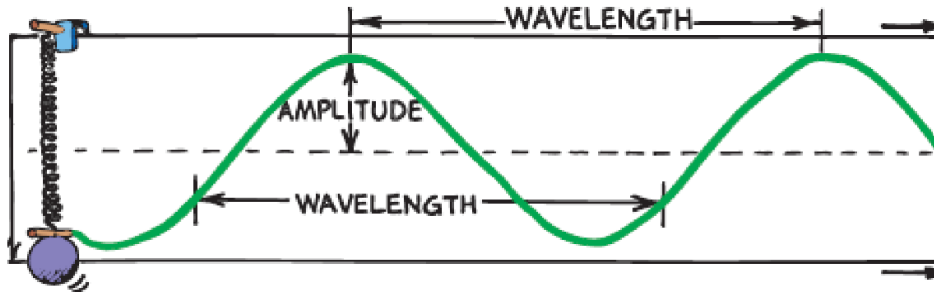


Wave definitions

Crests: the high points on a wave. Called a *rarefaction* in a longitudinal wave.

Troughs: the low points on a wave. Called a *compression* in a longitudinal wave.



Amplitude (A): the distance from the midpoint to the crest or trough

Wavelength (λ): the distance between identical parts of the wave.

Frequency (f): the number of waves to pass a position in one second.

Period (T): the time for one wavelength to pass a position

The unit of frequency is called the hertz (Hz).

Whenever a wave changes materials, the wave's frequency remains the same.

The speed of a wave depends on the material through which the wave moves.

It is the disturbance that moves along the string [or any material], not parts of the string itself.

Equations relating frequency, period, wavelength, wave speed

$$f = \frac{1}{T}$$

Frequency and period are inverses of each other.

$$v = \lambda f$$

You can calculate the speed of a wave by multiplying the wavelength by the frequency.

$$v = \frac{\lambda}{T}$$

You can calculate the speed of a wave by dividing the wavelength by the period.