

## LESSON PLAN

### SPECIFIC OBJECTIVES

- The students will learn about
- ✧ flow of heat
  - ✧ modes of heat flow, i.e., conduction, convection and radiation
  - ✧ good and bad conductors of heat
  - ✧ convection currents in nature, i.e., formation of land and sea breezes, earthquakes and ocean currents
  - ✧ applications of convection currents in everyday life
  - ✧ radiation; choice of colours in our life

### TEACHING AIDS

Pictures/charts/models/animations on heat flow in solids by conduction; room heater, car radiator; convection in a liquid, sea breeze, land breeze, earthquake, ocean current; thermal radiation.

### LESSON PLAN

- ✧ Teacher will start the chapter by going through the points given in 'Know these points before you start' section.
- ✧ Teacher will define flow of heat and will explain three modes of flow of heat.
- ✧ Teacher will describe heat flow by conduction in different solid substances by performing activities given in the chapter.
- ✧ Teacher will describe good and bad conductors of heat and their uses in everyday life.
- ✧ Teacher will ask students to solve Check Point 1.
- ✧ Now, teacher will describe flow of heat by convection with the help of activity given in the chapter.
- ✧ Teacher will discuss the convection currents in nature by explaining the formation of sea breeze, land breeze, and ocean currents and occurrence of earthquakes.
- ✧ Teacher will discuss the applications of convection currents in everyday life by giving examples of air coolers, room heaters, etc. (as given in the chapter).

- ✧ Teacher will ask students to solve Check Point 2.
- ✧ Now, teacher will define radiation and thermal radiation and the factors which affect it.
- ✧ Teacher will explain dark bodies as good absorbers and good radiators, and light-coloured bodies as poor absorbers and poor radiators by performing activity given in the chapter.
- ✧ Teacher will discuss applications of good absorbers and poor absorbers in everyday life by giving various examples (as given in the chapter).
- ✧ Now, teacher will ask students to solve Check Point 3.
- ✧ 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.
- ✧ Students should be asked to find more examples of poor and good conductors of heat, good and bad absorbers of radiation and convection currents in nature.

### EXPECTED LEARNING OUTCOMES

The students know about

- ✧ flow of heat.
- ✧ modes of heat flow, i.e., conduction, convection and radiation.
- ✧ differences between conduction, convection and radiation.
- ✧ poor and good conductors of heat.
- ✧ convection currents, sea breeze and land breeze.
- ✧ radiation, good and bad absorbers of radiation and their applications.

### EVALUATIVE QUESTIONS

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

1. Define conduction. How does heat flow by conduction?
2. Write the differences between poor and good conductors of heat. Give their two examples.
3. What is meant by convection?
4. Mention the differences between land and sea breezes.
5. Why are pipes of solar heaters painted black?
6. Define thermal radiation.