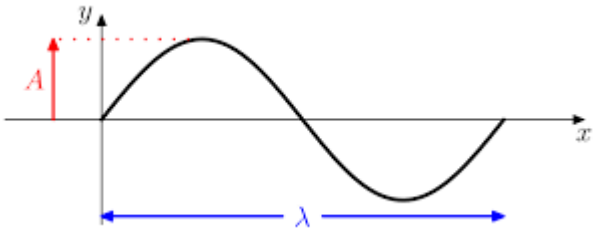
Cycle Of Sound

Waveform:



ƛ in meters = wavelenght
ƛ in seconds = period
A = Amplitude

Speed of Sound

The speed depends on the Media (density and elasticity). The harder a medium is the faster can sound travel through. The usual speed of sound through air is more or less 340 m/s at sealevel and with 15°C. It's 0,6 m/S faster for every additional degree.

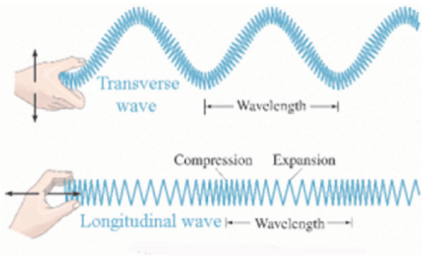
Water: 1500 m/s
Wood: 3300 m/s
Steel: 5800 m/s

Amplitude:

The amplitude is the size and strength of vibration. it is expressed in Pascal (Pa, for acoustical) and Volt (V, for Electrical). The volume is related to the amplitude.

Waves:

- Transversal (Sea)
- Longituditional (Sound)



the wavelength is expressed in meters. It's a single cycle in an elastic medium. ƛ is the symbol.

Wavelength (m/cycle) = Speed of Sound : Frequency
Frequency (Hertz) = Speed of Sound : Wavelength

Examples:

- How big is the wavelength of 100 or 20 Hz? (Speed of Sound = 344)

  344 : 100 = 3,44 m 344 : 20 = 17,2 m

- What's the frequency of a wavelength with 7 or 0,3 meter?

  344 : 7 = 49,143 Hz 344 : 0,3 = 1146,666 Hz

Sine or Cosine Wave

A sine wave is a single basic wave, mostly it exists just in theory. Cosine waveforms are complexe waves as a sum of basic waves.

Other waveforms: