

# VIDYA BHAWAN BALIKA VIDYAPEETH

## STUDY MATERIAL SCIENCE

### CLASS-VI

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#### ▶ Motion & Measurements

**Least count:** A scale is marked in centimetres and millimetres. With the scales of this kind we can measure correctly up to one millimetre, that is one-tenth of a centimetre. This is called the least count of a (15 cm) scale.

**Measuring the length of a curved line:** We cannot measure the length of a curved line directly by using a metre scale. We can use a thread or divider to measure the length of a curved line.

**Motion:** It is a state of objects in which they are moving, that is, they are changing their place with the changing time.

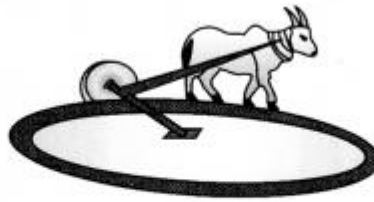
**Rest:** All the stationary objects which are not in motion, that is, do not change their place with time are said to be at rest.

**Rectilinear motion:** When the objects change their position with time along a straight line, this type of motion is called rectilinear motion.

Circular motion

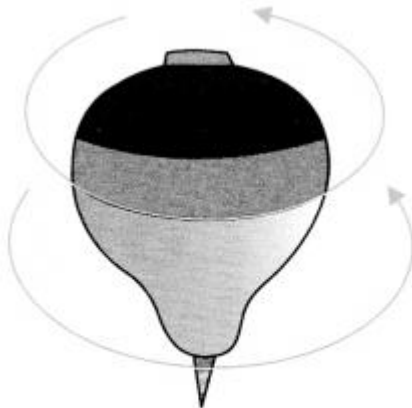
- When a body moves in a circular path, its motion is known as circular motion

- Examples:
  - motion of stone tied in a thread and whirled.
  - motion of a blade of an electric fan.
- motion of second's hand in a clock.
- In circular motion, the object remains at the same distance from a fixed point.



Some objects in circular motion

**Rotational motion:** Motion in which a whole body moves about an axis is called a rotational motion.  
Example: motion of a top.



Spinning top

**Periodic motion:** Motion in which an object repeats its motion after a fixed interval of time is called periodic motion.

Examples:

- Oscillations of a pendulum.

- (Motion of a swing.

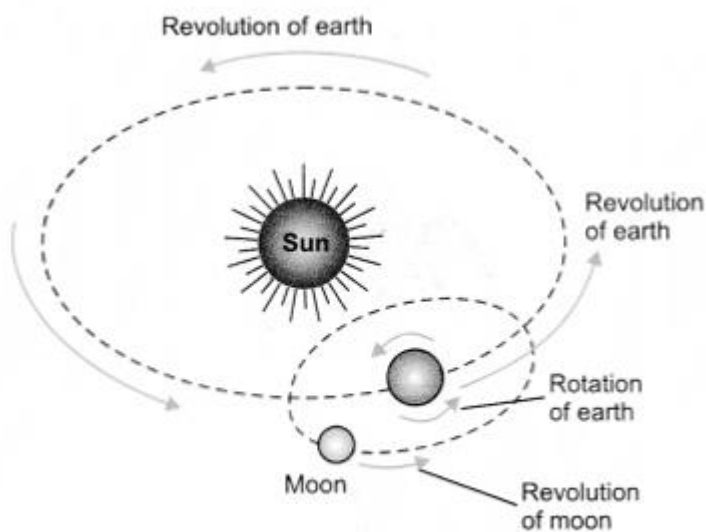


Some objects in periodic motion

**Combination of two or more types of motions:** In some situations, the motion of an object may be a combination of two or more of the above mentioned types of motion.

Examples:

- Motion of a ball on the ground. Here, the ball is rotating about an axis but the axis itself is moving along a straight line. Thus, the ball executes a rectilinear motion as well as rotational motion.
- Motion of earth—earth executes rotations on its axis and also revolves around the sun.



Motion of earth and moon