Science LTP

Intent	Implementation
The Primary Knowledge Curriculum (PKC) Science aims to develop pupils' understanding of the world through a scientific lens, fostering curiosity, critical thinking, and a desire for discovery. The curriculum goes beyond National Curriculum expectations, embedding a secure grasp of the three scientific disciplines—biology, chemistry, and physics—while also integrating Earth science and sustainability. Pupils are taught to see science as both a body of substantive knowledge (facts, concepts, laws, and theories) and as a discipline shaped by enquiry, evidence, and human endeavour. By introducing significant scientific figures from diverse backgrounds, the curriculum also broadens pupils' awareness of the history and global nature of scientific discovery. In doing so, pupils learn not only about the science itself, but also about the people and stories behind key discoveries, which helps them see science as a human endeavour that is dynamic, evolving, and relevant to their own lives.	Implementation is carefully sequenced to ensure substantive knowledge is taught before disciplinary enquiry, so pupils can apply secure understanding to practical investigations. Units are structured with clarity: each specifies the core knowledge, vocabulary, and enquiry skills pupils will encounter. Working scientifically is embedded throughout, with opportunities to practise observing over time, pattern seeking, grouping and classifying, comparative and fair testing, and research using secondary sources. Practical investigations are used to deepen and consolidate knowledge rather than replace it, enabling pupils to explain and evaluate scientific phenomena with increasing precision. Links are made to mathematics, geography, and history—for example, graphing weather data, exploring the Industrial Revolution's scientific advances, or studying evolution alongside historical figures like Darwin and Wallace. Lessons are supported by knowledge organisers, retrieval opportunities, and explicit vocabulary teaching to strengthen memory and secure conceptual understanding.

Impact

The intended impact is that pupils leave primary school scientifically literate: able to think critically, ask meaningful questions, and use knowledge to understand and explain the natural world. They are expected to build confidence in both substantive knowledge (e.g., the circulatory system, states of matter, or forces) and disciplinary knowledge (methods of enquiry, accurate measurement, fair testing, and analysis). By revisiting concepts cumulatively, children develop secure schemas and a strong scientific vocabulary. They also gain cultural capital through an understanding of how science shapes society, technology, and our future sustainability. Ultimately, the curriculum seeks to cultivate in pupils both the mindset of a scientist and the ability to transfer their scientific thinking to other disciplines, preparing them to succeed in secondary school and as informed citizens in the wider world.

Progression

Progression begins in the Early Years Foundation Stage (EYFS), where children explore body parts, weather, seasons, and simple materials, and learn to ask questions about the world. In Key Stage 1, this develops into knowledge of senses, habitats, plants, and everyday materials, while building early enquiry skills. Through lower Key Stage 2, pupils move into more complexity—learning about the skeletal and muscular systems, rocks, forces, sound, and classification—while extending their ability to measure, record, and interpret data. By upper Key Stage 2, pupils tackle advanced ideas such as puberty and reproduction, solubility and irreversible change, the circulatory system, evolution, astronomy, and meteorology. Alongside this substantive progression, disciplinary knowledge develops from simple observations and data recording in KS1 to planning and conducting controlled investigations, analysing results, and using evidence to explain and justify scientific ideas in KS2. This coherent sequencing ensures children "learn more and remember more" year on year, embedding a secure foundation for the more abstract and mathematically complex science curriculum they will encounter at secondary level.

Enrichment

Pupils' learning is enriched through opportunities to experience science beyond the classroom. Engagement with the local environment allows pupils to observe real world examples of scientific concepts and to see how science shapes the world around them. Visits, workshops and interactions with experts help pupils understand the relevance of science to everyday life and to future careers. Science themed events such as science week, and science fairs provide further opportunities for exploration, discussion and application of knowledge both at school and at home. Through these experiences, pupils develop a sense of excitement about science and an understanding of its importance to society, innovation, and global challenges.

Year Group Map

Mossbourne Federation

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	All About Me	Journeys	Dinosaurs	Growing and Changing	Animals and Their Babies	Heroes and Adventures
Reception	The Human Body	Changing States	Birds, Seasons and the Environment	Plants and Seasons	Minibeasts	Living Things and Their Habitats
Year 1	The Human Body	Animals and their Needs	Seasons and Weather	Taking Care of the Earth	Plants	Materials and Magnets
Year 2	The Human Body	Living Things in their Environment	Electricity	Plants	Materials and Matter	Astronomy
Year 3	The Human Body	Cycles in Nature	Rocks	Forces and Magnets	Plants	Light
Year 4	The Human Body	Classification of Plants and Animals	Ecology	Sound	The Water Cycle	Electricity
Year 5	The Human Body	Materials	Living Things	Forces	Astronomy	Meteorology
Year 6	The Human Body	Classification of Living Things	Electricity	Light	Reproduction	Evolution