

PENDULUM MOTION

Simple Pendulum...

- *For small angles **only***, the behavior of a pendulum can be approximated using the principles of Simple Harmonic Motion
 - Period of a pendulum can be found with:

$$T = 2\pi\sqrt{\frac{L}{g}}$$

Sample calculations

- Calculate the length of a pendulum that has a period equal to 1.00 s.

$$T = 2\pi\sqrt{\frac{L}{g}}$$

$$1.00\text{ s} = 2\pi\sqrt{\frac{L}{9.81\text{ m}\cdot\text{s}^{-2}}}$$

$$\frac{1.00}{2\pi} = \sqrt{\frac{L}{9.81\text{ m}\cdot\text{s}^{-2}}}$$

$$\left[\frac{1.00}{(2\pi)}\right]^2 * 9.81 = L = 0.249\text{ m}$$
