



Learning Journey – 8C Waves

Ad Astra

What have I done previously in my learning journey?				
Previously....	You have learnt previously about light and how we see the world around us. This has involved: • Recognising that light appears to travel in straight lines. • Explaining that objects are seen because they give out or reflect light into the eye. • Using the idea that light travels in straight lines to explain how we see objects. • Describing how shadows are formed and why they have the same shape as the objects that cast them. • Identifying that sounds are made when objects vibrate and that vibrations travel through a medium to the ear. • Working scientifically to observe, compare and explain everyday phenomena involving light and sound.			
In this topic...	You will learn about waves and how they help us understand sound, light and communication. You will investigate how different types of waves transfer energy, compare sound and light waves, and explore how properties such as amplitude and frequency affect what we hear and see. You will learn how light behaves when it is reflected and refracted, how the eye forms images, and how lenses can be used to correct vision. You will also study the electromagnetic spectrum, including its uses and potential effects on living cells. Throughout the topic, you will develop your ability to interpret wave diagrams, use mathematical relationships involving waves, and apply scientific models to explain real-world phenomena.			
We will develop our learning by studying the following each lesson:		British Values	RAG	Skills in Science checklist
8C.01 Modelling Waves • Compare transverse and longitudinal waves. • Explain wave behaviour using the wave model. • Describe what happens when waves superpose.		☐ Democracy ☐ Rule of law ☐ Tolerance ☐ Individual liberty ☐ Mutual respect		☐ Development of scientific thinking ☐ Experimental skills and strategies ☐ Analysis and evaluation ☐ Scientific literacy ☐ Maths skills
8C.02 Sound Waves • Describe how sound is produced and transmitted. • Recall the speed of sound and identify the substances through which sound can travel. • Explain observations involving the transmission of sound.		☐ Democracy ☐ Rule of law ☐ Tolerance ☐ Individual liberty ☐ Mutual respect		☐ Development of scientific thinking ☐ Experimental skills and strategies ☐ Analysis and evaluation ☐ Scientific literacy ☐ Maths skills
8C.03 Loudness and Amplitude • Describe the relationship between amplitude and loudness. • Explain how reflection and absorption affect sound. • Interpret wave diagrams and oscilloscope traces to determine amplitude.		☐ Democracy ☐ Rule of law ☐ Tolerance ☐ Individual liberty ☐ Mutual respect		☐ Development of scientific thinking ☐ Experimental skills and strategies ☐ Analysis and evaluation ☐ Scientific literacy ☐ Maths skills
8C.04 Frequency and Pitch • Describe the relationship between frequency and pitch. • Interpret wave diagrams to determine frequency. • Calculate frequency using the equation frequency = $1 \div \text{time period}$.		☐ Democracy ☐ Rule of law ☐ Tolerance ☐ Individual liberty ☐ Mutual respect		☐ Development of scientific thinking ☐ Experimental skills and strategies ☐ Analysis and evaluation ☐ Scientific literacy ☐ Maths skills
8C.05 Light • Describe what happens when light travels between different media. • Recall the speed of light. • Compare the properties of sound and light waves.		☐ Democracy ☐ Rule of law ☐ Tolerance ☐ Individual liberty ☐ Mutual respect		☐ Development of scientific thinking ☐ Experimental skills and strategies ☐ Analysis and evaluation ☐ Scientific literacy ☐ Maths skills

