1. Drag the beam to one side and then press "Start". Use the timer to record the time for 20 complete cycles.

2. Repeat the above step, but this time the beam oscillates at a larger or smaller amplitude. Is the period independent of amplitude ?

3. Is the displacement-time curve sinusoidal ?

4. Is the oscillation harmonic ?

Definition of SHM:

The oscillating motion of an object about a fixed point, such that the acceleration of the object is

always directed towards the fixed point, and proportional to the distance from the fixed point.

Important features of SHM:

- Period is independent of amplitude (isochronism).

- Displacement-time graph is sinusoidal.

Theory

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| http://ngsir.netfirms.com/images/shm1.pnghttp://ngsir.netfirms.com/images/shm2.png |
| http://ngsir.netfirms.com/images/shm3.png |