - ❖ rectilinear propagation of light
  - ❖ shadow and its characteristics
  - ❖ eclipses; pinhole camera, its construction and working
  - ❖ plane mirror and reflection
  - ❖ differences between an image and a shadow

### TEACHING AIDS

Pictures/charts/models/animation on sources of light – bulb, candle, CFL, etc.; organisms showing bioluminescence; shadow of an object, solar and lunar eclipses; pinhole camera; plane mirror, reflection of light from plane mirror.

### LESSON PLAN

- ❖ Teacher will start the chapter by going through the points given in 'Know these points before you start' section.
- ❖ Teacher will define the concept of light, its characteristics and different sources of light.
- ❖ With suitable examples, teacher will define luminous and nonluminous bodies.
- ❖ Teacher will discuss different types of objects based on passage of light through them, i.e., transparent, opaque and translucent objects by demonstrating activity given in the chapter.
- ❖ Teacher will define a ray of light and explain the rectilinear propagation of light with the help of activities given in the chapter.

- ❖ Now, teacher will ask students to solve Check Point 1.
- ❖ Teacher will define shadow and its characteristics by demonstrating activities given in the chapter.
- ❖ Now, teacher will discuss the formation of eclipses and explain how solar and lunar eclipses occur.
- ❖ Teacher will discuss pinhole camera, its construction and working, i.e., formation of image by a pinhole camera and its nature.
- ❖ Now, teacher will define plane mirror and reflection and explain the reflection of light by plane mirror by performing the activity given in the chapter.
- ❖ Teacher will also perform the activity given in the chapter to explain the formation of an image on a curved surface.
- ❖ Teacher will explain differences between an image and a shadow.
- ❖ Now, teacher will ask students to solve Check Point 2.
- ❖ Teacher will make students revise the new terms given under the head 'Know These Terms'.
- ❖ Finally, teacher will help students to solve the questions given in exercises under the head 'Practice Time' and 'Think Zone'.

### BOOST UP

- ❖ Teacher should demonstrate and explain activities given in the chapter.
- ❖ Teacher should discuss the information given under the head 'Something More'.
- ❖ Teacher should discuss the conversation of Annu and Mannu given in between the topics.
- ❖ Teacher may give the examples of sundial and X-ray photographs while teaching formation of shadows.
- ❖ Teacher should explain that water surface acts as mirror and reflects the light falling on it.

### EXPECTED LEARNING OUTCOMES

The students understand and know the

- ❖ concept of light and its characteristics.
- ❖ luminous and nonluminous objects.
- ❖ opaque, transparent and translucent objects.
- ❖ rectilinear propagation of light.
- ❖ formation of shadow and its characteristics; formation of eclipses.
- ❖ making and working of a pinhole camera.
- ❖ reflection from plane mirror.
- ❖ reflection from curved surface.
- ❖ differences between an image and a shadow.

## EVALUATIVE QUESTIONS

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

1. What makes things visible and helps us to see?
2. What is the difference between luminous and nonluminous bodies?
3. Give two examples each of transparent and translucent objects.
4. How is a shadow formed? Mention three characteristics of a shadow.
5. What is meant by solar eclipse?
6. Define reflection.
7. What is a pinhole camera?