



# LITTERA PUBLIC SCHOOL

**CLASS VI**

**CHAPTER 10**

**SCIENCE**

## **MEASUREMENT OF DISTANCE AND MOTION**

### Very Short Answer Questions

**1. What is motion?**

**Ans.** Change of position with respect to time and surrounding is called motion.

**2. The distance between two bus stops is 35m. Express this distance in (a) cm (b) km.**

**Ans.**

(a)  $1\text{m} = 100\text{cm}$

$$35\text{m} = 35 \times 100 \text{ cm}$$

$$35\text{m} = 3500 \text{ cm.}$$

(b)  $1\text{m} = 1/1000 \text{ km}$

$$35\text{m} = 1/1000 \times 35 \text{ km}$$

$$35\text{m} = 0.035 \text{ km.}$$

**3. What is the S.I unit of the following?**

a. Length – metre (m)

b. Mass – Kilogram (kg)

c. Time – second (s)

d. Temperature – Kelvin (k)

**4. Why can foot step or a hand span not be used as a standard unit of length?**

**Ans.** Foot step or a hand span can not be used as a standard unit of length as it vary from person to person and place to place.

**5. When a body is said to be at rest?**

**Ans.** A body is said to be at rest if does not change its position with respect to its surrounding.

**6. Name the two instruments which are used to measure very small lengths.**

**Ans.** (i) metre scale. (ii) measuring tape

**7. Name two things which can be used to measure length of a curve line.**

**Ans.** (i) thread (ii) divider

**8. Define uniform motion and give one example.**

**Ans.** When a body travels equal distance in equal intervals of time, it is said to be in uniform motion. Example – planets move around the sun.

### Short Answer Questions

**1. What is meant by rectilinear motion? Give two examples of rectilinear motion.**

**Ans.** When an object moves in straight line path it is called rectilinear motion. Example – movement of bullet fired from a gun, freely falling stone.

**2. Define random motion. Give one example.**

**Ans.** Translatory motion of an object which keeps on changing its direction in a disorderly manner is called random motion. Example – Motion of a flying bird

**3. What is meant by periodic motion?**

**Ans.** The motion which repeats itself after regular intervals of time is called periodic motion. Example – motion of a swing, motion of a pendulum.

**4. What two types of motion does the earth show?**

**Ans.** The earth shows periodic motion as well as circular motion.

**5. What is an oscillatory motion?**

**Ans.** When a body moves to and fro about point, it is said to be in oscillatory motion. Example – motion of a pendulum of a wall clock or motion of a swing.

**6. How is a periodic motion different from a non periodic motion?**

**Ans.** Periodic motion repeats itself after regular intervals of time whereas non periodic motion repeats itself but not in fixed interval of time. Example – revolution of earth is a periodic motion whereas blowing of wind is a non periodic motion.

**7. List the precautions to be observed while measuring the length using a scale.**

**Ans.** Precautions to be taken while measuring the length using a scale are:-

- i. The scale should be placed with the objects along its length.
- ii. If the zero mark of scale is worn out the start placing the object from any other mark of the scale.
- iii. Eye must be focused exactly above the points where measurements are marked.

**8. Classify the following motions:**

- i. **Motion of wheels of a car** – rolling motion
- ii. **Motion of a string of a guitar** – Vibratory motion

iii. **Rotation of the earth on its own axis** – rotatory motion

### Long Answer Questions

**1. Describe the various types of motion with examples.**

**Ans.** Various types of motion are:-

- i. Translatory motion: if a body moves as a whole such as every part of the body moves through the same distance, the body is said to be in translatory motion. Example – moving a car or a train.

Types of translatory motion:

- (a) Rectilinear Motion: Motion where objects move along a straight line. Examples: sprinters in race, falling stones etc.
  - (b) Circular Motion or Curvilinear motion: Motion where objects move along a circular path. Examples: rotation of Earth, movement of tip of hand of a clock.
  - (c) Random motion: motion of a body which keeps on changing its direction in a disorderly manner is called random motion. Example – motion of ball in a cricket or football match.
- ii. Periodic Motion: Motion where the object repeats its motion after a fixed interval of time. Examples: motion of swing, pendulum etc.
  - iii. Rotatory Motion: A type of circular motion where an object spins on its own axis, it is called rotatory motion. Example: spinning top, motion of fan etc.
  - iv. Rolling motion : the motion in which body undergoes both translatory as well as rotatory motion is called

rolling motion. Example – movement of drill, motion of bicycle wheel.

**2. Describe the steps with which you can measure the length of a curve line.**

**Ans.** Length of a curve line can be measured by using thread.

Make a knot at one end of the thread. Place the knot at the starting point of the line. Now place the thread exactly along the curved line keeping it pressed with the thumb of your one hand and laying it along the line in a position with your other hand.

Continue this process till the other end of the curved line is reached. Mark the thread at that point which touches the end of the line. Now, stretch out the thread between the knot and the mark. The length is exactly the length of the curved line.