











CP4 Waves





CP4a Describing waves

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 th	Recall that waves transfer energy and information but do not transfer matter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe waves using the terms frequency, wavelength, amplitude, period and velocity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Describe the differences between longitudinal and transverse waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 4 th	Give examples of transverse and longitudinal waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CP4b Waves velocities







Step	Learning outcome	Had a look	Nearly there	Nailed it!
 6 th	Recall the equation relating wave speed, frequency and wavelength	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Use the equation relating wave speed, frequency and wavelength.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Recall the equation relating wave speed, distance and time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	Use the equation relating wave speed, distance and time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe how to measure the velocity of sound in air.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	Describe how to measure the velocity of waves on the surface of water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CP4c Refraction








Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 th	Describe what refraction is.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe how the direction of a wave changes when it goes from one material to another.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 th	Explain some effects of the refraction of light (explanations in terms of changing speeds are not expected).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	H Explain how a change in wave speed can cause a change in direction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CP5 Light and the Electromagnetic Spectrum








CP5a Electromagnetic waves

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 th	Recall examples of electromagnetic waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe the common features of electromagnetic waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe the transfer of energy by electromagnetic waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe the range of electromagnetic waves that our eyes can detect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	 Describe an effect caused by the different velocities of electromagnetic waves in different substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>






CP5b The electromagnetic spectrum

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 th	Recall the groups of waves in the electromagnetic spectrum in order.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Recall the colours of the visible spectrum in order.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 th	Describe how the waves in the electromagnetic spectrum are grouped.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 th	 Describe some differences in the ways that different parts of the electromagnetic spectrum are absorbed and transmitted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 th	 Describe some differences in the ways that different parts of the electromagnetic spectrum are refracted and reflected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>






CP5c Using the long wavelengths

Step	Learning outcome	Had a look	Nearly there	Nailed it!
	H Describe how long wavelength electromagnetic waves are affected by different substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	H Explain the effects caused by long wavelength electromagnetic waves travelling at different velocities in different substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of radio waves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of microwaves.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of infrared.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of visible light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	H Describe how radio waves are produced and detected by electrical circuits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CP5d Using the short wavelengths

Step	Learning outcome	Had a look	Nearly there	Nailed it!
	H Describe how short wavelength electromagnetic waves are affected by different substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	H Explain the effects caused by short wavelength electromagnetic waves travelling at different velocities in different substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of ultraviolet radiation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of X-rays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe some uses of gamma rays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CP5e EM radiation dangers

Step	Learning outcome	Had a look	Nearly there	Nailed it!
	Describe how the potential danger of electromagnetic radiation depends on its frequency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe the harmful effects of microwave and infrared radiation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Describe the harmful effects of ultraviolet radiation, X-rays and gamma rays.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Recall the nature of radiation produced by changes in atoms and their nuclei.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Recall that absorption of radiation can cause changes in atoms and their nuclei.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>