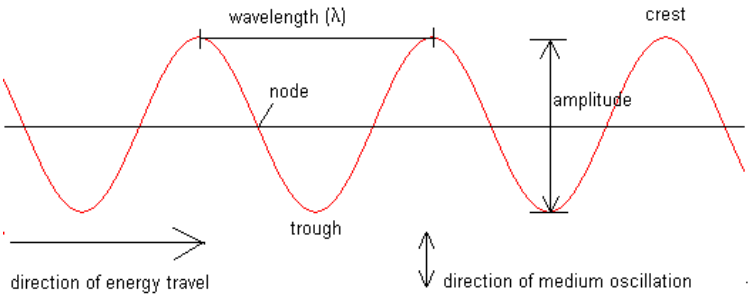
Waves

Progressive Waves

A progressive wave is an oscillation or vibration that transfers energy and information.

Amplitude, Wavelength and Frequency



Amplitude	Maximum displacement from the undisturbed position or equilibrium (for a wave)
Wavelength (λ)	The distance between wave peaks. Measured in metres
Frequency	Number of cycles per second. Measured in Hertz (Hz) Hz ≡ s^{-1}
Period	The time for one complete cycle

The frequency is the number of cycles or vibrations per second. The time per cycle is the period of the wave and is measured in seconds. Period and Frequency are related using the equation;

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

Where T = period in seconds, f = frequency in Hz

Hertz can be measured in kHz (10^3Hz), MHz (10^6Hz) & GHz (10^9Hz)

Wave Equation

$$c = f \times \lambda$$

Where; c = Wavespeed (ms^{-1})

f = Frequency (Hz)

λ = Wavelength (m)