NHSG Key stage 3: Unit Overview for P5.2 The Electromagnetic Spectrum

Scheme of Learning	P5.2 The Electromagnetic Spectrum
Learning outcomes	**Subject Content** Knowledge and Understanding: - What the electromagnetic spectrum is and why it's important. - Different types of electromagnetic waves (like light, radio waves, and X-rays) and their uses. - How to calculate the speed, frequency, and wavelength of these waves. Skills: - Identifying different types of electromagnetic waves. - Explaining how these waves are used in everyday life. - Doing simple calculations with wave properties.
Key questions	"How do different types of waves affect our lives?" By the end of this unit, students should be able to explain this clearly to someone else.
Knowledge	Key Ideas and Skills: - Different types of electromagnetic waves - Properties of waves (speed, frequency, wavelength) - Uses of electromagnetic waves in everyday life Important Words to Learn: - Electromagnetic spectrum, Waves, Frequency, Wavelength, Speed
Ongoing Assessment	During Lessons (Ongoing Checks): • Quick starter tasks to review past lessons • Whiteboard activities to check understanding • Teachers asking questions to everyone (not just hands up) • Common mistakes addressed, like: ▪ Thinking particles grow when heated (they don't – they just move apart) ▪ Confusing atoms, molecules, and subatomic particles ▪ Struggling with unit conversions or imagining how particles are arranged

Key Assessment	• A short multiple-choice quiz in the middle of the topic. • 6 mark questions which are teacher assessed to look for greater depth of understanding. • Topic tests which aim to provide specific targets for improvement.
Content	• Builds on earlier science lessons • Helps prepare for future topics in physics • Vocabulary is taught clearly and used often
Links to Careers	Connects to careers in science and technology
Diversity and Inclusion	Shows how different cultures have contributed to our understanding of electromagnetic waves
Support	Revision guides, online resources, and booklets
Challenge	How do different types of waves affect our lives? How are electromagnetic waves used in medicine? How do scientists measure wave properties?