

Year 9 physics PPE PLC

Topic 4 – Waves	Recall that waves transfer energy and information without transferring matter			
	Describe evidence that with water and sound waves it is the wave and not the water or air itself that travels			
	Define and use the terms frequency and wavelength as applied to waves			
	Use the terms amplitude, period, wave velocity and wavefront as applied to waves			
	Describe the difference between longitudinal and transverse waves by referring to sound, electromagnetic, seismic and water waves			
	Recall and use both the equations for all waves: $v = f \times \lambda$ and $v = x/t$			
	Describe how to measure the velocity of sound in air and ripples on water surfaces			
	HT ONLY: Calculate depth or distance from time and wave velocity			
	Describe the effects of reflection, refraction, transmission, absorption of waves at material interfaces			
	Explain how waves will be refracted at a boundary in terms of the change of direction			
	HT ONLY: Explain how waves will be refracted at a boundary in terms of the change of speed			
	HT ONLY: Recall that different substances may absorb, transmit, refract or reflect waves in ways that vary with wavelength			
	HT ONLY: Describe the processes which convert wave disturbances between sound waves and vibrations in solids			
	HT ONLY: Explain why processes that convert wave disturbances only work over a limited frequency range			
	HT ONLY: Use the process that converts wave disturbances to explain the way the human ear works			
	HT ONLY: Recall the frequency of ultrasound and state its units			
HT ONLY: Explain uses of ultrasound and infrasound				
Describe how changes, if any, in velocity, frequency and wavelength, in the transmission of sound waves from one medium to another are inter-related				
<i>Core Practical: Investigate the suitability of equipment to measure the speed, frequency and wavelength of a wave in a solid and a fluid</i>				