6.1.1 Transverse and Longitudinal Waves

· Waves are either **transverse** or **longitudinal**.

· Waves transfer energy from one place to another without transferring matter.

transverse	- the oscillations are perpendicular to the direction of energy transfer - have crests (peaks) and troughs ; e.g. light waves, EM waves, radio waves
longitudinal	- the oscillations are parallel to the direction of energy transfer - have compressions and rarefactions ; e.g. sound waves, seismic P waves

For any wave, the wave moves and not the medium it passes through

-> i.e. ripples in water move, but the water doesn't move with it

-> i.e. sounds in air moves, but the air doesn't move with it

6.1.2 Properties of Waves

amplitude	- the maximum displacement of a point on a wave away from its undisturbed position
wavelength	- the distance from a point on one wave to the equivalent point on the adjacent wave
frequency	- the number of waves passing a point each second
period	- the time it takes for one entire oscillation of a wave
wave speed	- the speed at which the energy is transferred (or the wave moves) through the medium
$t = 1 / f$	time period (s) = 1 / frequency (Hz)
$v = f\lambda$	velocity (m/s) = frequency (Hz) x wavelength (m)

Sponsored by **Readable.com**
Measure your website readability!
https://readable.com