



Science Curriculum



Intent: At St Swithun's Catholic Primary School, we aim to deliver a rich, engaging and practical science curriculum that inspires curiosity, deepens understanding and fosters a lifelong love of learning.

Rooted in our Catholic ethos, we encourage children to develop a sense of awe and wonder in God's creation and to understand their responsibility in caring for the world around them.

Our science curriculum ensures that all pupils:

- Develop a secure understanding of biology, chemistry and physics
- Become curious, questioning learners who explore the world around them
- Build strong scientific vocabulary and oracy, enabling them to explain ideas clearly
- Engage in meaningful scientific enquiry, thinking and working like scientists
- Recognise the role of science in everyday life, the wider world and future careers (STEM)
- Learn about a diverse range of scientists, understanding their contributions

Through carefully sequenced learning, children build substantive knowledge and disciplinary skills, allowing them to question, investigate and make sense of the world with increasing confidence and independence.

Implementation: Our science curriculum is structured through a progressive long-term plan from EYFS to Year 6, ensuring that knowledge and skills are built systematically over time.

Science is taught through clearly sequenced units that develop understanding across:

- Biology (living things and their environments)
- Chemistry (materials and their properties)
- Physics (forces, light, electricity, etc.)

Progression is carefully mapped and includes:

EYFS – exploration of the natural world through observation, questioning and sensory experiences

KS1 – developing curiosity through first-hand experiences and simple enquiry

LKS2 – building understanding through testing, grouping and explaining ideas

UKS2 – deepening understanding through reasoning, evidence and more abstract concepts

Working Scientifically (Disciplinary Knowledge) is embedded within every unit and developed progressively through:

- Asking questions
- Observing over time
- Pattern seeking
- Grouping and classifying
- Comparative and fair testing
- Research using secondary sources

As part of this, children are taught to:

- Make predictions
- Carry out investigations
- Record and interpret data
- Draw conclusions using evidence
- Evaluate their findings



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Teaching Approach

Our teaching approach ensures that all pupils can access and succeed in science:

- Explicit modelling (I do – We do – You do) to teach key concepts and enquiry skills
- Use of practical, hands-on investigations to embed understanding
- Structured lessons with clear sequences: explore → investigate → conclude → apply
- Frequent opportunities for talk, discussion and reasoning
- Use of retrieval practice to secure prior learning

We ensure that children are not just learning facts but are thinking and behaving like scientists.

Vocabulary and Oracy

Explicit teaching of scientific vocabulary (e.g. soluble, conductor, classification)

Use of sentence stems and structured talk to support explanation and reasoning

Opportunities for children to justify their thinking using evidence

Emphasis on accurate use of scientific language in both spoken and written outcomes

Adaptation and Inclusion

Adaptation is embedded across all science lessons to ensure equity and success for all learners. This includes:

- Scaffolded prompts to support enquiry and recording
- Sequenced steps modelled through visualisers and demonstrations
- Differentiated recording methods (symbols, tables, written explanations)
- Word banks and sentence stems to support scientific language
- Expert learners and peer support to model thinking and techniques
- Practical adaptations (equipment, materials, support) for accessibility
- Focus on pupil-centred teaching to target support effectively
- Enquiry-Rich Curriculum

Science is enriched through links to Catholic Social Teaching and children are encouraged to reflect on:

- The wonder of creation
- Their responsibility to care for the world
- How science can be used for the common good

Impact: By the time pupils leave St Swithun's Catholic Primary School, they will:

- Have a secure and well-connected understanding of scientific knowledge
- Be able to use scientific vocabulary accurately to explain their thinking
- Demonstrate confidence in planning, carrying out and evaluating enquiries
- Show curiosity, independence and resilience when exploring scientific ideas
- Understand the importance of science in the world today, including its role in shaping the future
- Recognise how scientists from diverse backgrounds have contributed to key discoveries
- Be prepared for the next stage of their education with a strong foundation in scientific thinking

Ultimately, our children leave us as curious, reflective and knowledgeable learners, who are equipped to engage with the world around them and inspired to continue exploring it.

"Don't let anyone rob you of your imagination, your creativity, or your curiosity."

Mae Jemison, physicist and astronaut