

Physics topic P12 : Waves

Keywords	
Transverse wave	A wave where the vibration is perpendicular to the direction of travel
Longitudinal wave	A wave where the vibrations are parallel to the direction of travel
Mechanical wave	A vibration that travels through a substance (e.g. sound)
Frequency	The number of wave fronts passing a fixed point every second (measured in Hz)
Period	The time for one complete wave
Amplitude	The vibrations of the wave shake the dirt lose
Superposition	When two waves meet and affect each other
Reflection	When waves bounce off a surface
Echo	Reflection of sound that can be heard

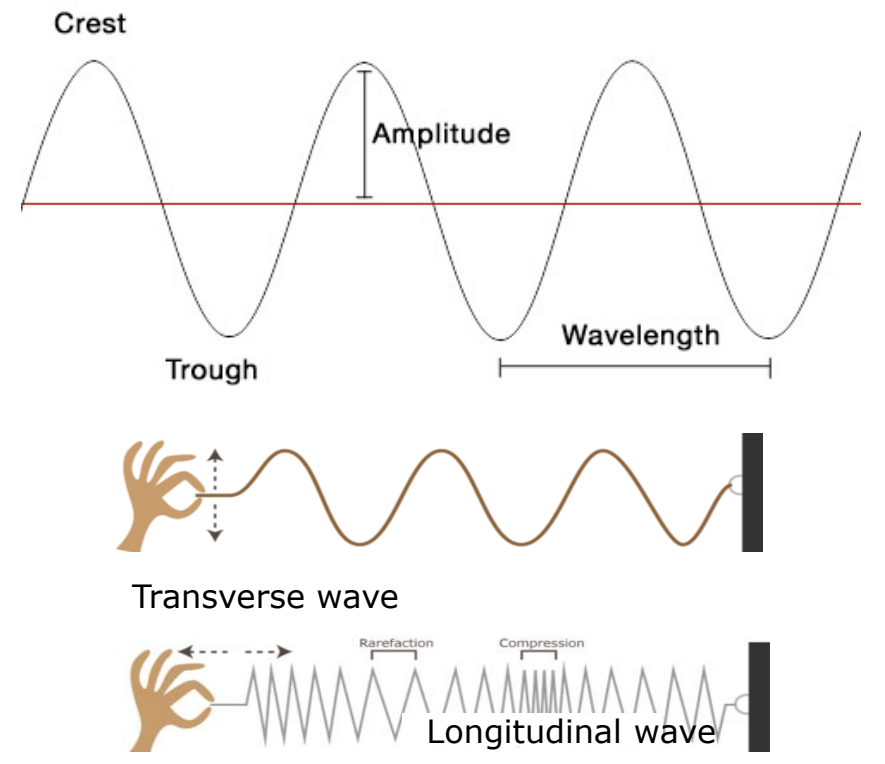
2. Period and frequency

$T = \frac{1}{f}$	
T	Period (s)
f	Frequency (Hz)

3. Wave equation

$v = f\lambda$	
v	Wave speed (m/s)
f	Frequency (Hz)
λ	Wave length (m)

Comparing types of wave



Comparing waves:	Light wave	Mechanical wave
Type of wave	Transverse	Longitudinal
Can they travel through a vacuum ?	Yes	No. Mechanical waves can only pass through a solid, liquid or gas
Can they be reflected ?	Yes. By smooth shiny surfaces	Yes. By smooth surfaces
Can they be absorbed ?	Yes. By dark surfaces	Yes. Rough surfaces absorb sound