

Heat and Temperature

4

LESSON PLAN

SPECIFIC OBJECTIVES

- The students will learn about
- ✧ concept of heat
 - ✧ transformation of heat energy
 - ✧ concept of temperature
 - ✧ how to read a thermometer
 - ✧ clinical thermometer, its structure and use
 - ✧ laboratory thermometer and its structure
 - ✧ precautions taken while using a thermometer

TEACHING AIDS

Pictures/charts/models/animations on electrical devices—electric iron, geyser, room heater, electric bulb; laboratory thermometer, clinical thermometer.

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 heat as energy and its transformation in other forms of energy.
- ✧ Teacher will discuss how to determine the hotness of an object and will define the concept of temperature.
- ✧ Teacher will ask students to solve Check Point 1.
- ✧ Teacher will discuss the scale to measure temperature and the method of reading a thermometer.
- ✧ Teacher will describe the structure of a laboratory thermometer and will discuss the precautions taken while using it.
- ✧ Now, teacher will describe the structure of a clinical thermometer and its use to measure human body temperature and the precautions taken while using it.

- ✧ Teacher will ask students to solve Check Points 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 should discuss the facts given in the table.
- ✧ Teacher should encourage students to observe various forms of transformation of energy in everyday life.
- ✧ Students should be asked to obtain their body temperature with the help of a clinical thermometer.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ concept of heat and its transformation.
- ✧ hotness and coldness of objects.
- ✧ concept of temperature and measuring of temperature with a thermometer.
- ✧ scale of temperature measurement.
- ✧ structure and uses of clinical and laboratory thermometers.
- ✧ precautions while handling thermometers.

EVALUATIVE QUESTIONS

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

1. Define heat.
2. Is heat energy transformed into mechanical energy in a steam engine?
3. Which instrument is used to measure the human body temperature?
4. Mention the differences between clinical and laboratory thermometers.
5. What is the range of laboratory thermometer?
6. What is the average temperature of human body?
7. Mention few precautions while handling a clinical thermometer.