

# Oscillations 1

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## Periodic Motion

- a motion that is repeated

## Period (T)

- time for one complete cycle of motion
- measured in seconds

## Frequency (f)

- number of complete cycles per unit time
- measured in Hertz (Hz)

$$\text{Hz} = \frac{1}{s}$$

# Simple Harmonic Motion (SHM)

- special type of periodic motion
- a spring-mass system is a classic example of SHM

## Position vs. Time Equation

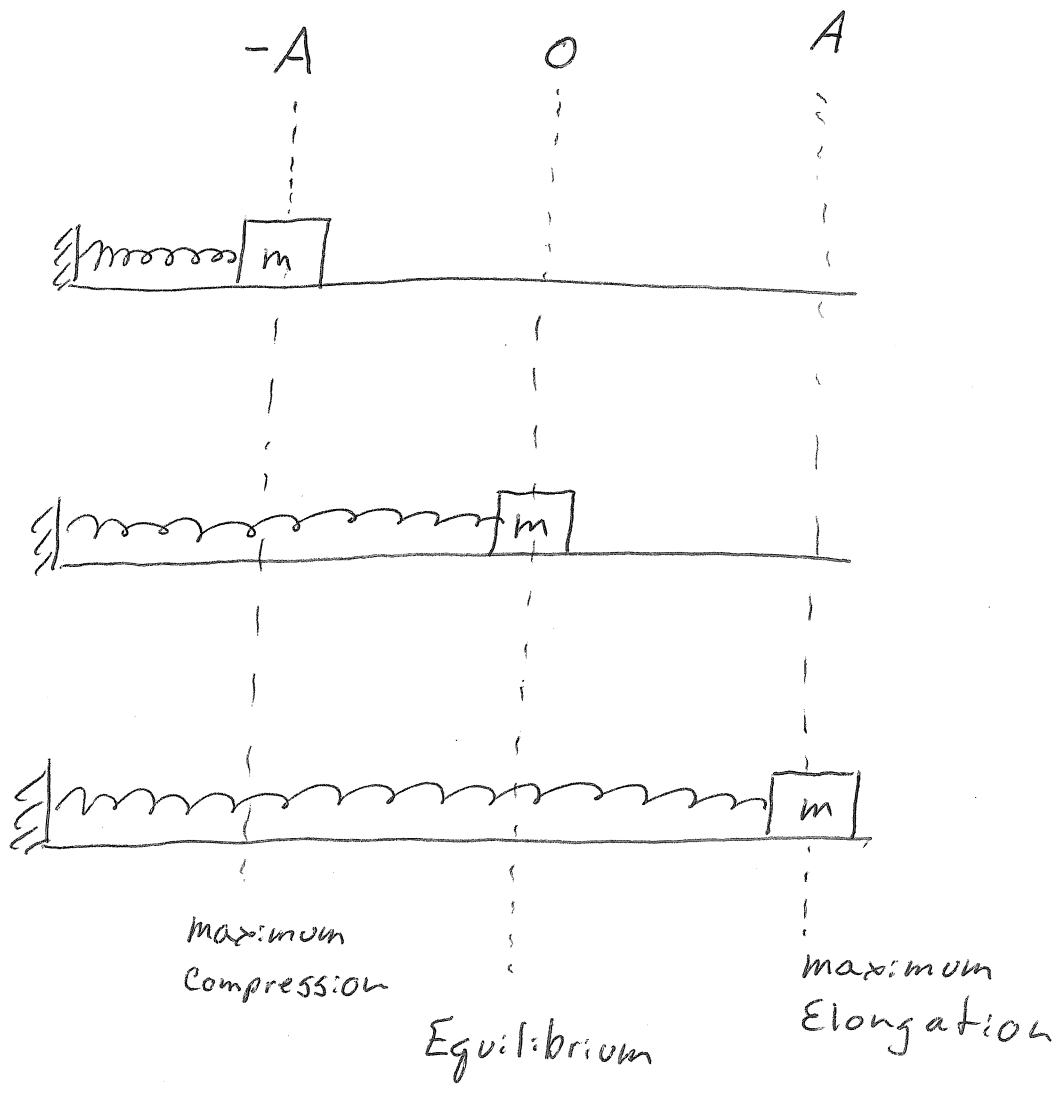
$$x = A \cos \left( \frac{2\pi}{T} t \right)$$

A = amplitude (m)

T = period (s)

t = time (s)

x = position (m)



### Amplitude

- maximum displacement from equilibrium position