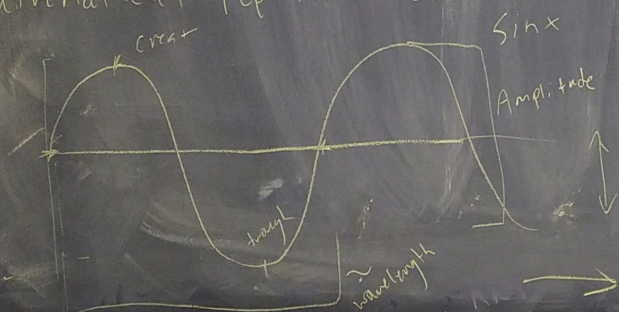


A wave is the motion of a disturbance.

ex) Water in a pond is the medium through which the disturbance travels

mathematical representation

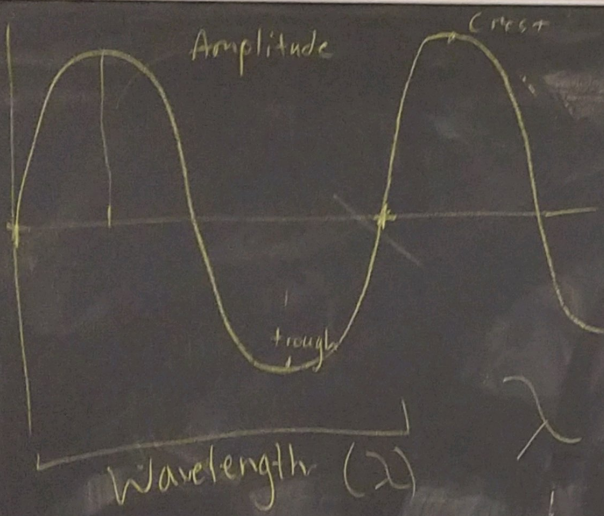


Transverse wave - A wave whose particles are traveling perpendicular to the direction the wave is traveling

Longitudinal wave - A wave whose particles vibrate parallel to the direction the wave is traveling

Compressed

wavelength - the distance between two adjacent similar points on the wave.



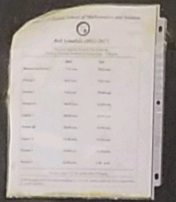
Wavelength - Distance between two adjacent similar points of a wave such as crest to crest or trough to trough.

Amplitude - maximum displacement from equilibrium

Frequency - Number of cycles or vibrations per second

Period - time it takes for complete cycle to occur

$$\text{frequency} = \frac{1}{\text{period}}$$



Frequency is measured in Hertz (Hz)

Speed of wave = wavelength \times frequency

$$v = \lambda f$$

Speed of sound \sim 767 mph
343 m/s

Speed of light \sim 670,000,000 mph
300,000,000 m/s