

# ATOMIC ENERGY EDUCATION SOCIETY

e-Learning Content(Science)

Class –VII

Chapter – 13

## **Motion and time**

### **Module 1 of 3**

#### **1. When do we say that an object is in motion?**

When an object changes its position with respect to time, it is said to be in motion.

Some types of motion:

- a. Rectilinear motion: Motion in a straight line is called rectilinear motion.
- b. Circular motion: Motion in a circular path is called circular motion
- c. Periodic motion: Motion that repeats itself after a time interval is called periodic motion.

#### **2. SLOW AND FAST**

- Objects can be said to be faster or slower according to the time taken to complete given distance.
- Fast objects cover more distance in a particular time.
- Slower objects cover less distance in a particular time.

#### **3. Speed**

Distance covered by an object in a unit time is called speed.

Speed = Distance covered/Time period

Eg. If a car covers a distance of 50 Km in 1 hour and a bus moves 50 Km in two hours, we say that the speed of the car is more than the bus.

#### **4. Uniform and non- uniform motion**

**Uniform motion:** An object moving along a straight line with constant speed is said to be in uniform speed.

**Non- Uniform speed:** If the speed of the object moving in a straight line keeps on changing its speed, it is called non-uniform motion

## 5. Measurement of time

- In olden days time was measured by devices like sundials, water clocks, sand clocks etc.
- Nowadays time is measured by clocks and watches.
- Day: The time between one sunrise and the next is called a day.
- Month: Time between one new moon to the next is called a month.

The watches used today make use of periodic motion. One of the most well known periodic motion is called a simple pendulum

## 6. Simple Pendulum

Simple pendulum consists of a small metallic ball called bob suspended from a rigid stand by a thread.

When the bob of a pendulum is released after taking it slightly to one side, it begins to move to and fro. The to and fro motion of the pendulum is an example of an oscillatory or a periodic motion.

- One Oscillation : The pendulum has said to have completed one oscillation when its bob moves from one extreme position A to the other extreme position to the other extreme position B and comes back to A.
- Time period: Time taken to complete one oscillation is called time period.
- The basic unit of time is second and its symbol is second and its symbol "s"
- The larger unit of time are minutes and hours.
- The symbol of all units are written in singular.

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