

Gravitation - Lesson 8

Experiments on Centripetal Force



1. Centripetal Force

- (i) Take a piece of thread.
- (ii) Tie a small stone at one end. Hold the other end of the thread and whirl it round, as shown in Figure.
- (iii) Note the motion of the stone.
- (iv) Release the thread.
- (v) Again, note the direction of motion of the stone.

2. Artificial Gravity

- (i) Take a pneumatic piston and attach a ball to one end and an electric motor to another.
- (ii) Start the motor and see the ball increase its distance from the centre as the speed of rotation is increased.

3. Marble Gravitron

- (i) Take a marble and place it inside a wine glass.
- (ii) Swiftly whirl the wine glass so that the marble starts rolling.
- (iii) Whirl it fast enough, and you can invert the glass without letting the marble fall.

Note to Teacher

The aim of the experiments is to understand centripetal force in a more practical manner. This will give a break from the myriad theoretical reading and create curiosity about the application of the previously studied lessons.