

**SHALINI CONVENT SCHOOL, RAIGARH**  
**CLASS NOTES (2021-22)**

<b>CLASS: VI</b>	<b>CHAPTER:11</b>
<b>SUBJECT: SCIENCE (Physics)</b>	<b>TOPIC: Measurement and Motion</b>

**\* NOTE: Learn and write these notes in Science copy.**

➤ **Key words:**

Motion.            Curvilinear motion  
Rest.                Rotational motion  
Estimation.        Oscillatory motion  
Periodic motion.   Random motion  
Oscillatory motion. Rectilinear motion  
Length  
Distance  
Kilograms

➤ **Answer in few words:**

1. Name the two types of motion that the earth executes.  
- Rotational motion and Periodic motion.
2. Name the type of motion present in a shuttle cock during a game of badminton.  
- Curvilinear motion.
3. Which unit of length should be used for measuring the length and width of a room?  
- Metre (m).
4. Which unit of length should be used for measuring the length between two cities?  
- Kilometre (Km).
5. What is the state of motion of a book placed on a table?  
- Rest.
6. What kind of motion is exhibited by an athlete running on a circular track?  
- Curvilinear motion.

➤ **Answer in few sentences:**

1. When is an object said to be in motion?  
- An object said to be in **motion** if its position changes with time with respect to a stationary observer.
2. What are SI units? Why do we need standard units for measurement?  
- **SI units** are the international system of units used as a standard all over the world.  
We need standard units for measurement because
  - a) It is accepted universally.
  - b) Conversion of units is easy.

c) Units do not change with time and place.

3. Define periodic motion with examples.

- A motion that repeats itself at regular intervals of time is known as **periodic motion**.

Ex. Motion of a pendulum, rotation of Earth on its axis.

4. Why should body parts like hand span and foot span are not used for accurate measurement?

- The length of the body parts varies from person to person. So it is not used for accurate measurement.

5. Why is rotation of Earth on its axis, a periodic motion?

- Rotation of Earth on its axis, is a periodic motion because it is repeated at a regular interval of time.

6. What is the role of National Physical laboratory?

- **The National Physical laboratory (NPL)** in New Delhi is responsible for maintaining the standard units in India.

7. What is the difference between length and distance?

LENGTH	DISTANCE
It is the extent from one end of an object to the other end.	It is the length of space between two points.
It is measured in cm or m.	It is measured in m or km.
Ex. Length of a book or room.	Ex. Distance between two cities.

➤ **Answer in detail:**

**1. Write a short note on the modes of transport used before the invention of wheel.**

- In ancient times people used to move on foot. They carry their goods in hand or their back. They used simple boats to travel across water. After taming animals they used to transport themselves and their goods on the back of animals.

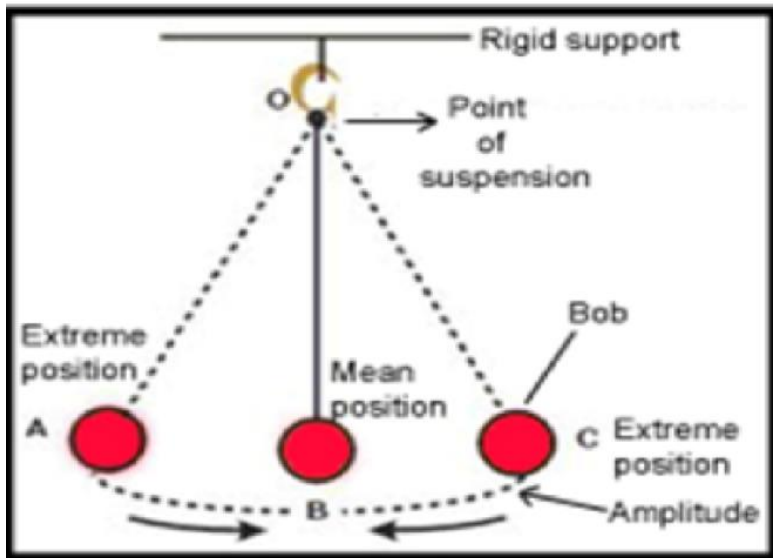
**2. Why does a person sitting in a moving bus not able to see motion in other passengers?**

- A person sitting in a moving bus is not able to see motion in other passengers because he is at rest with respect to the passengers.

**3. Define oscillatory motion with examples.**

- A motion in which an object moves to and fro about a mean position after a regular interval of time is known as **oscillatory motion**.

**Example:** Motion of a pendulum and motion of a swing.



### To and Fro motion of a Simple pendulum

4. What is estimation? Why it is sometimes useful to estimate the measurement of a quantity than measuring it accurately?

-The process of approximate measurement of a quantity without using any instrument is known as estimation.

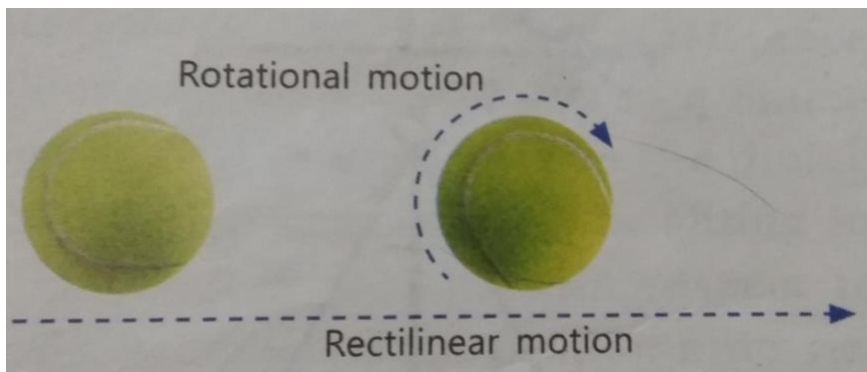
Estimation is useful because-

- a) It saves our time.
- b) It eliminates the need for elaborate measurement.
- c) It helps in decision based on experience.

5. Can an object execute more than one type of motion? If yes, give two examples.

- Some object executes more than one type of motion at the same time. For example -

- 1) An automobile moving on a straight road executes **rectilinear** motion while its wheels are in **rotational** motion.
- 2) A ball rolling on the floor exhibits **rectilinear** as well as **rotational** motion.



6. What is translational motion? Explain its types.

- A motion in which all the parts of an object move in the same direction at a given time is known as translational motion.

**Translational motion is of two types-**

a) **Rectilinear motion** - A motion in which an object moves in the same direction along a **straight path** at a given time.

**Example:** Motion of a striker on a carom board, a stone dropped from a height.

b) **Curvilinear motion** - A motion in which an object moves in the same direction along a **curved path** at a given time.

**Example:** Motion of a basketball thrown into a basket, a car moving on a curved road.

### **7. List the points you need to remember while measuring length of an object.**

- a) Place the instrument close to the object to be measured.
- b) Adjust the instrument at the zero mark and note the reading at the other end.
- c) If zero mark is broken, the measurement can be started at any other mark.
- d) To measure the length of a curved objects use thread.
- e) Keep your eye vertically over the mark which is to be read.