

Chapter 15 – The Wave Nature of Sound

Learning Grid

The Wave Nature of Sound	Questions	Answers
	What is sound and how is it produced?	
	Why can't sound travel in a vacuum?	
	What are compressions and rarefactions?	
	Describe how sound is detected by the human ear.	
	State the relationship between frequency and pitch.	
	State the relationship between amplitude and loudness.	
	How does sound travel faster in solids than in gases?	

The Wave Nature of Sound	Questions	Answers	
	What wave behaviours does sound exhibit?		
	What is an echo and how is it formed?		
	Why is sound clearer on a cold night than a warm day?		
	What is ultrasound?		
	Give two medical applications of ultrasound.		
	Describe how an ultrasound scan creates an image.		
	State two benefits and one drawback of ultrasound imaging.	Benefits	Drawback

The Wave Nature of Sound	Questions	Answers
	Define a stationary wave.	
	What is the fundamental frequency of a string?	
	State the relationship between frequency and string length.	
	List three factors that affect the fundamental frequency of a string.	
	Write the equation for the fundamental frequency of a stretched string.	
	What are harmonics?	