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Electromagnetic Waves

Amplitude

Frequency

Crest

Interference

Doppler Shift

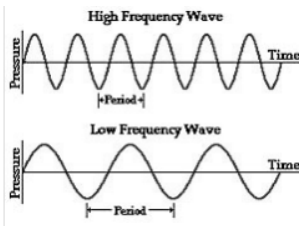
Longitudinal Wave

Electromagnetic Radiation

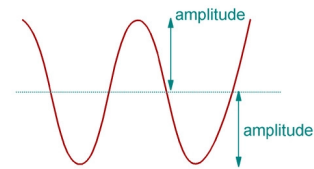
Mechanical Wave

A form of energy that can move through the vacuum of space.  
(transverse waves)

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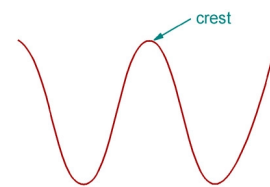


The number of complete wavelengths that pass a point in a given time--measured in Hertz

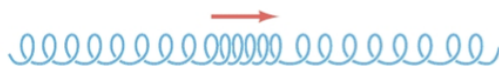


the height of a wave from the origin to a crest, or from the origin to a trough

The interaction between waves that meet



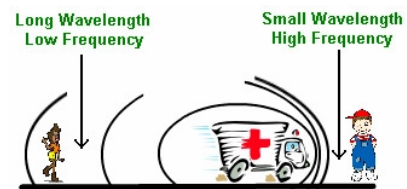
The highest point of a transverse wave



Longitudinal  
(b)

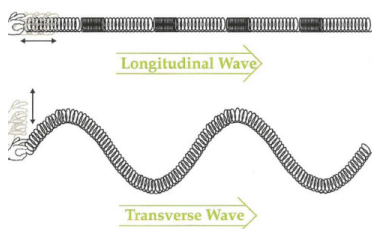
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A wave in which the vibration of the medium is parallel to the direction the wave travels--also called compression waves



**The Doppler Effect for a Moving Sound Source**

Change in the apparent frequency of a wave as observer and source move toward or away from each other



A wave that requires a medium through which to travel; it is carried by vibrations such as sound waves, can be either transverse or longitudinal waves

a form of energy that exhibits wavelike behavior as it travels through space; a kind of radiation including visible light, radio waves, gamma rays, and X-rays,

Medium

Sound Energy

Pitch

Transverse Wave

Rarefaction

Trough

Resonance

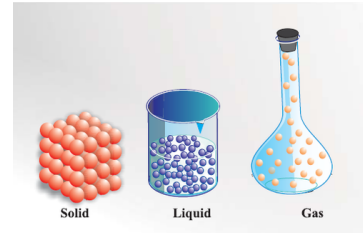
Vibration

Simple Wave

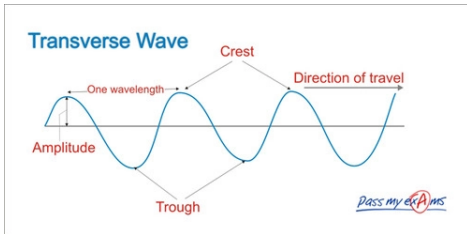
Wave



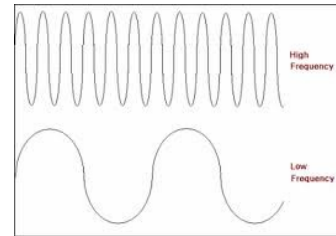
A form of energy that is made by vibrations and requires a medium in order to travel  
 Sound waves travel slower than light waves



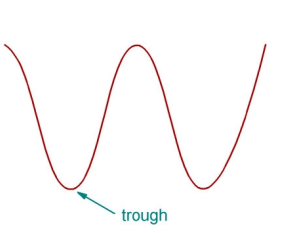
Material through which a wave travels (air, liquid, or solids)



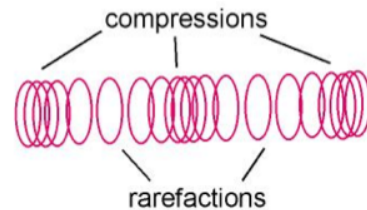
A wave that moves the medium in a direction perpendicular to the direction in which the wave travels  
 example: S-Wave that goes through Earth or electromagnetic waves



The perceived highness or lowness of a sound wave; depends on frequency--higher the frequency the higher the pitch



The lowest point of a transverse wave



A part in a longitudinal wave where the particles are spread apart

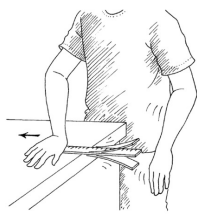
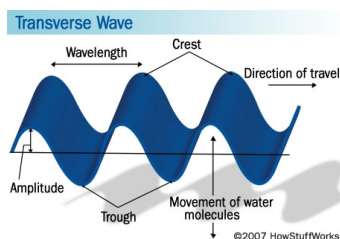


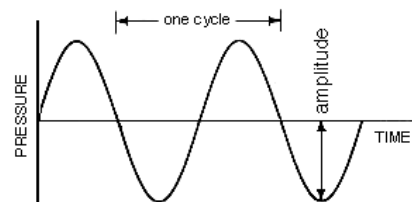
Figure 28.1

A repeated back-and-forth or up-and-down motion

A phenomenon that occurs when two objects naturally vibrate at the same frequency



a repeating pattern with a specific amplitude, frequency, and wavelength

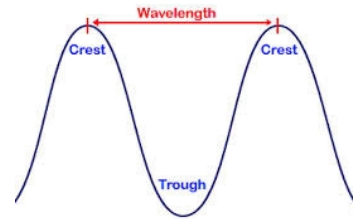


The wave is constrained to move along a line, instead of moving in other space.

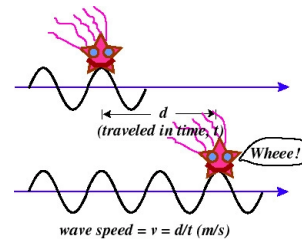
Wavelength

Wave Speed

Wave speed equation



Horizontal distance between the crests or between the troughs of two adjacent waves



The speed at which a wave travels through a medium

$$v = f\lambda$$

v = velocity

f = frequency

$\lambda$  = wavelength

wave speed = frequency x wavelength

$$v = f \times \lambda$$