

LESSON PLAN**SPECIFIC OBJECTIVES**

The students will learn about

- ✧ objects in motion; fast and slow motions
- ✧ measurement of time
- ✧ speed and its unit; average speed
- ✧ determining speed
- ✧ simple pendulum and its time period
- ✧ distance-time graph
- ✧ uniform and nonuniform motions

TEACHING AIDS

Pictures/charts/models/animations on earlier time-measuring devices; different types of clocks—wall clock, table clock, digital clock; mechanical and digital stopwatch; simple pendulum, simple pendulum in oscillatory motion; speedometer, odometer; distance-time graph of speed.

LESSON PLAN

- ✧ The teacher will start the lesson with ‘Science Vocabulary’ section by telling the meaning/definition of new terms which are used in the chapter.
- ✧ Now, the teacher should discuss when an object is said to be in the state of motion.
- ✧ The teacher should discuss the differences between slow and fast motions.
- ✧ Now, the teacher should define the physical quantity time, need to measure it, earlier time-measuring and modern time-measuring devices.
- ✧ The teacher should teach the students about the physical quantity speed, its SI unit and how it is measured.
- ✧ The teacher should define average speed.
- ✧ Now, the teacher should instruct the students to solve the numerical problems for clear understanding of the motion, speed and average speed.
- ✧ The teacher should define simple pendulum and its construction.
- ✧ The teacher should define oscillatory motion with the help of a simple pendulum.

- ✧ Now, the teacher should define the measuring of time period of a simple pendulum by performing Activity 1.
- ✧ The teacher should discuss the facts related to the time period of a simple pendulum and verify them by performing Activity 2.
- ✧ Now, teacher should discuss the distance-time graph by explaining uniform and nonuniform motions.
- ✧ The teacher should discuss the information obtained from a distance-time graph.
- ✧ Students should be asked to solve 'Check Points' 1, 2 and 3.
- ✧ The teacher will help the students to solve the questions given in exercises under the head 'Let's Drill Our Skills' and to complete the flowchart given under the head 'Let's Memorise'.

BOOST UP

- ✧ The teacher should encourage students to collect more information on ancient time-measuring devices.
- ✧ Students should be encouraged for solving more numerical problems.
- ✧ The teacher may discuss a little more about the Indian Standard Time (IST) and National Physical Laboratory (NPL), New Delhi to aid to the knowledge of the students.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ concept of motion; slow and fast motions.
- ✧ concept of speed, its calculation and unit.
- ✧ concept of average speed; uniform and nonuniform motions.
- ✧ concept of time, ancient and modern time-measuring devices.
- ✧ simple pendulum, type of motion it exhibits, calculation of its time period and related facts to it.
- ✧ measuring the speed.
- ✧ distance-time graph.

EVALUATIVE QUESTIONS

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

1. What is meant by motion?
2. Mention the differences between slow and fast motions.
3. Write the formula to calculate the speed.
4. A man is driving his car at a speed of 60 km/h. How far will he be travelling in 6 hours?
5. Define time period of a simple pendulum.