

## Simple Harmonic Motion

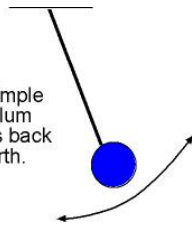
### Objectives

What is simple harmonic motion?

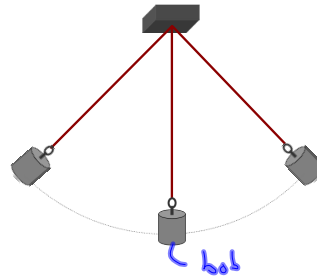
Describe the terms amplitude, equilibrium and time period.

Calculate the time period of a pendulum.

The Simple Pendulum swings back and forth.



**Pendulum:** anything that will swing back & forth



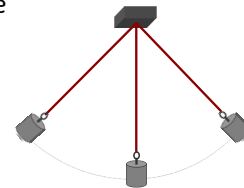
Pedulum Waves

### Pendulum



### Simple Harmonic Motion

- cycle of repeated motion
- caused by a force



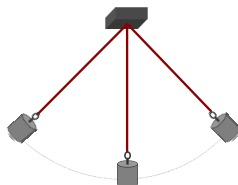
### Pendulum

- forces:

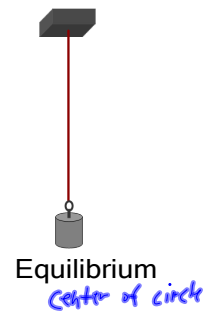
gravity  
applied  
friction  
tension

- causes motion?

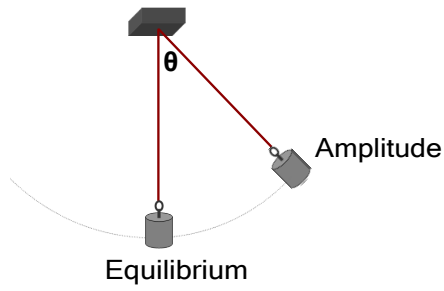
"g"



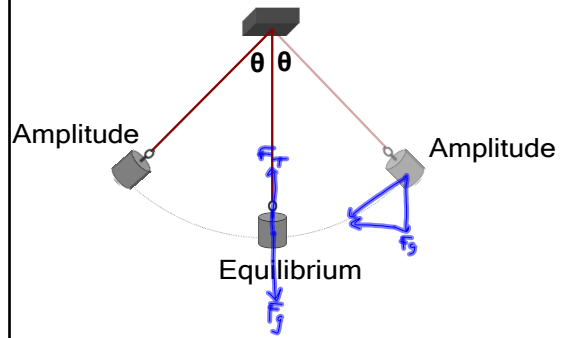
### Pendulum:



Pendulum:



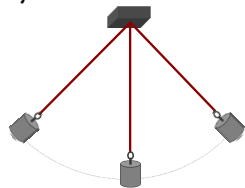
Pendulum:



Time Period

- time for one complete cycle

$$T_p = 2\pi\sqrt{L/g}$$



- factors that affect the time period?

length  
"g"

mass? - No  
amplitude? - No

Assignments . . .



- Lab: A Perfect Pendulum
- Begin Chapter 25 Homework #1 - 4



## Attachments

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Pedulum Waves