

CP5a Electromagnetic waves

Word	Pronunciation	Meaning
electromagnetic waves		A group of waves that all travel at the same speed in a vacuum, and are all transverse.
frequency	<i>free-kwen-see</i>	The number of vibrations (or the number of waves) per second. One hertz (Hz) is one wave per second.
infrared (IR)		Electromagnetic radiation that has a longer wavelength than visible light but shorter than microwaves. We can feel infrared radiation as warmth.
interface		The boundary between two materials.
refraction		The change in direction when a wave goes from one medium to another.
transverse wave		A wave in which the vibrations are at right angles to the direction the wave is travelling.
ultraviolet (UV)		Electromagnetic radiation that has a shorter wavelength than visible light but a longer wavelength than X-rays.
vacuum	<i>vak-yoom</i>	A place where there is no matter at all.
visible light		Electromagnetic waves that can be detected by the human eye.

CP5a Core Practical: Investigating refraction

Word	Pronunciation	Meaning
angle of incidence	<i>in-sid-dense</i>	The angle between an incoming light ray and the normal.
angle of refraction		The angle between the normal and a ray of light that has been refracted.
incident ray		A ray of light going towards an interface or object.
normal		An imaginary line at right angles to a surface where a ray of light hits it.
refracted ray		A ray of light that has just passed through the interface between two materials.

CP5b The electromagnetic spectrum

Word	Pronunciation	Meaning
electromagnetic spectrum		The entire frequency range of electromagnetic waves.
gamma rays		Electromagnetic radiation with the shortest wavelengths and highest frequencies.
microwaves		Electromagnetic radiation with a longer wavelength than infrared radiation but a shorter wavelength than radio waves.
radio waves		Electromagnetic radiation with the longest wavelengths and lowest frequencies.

visible spectrum		Electromagnetic waves that the human eye can detect. The colours that make up white light (red, orange, yellow, green, blue, indigo, violet).
X-rays		Electromagnetic radiation that has a shorter wavelength than ultraviolet radiation but a longer wavelength than gamma rays.

CP5c Using the long wavelengths

Word	Pronunciation	Meaning
oscillations		Movements back and forth. In radio aerials, oscillations are repeated changes in voltage and current.

CP5d Using the short wavelengths

Word	Pronunciation	Meaning
fluorescence		Absorbing radiation of one wavelength and re-emitting the energy at a different wavelength (usually so that it becomes visible).
radiotherapy		Cancer treatment in which a patient is given gamma radiation to kill the cancer cells.

CP5e EM radiation dangers

Word	Pronunciation	Meaning
DNA		Deoxyribonucleic acid. Chemical that makes up genes and chromosomes. It contains the instructions for a cell's growth and activity.
mutation		A change in the DNA instructions in a cell.
skin cancer		A cancer or cancerous tumour on the skin.