



Science

Intent, Implementation and Impact



2025-2026

Intent

The 2014 National Curriculum for Science aims to ensure that all children: - Develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics

- Develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- Are equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

At Pilgrim, we understand that children are naturally curious, and we encourage this inquisitive nature throughout their time with us and beyond. Science fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Through the programmes of study in the National Curriculum science document, children will acquire and develop these skills throughout their Primary years. We ensure that the Working Scientifically skills are built-on and developed throughout their school career so that they can use equipment, conduct experiments, build arguments and explain concepts confidently and continue to ask questions and be curious about their surroundings.

Implementation

Teachers create a positive attitude to science learning within their classrooms. Our whole school approach to the teaching and learning of science involves the following;

- Science will be taught in planned and arranged topic blocks and in most terms, will be the key driver for Theme learning.
- Teachers take opportunities to use high quality texts to support their Science teaching.
- Planning involves teachers creating engaging lessons, often involving high-quality

resources to aid understanding of conceptual knowledge.

- Teachers use precise questioning in class to test conceptual knowledge and skills and assess children regularly to identify those children with gaps in learning, so that all children keep up.
- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding.
- Pilgrim is part of the Widening Horizons programme. It supports and enables our Year 5s to explore new and challenging learning experiences with visits to a number of different venues, such as the National Marine Aquarium. Our children benefit from real life experiences where they can see, hear, touch and explore the world around them.
- In EYFS, Science is developed through purposeful play-based experiences which are represented in a variety of indoor and outdoor environments. The Long-term plan focuses on the expectations from Development Matters / Early Years Outcomes. Photographic evidence, observations and discussions with the children are a main aspect of Science learning in EYFS.

Kapow's Science scheme will support teacher's planning and teaching of science. It is a spiral curriculum, with essential knowledge and skills revisited with increasing complexity, allowing pupils to revise and build on their previous learning. A range of engaging recall activities promote frequent pupil reflection on prior learning, ensuring new learning is approached with confidence. The Science in action strand (uses and implications of science in the past, present and for the future) is interwoven throughout the scheme to make the concepts and skills relevant to pupils and inspiring for future application.

Impact

The successful approach to the teaching of science at Pilgrim Primary will result in a fun, engaging, high quality science education that provides children with the foundations for understanding the world that they can take with them once they complete their primary education. Our engagement with the local environment ensures that children learn through varied and first-hand experiences of the world around them. So much of science lends itself to outdoor learning and so we provide children with

opportunities to experience this. Children learn the possibilities for careers in science because of our community links and connection with our local UTC and work with professionals from a range of different scientific backgrounds.

Assessing science is teacher based. Formative assessments will be done throughout each science lesson as it allows for misconceptions and gaps to be addressed. At the end of every long term, a summative assessment will be made on OTrack using children's understanding of the units they have studied that term. Quizzes, prior knowledge sheets and knowledge and skills catcher will support teacher judgements.

After implementing the Kapow science scheme fully, pupils should leave school equipped with the necessary skills and knowledge to succeed in key stage 3 science. They will have the appropriate tools to confidently and meaningfully question and explore the world around them, as well as critically and analytically experiencing and observing phenomena. Pupils will understand the significance and impact of science on society.

The expected impact of following the Kapow Primary Science scheme of work is that children will:

- Develop a body of foundational knowledge for the biology topics in the National curriculum: Plants; Animals, Including Humans; Living Things and Their Habitats; Evolution and Inheritance.
- Develop a body of foundational knowledge for the Chemistry topics in the National curriculum: Everyday Materials; Uses of Everyday Materials; Properties and Changes of Materials; States of Matter; Rocks.
- Develop a body of foundational knowledge for the Physics topics in the National curriculum: Seasonal Changes; Forces and Magnets; Sound; Light; Electricity; Earth and Space.
- Be able to evaluate and identify the methods that 'real world' scientists use to develop and answer scientific questions.
- Identify and use equipment effectively to accurately gather, measure and record data.
- Be able to display and convey data in a variety of ways, including graphs. - Analyse data to identify, classify, group, and find patterns. - Use evidence to formulate explanations and conclusions.
- Demonstrate scientific literacy through presenting concepts and communicating ideas using scientific vocabulary.
- Understand the importance of resilience and a growth mindset, particularly in reference to scientific enquiry.
- Meet the end of key stage expectations outlined in the National curriculum for science.