

DON BOSCO SCHOOL OF EXCELLENCE
CLASS -VI SCIENCE
MOTION AND MEASUREMENT OF DISTANCE

Points to learn:

1 .Measurement is the comparison of an unknown quantity with some known fixed quantity of the same kind.This known fixed quantity is called a unit.

2. In ancient times we used fingers,hands ,arms,and feet for measuring length.These were called non standard measurements.

3.The International system of units(SI unit) was derived by the General Conference of Weights and Measures.The system has units of seven fundamental quantities ,i.e. Mass ,length ,time,electric current ,temperature ,luminous intensity and amount of substance .

4. The SI unit of length is meter (m),mass is Kilogram(Kg), time is second (s) and temperature is Kelvin (K).

5. OBJECTS IN MOTION

Objects move in different ways .While moving ,they change their position with respect to a fixed point.The objects may have slow or fast motion.

Types of motion

I.Translatory motion is of two types,they are

1.Rectilinear motion :

When an object ,on a whole ,moves along a straight path ,it is said to be in rectilinear motion.

2. Curvilinear motion :

When an object ,on a whole ,moves along a curved path ,it is said to be in curvilinear motion.

II. Circular motion are of two types they are

- a. Rotatory motion : When an object does not change its position on the whole from one place to another ,it is said to be in rotation or rotatory motion .Eg .blades of moving fan,arms of a watch ,a giant wheel .
- b. Revolutionary motion : When an object ,moving on a circular path ,changes its position on the whole from one place to another ,it is said to be in revolution or or revolutionary motion .

III. Oscillatory Motion

When a body moves to and fro about a fixed point it is said to be in oscillatory motion.Eg moving swing,pendulum of a clock.Very fast oscillations are called vibrations,as the string of musical instruments.

IV.Periodic and Nonperiodic motions

Motion of objects that repeat after a fixed interval of time are called periodic motion.Eg earth's rotation and revolution .

There are some other motions which repeat themselves but not a fixed interval of time ,like beating of a drum or the heartbeat of a sick person.

This type of motion which repeats at irregular intervals of time is called non periodic motion.

6. Multiple motion

Sometimes,an object shows two or more types of motions simultaneously .Such an object is said to have multiple motions. Example ,a moving car can be translatory motion as a whole but its wheel shows rotatory motion .Other examples are Motion of the earth,a rolling ball,a drill machine.

DON BOSCO SCHOOL OF EXCELLENCE
CLASS 6 -SCIENCE
SEPARATION OF SUBSTANCES

Points to learn

1. Material which contains two or more substances in any proportion is called mixture.
2. The substances which make up a mixture are called its components.
3. Need for separation:
 - To obtain different but useful components of a mixture.
 - To remove harmful components or impurities of a mixture .
 - To remove useless components of a mixture
4. Methods of separation

To separate the components of a mixture, we make use of the properties of the components. We cannot separate components of different mixture using the same method.

- Mixture of two or more solids can be separated by the following methods-Handpicking, Threshing, Winnowing , Sieving
- Insoluble solids in liquids can be separated by sedimentation, decantation and filtration.
 - a) The substance that settles at the bottom of the liquid is called a sediment and the process of settling down of sediment is called sedimentation.
 - b) The process of pouring out of liquid without disturbing the sediment is called decantation.
 - c) Filtration is a method of separating insoluble solid components from a liquid by passing them through a filter. The substance that remains in the filter is called residue and the substance that flows through the filter is called filtrate.

- Liquids that do not mix with each other can be separated by using the method of decantation.
- Liquids that mix with each other are called miscible liquids.Eg. water and milk.
- Liquids that do not mix each other are called immiscible liquids .Eg water and oil .

- **SOLUBLE SOLIDS IN LIQUIDS**

There are many solids that dissolve in water .Salt and sugar dissolve completely in water.We can separate salt or sugar from water by evaporation.Evaporation is the process of converting water into water vapour.The process of evaporation is used to recover a solid component that has dissolved in water or some other liquid .The dissolved solid is left behind as a residue when the liquid evaporates .

- A substance that dissolves in a liquid is called a solute.
- The substance in which a solute dissolves is called solvent.
- The mixture of solute and solvent is called a solution.
- A solution in which no more solute can be dissolved at a given temperature is called a saturated solution.
- Water can dissolve many substances :solids ,liquids and even gases.Therefore water is known as a universal solvent.
