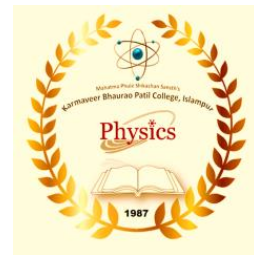




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**Activity**

**Video Lecture On Free Falling Body**

Date:-04/07/2024

**Photo Gallery**





## Activity Video Lecture On Free Falling Body

Date:-04/07/2024

### Concepts Understanding by watching video:-

A free falling object is an object that is falling under the sole influence of gravity. Any object that is being acted upon only by the force of gravity is said to be in a state of **free fall**. There are two important motion characteristics that are true of free-falling objects:

- Free-falling objects do not encounter air resistance.
- All free-falling objects (on Earth) accelerate downwards at a rate of  $9.8 \text{ m/s}^2$  (often approximated as  $10 \text{ m/s}^2$  for *back-of-the-envelope* calculations)

Because free-falling objects are accelerating downwards at a rate of  $9.8 \text{ m/s}^2$ , dot diagram of its motion would depict an acceleration. The dot diagram at the right depicts the acceleration of a free-falling object. The position of the object at regular time intervals - say, every 0.1 second - is shown. The fact that the distance that the object travels every interval of time is increasing is a sure sign that the ball is speeding up as it falls downward. If an object travels downward and speeds up, then its acceleration is downward.



Free-fall acceleration is often witnessed in a physics classroom by means of an ever-popular strobe light demonstration. The room is darkened and a jug full of water is connected by a tube to a medicine dropper. The dropper drips water and the strobe illuminates the falling droplets at a regular rate - say once every 0.2 seconds. Instead of seeing a stream of water free-falling from the medicine dropper, several consecutive drops with increasing separation distance are seen. The pattern of drops resembles the dot diagram shown in the graphic at the right.