

YEAR 4 HEP SCIENCE CURRICULUM MAP RATIONALE



- The Year 4 HEP Science curriculum is designed as a scaffolded journey, starting from what's immediately observable and progressively moving on to the hidden forces that help shape our world.
- We rotate between biology, chemistry, and physics for each unit to sustain pupil engagement. Switching disciplines provides variety and prevents disengagement through extended immersion in one subject area.

States of Matter

Animals Including Humans

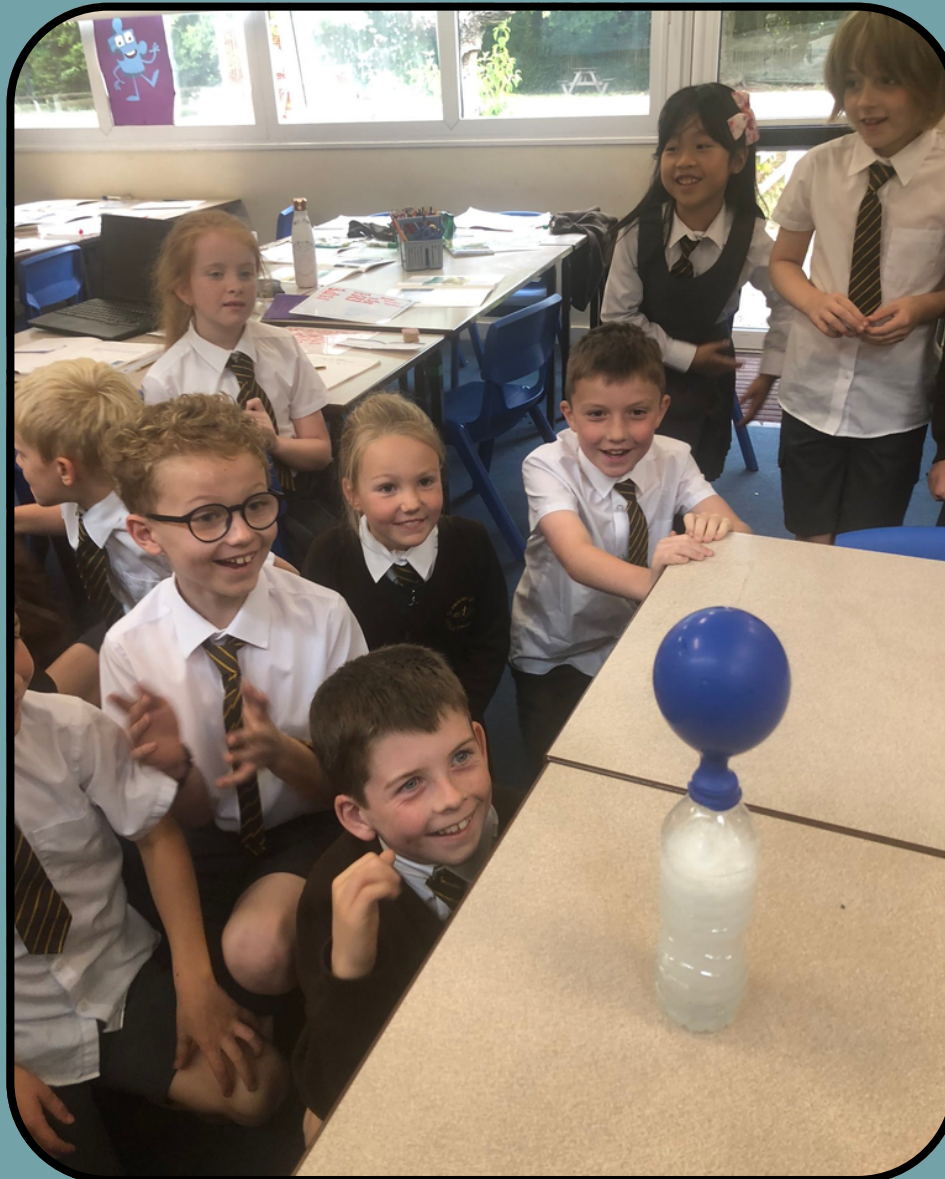
Sound

Living Things and Their Habitats

Electricity

The History of Science

AUTUMN 1 - STATES OF MATTER



- The KS2 National Curriculum doesn't explicitly require teaching the particle model at this stage.
- In States of Matter Year 4, pupils study the foundational understanding of the basics of matter.
- However, pupils revisit matter in the later Year 4 Sound unit. This is necessary for pupils to understand how sound travels through various mediums.

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AUTUMN 2 - ANIMALS INCLUDING HUMANS



- Before diving into the more demanding unit of Living Things and their Habitats, students revisit familiar concepts like feeding relationships from KS1.
- They then advance this knowledge by creating simple food chains, and by learning about the structure and function of the digestive system.
- This unit is foundational, with clear progression but still with much to recall!

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SPRING 1 - SOUND



- Sound offers a practical application of the particle model. Pupils learn that matter makes objects sound different to one another and forms the basis of the instruments, both known and part of the wider world.
- Pupils also build on their knowledge from year 3, comparing how sound and light travel.

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SPRING 2 - LIVING THINGS AND THEIR HABITATS



- With foundational knowledge of animals and humans established, pupils now expand their understanding to broader ecosystems.
- Building on the foundational biology knowledge from the Animals Including Humans unit, this unit has a higher cognitive demand.
- Here, pupils classify animals based on similarities and differences and engage with classification keys, which are more complex than basic food chains.

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SUMMER 1 - ELECTRICITY



- Electricity is both challenging to grasp and to teach, making it appropriate for the summer term when students have garnered a year's worth of scientific thinking.
- Electricity, like light and sound, is a form of energy. Even though 'energy' is not explicitly mentioned in the Key Stage 2 curriculum, understanding it forms the foundation for many scientific principles in the world around them.

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SUMMER 2 - THE HISTORY OF SCIENCE



- Concluding the year with this unit allows pupils to connect their learning to broader historical and geographical contexts.
- Covering the evolution of science from Aristotle to Newton, and connecting globally from Alhazen to Mansa Musa, this unit showcases the interdisciplinary nature of science.

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