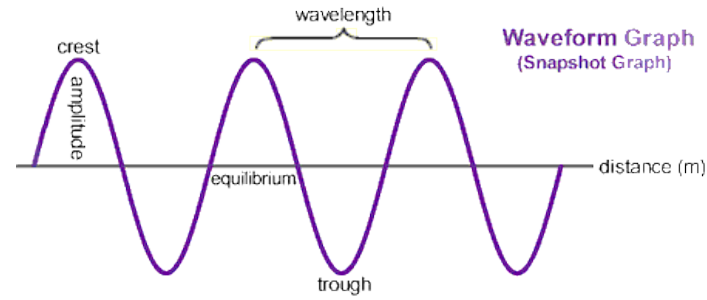


# Knowledge Organiser – Year 7 Waves

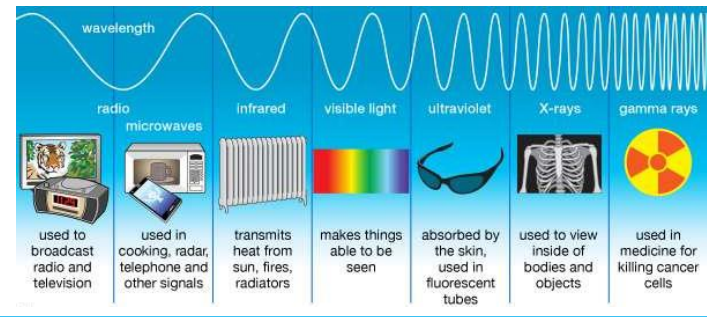
## Key words

Wave	Any disturbance that transmits energy through matter or space.
Medium	A solid, liquid or gas that is vibrated
Transverse Wave	The oscillations are perpendicular to the direction of energy transfer.
Longitudinal Wave	The oscillations are parallel to the direction of energy transfer.
Wavelength	The distance between any adjacent crests or compressions in a series of waves.
Frequency	The number of waves produced in a given amount of time.
reflection	Obeys the law of reflection: the angle of incidence equals the angle of reflection. The normal is a line drawn at right angles
Refraction	Waves pass through a different medium and change direction
Decibel (dB)	The most common unit used to express loudness.
Vacuum	Space entirely devoid of matter.
Frequency	Number of oscillations per second (Hz)

## Transverse waves



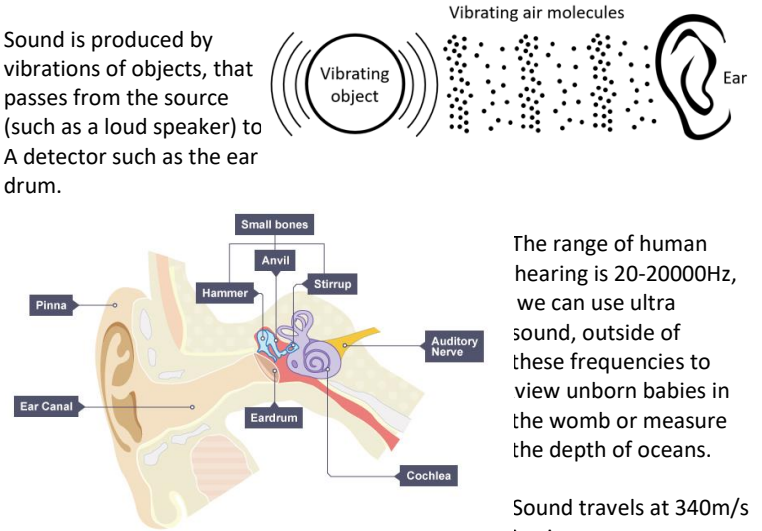
## Electromagnetic spectrum – Transverse waves



## Sound – Longitudinal waves

Sound needs a medium to travel, it travels best in dense solid objects. The fewer the particles the slower the waves travel, these materials are ideal insulators.

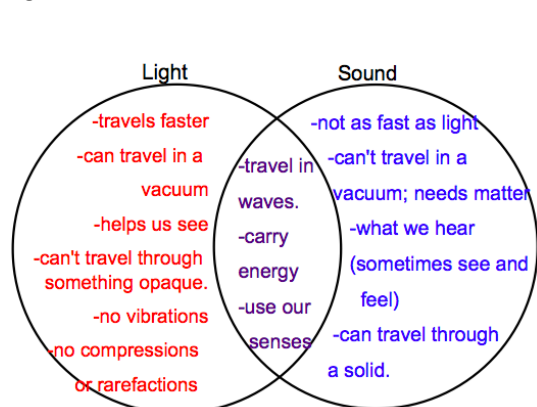
Sound is produced by vibrations of objects, that passes from the source (such as a loud speaker) to A detector such as the ear drum.



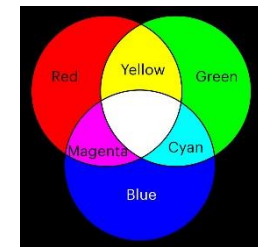
The range of human hearing is 20-20000Hz, we can use ultra sound, outside of these frequencies to view unborn babies in the womb or measure the depth of oceans.

Sound travels at 340m/s in air.

## Light v's Sound

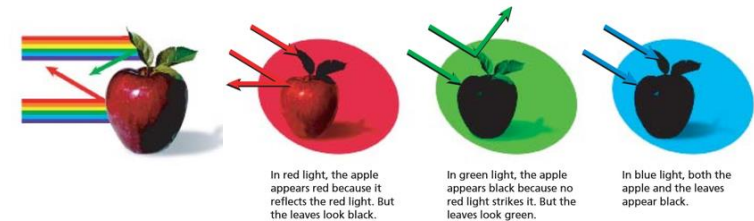


## Colours

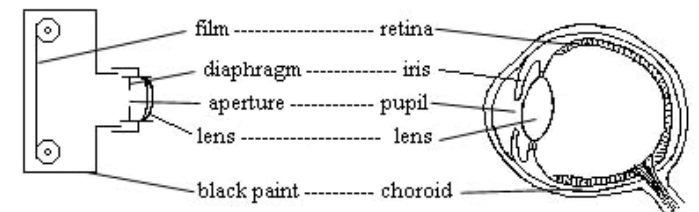


Light travels at 300000000m/s in a vacuum. White light is made up of three primary colours; red, blue and green. These can be mixed to make all the colours of the spectrum.

We see coloured objects because light hits an object, some is absorbed and some may be reflected.



## Camera's and the Eye



The image in a pin hole camera appears 'flipped' or upside down. This is because light can only travel in straight lines so the image becomes inverted. The same happens in the eye.

