ST MARY'S CATHOLIC PRIMARY SCHOOL

Science Policy

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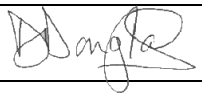
Signed:	
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Position:	Chair of Governors
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Review date[2]:	October 2026

St Mary's Catholic Primary School

Science Policy

Vision Statement

At St Mary's, our science curriculum inspires curiosity, critical thinking, and a lifelong love of discovery. We empower our children to explore the world through practical investigation, scientific reasoning, and meaningful connections to real-life contexts. Rooted in our curriculum drivers — outdoor learning, oracy and a growth mindset — our science education builds confident, resilient learners who engage actively with the natural world, communicate their thinking clearly, and embrace challenge as part of the learning process. Science at St Mary's is inclusive, ambitious, and equips all learners with the knowledge and skills to shape the future.

Aims

Our Science Policy follows the National Curriculum (2014) for Science and is aligned with the Plymouth Science Scheme of Work. It aims to ensure that all pupils:

- Develop scientific knowledge, skills, and conceptual understanding through the specific disciplines of Biology, Chemistry, and Physics.
- Understand the nature, processes, and methods of science through different types of enquiry to answer scientific questions about the world around them.
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and in the future.
- Engage in stimulating, enquiry-based lessons that promote curiosity, critical thinking, and investigation.

Principles of Practice at St. Mary's

•We foster curiosity and wonder through engaging, enquiry-led lessons that promote active exploration and meaningful learning.

•Scientific knowledge and concepts are taught with clarity, revisited regularly to ensure deep understanding and long-term retention.

•Outdoor learning is embedded purposefully, using the natural environment to enrich scientific enquiry and spark real-world connections.

•Oracy is at the heart of every science lesson, with structured talk, debate and discussion used to develop scientific thinking and articulate understanding.

•We nurture a growth mindset, encouraging learners to embrace mistakes, persist through challenges and reflect on their progress.

•Practical science is central, developing investigative skills, curiosity, and confidence through purposeful, hands-on experiences.

•Every student is supported and challenged, with inclusive, adaptive teaching that promotes high expectations and equity.

•Teachers collaborate and reflect, using research-informed strategies and shared practice to continuously improve outcomes.

Curriculum Design and Planning

Science at St Mary's is planned using the Plymouth Science Scheme of Work, which ensures progression in knowledge and skills across year groups. The curriculum is:

- Sequenced to allow for progression and revisiting of key concepts.
- Concept-led, ensuring that children develop an in-depth understanding over time.
- Hands-on and investigative, encouraging practical enquiry and exploration.
- Adapted, where needed, to meet the needs of all learners, including those with SEND or EAL.

Each year group delivers a series of engaging topics aligned with national expectations, ensuring full coverage of the statutory curriculum.

Early Years Foundation Stage (EYFS)

In EYFS, Science is embedded within the area of Understanding the World and delivered through a play-based, thematic approach. Science makes a significant contribution to the Early Learning Goals by:

- Encouraging children to explore, observe and talk about the world around them.
- Developing communication, language, personal, social, and emotional skills.
- Promoting experiential learning that supports concept formation.

At St Mary's, we recognise the importance of both epistemic (knowledge-gathering) and ludic (playful experimentation) phases of learning. Children explore through play, using imagination, reasoning and problem-solving. This supports early scientific thinking, aligning with Piaget's theories of assimilation and accommodation of knowledge.

We use play as a powerful vehicle for targeted STEM-focused activity, connecting new experiences with prior understanding and preparing children for formal scientific learning in Key Stage 1.

Science and SEND

We are committed to ensuring that all pupils, regardless of ability, have access to a broad, balanced and inclusive Science curriculum. Adaptations are made using our dual objective system, where all pupils access the same core knowledge, but skills are scaffolded appropriately.

Teachers adapt teaching and learning through:

- Visual, auditory and kinesthetic approaches.
- Group support, adult guidance, and adapted tasks.
- Targeted use of 'Assessment Boards' (displayed in science books) to monitor understanding and inform planning.

Assessment in Science

Assessment is integral to Science teaching and learning at St Mary's. It is used to inform planning, provide feedback, and identify gaps in knowledge and skills.

To assess scientific knowledge:

1. Concept Maps: Created at the beginning of each topic to assess prior knowledge; pupils add to these as learning progresses.
2. Lesson Objectives: Knowledge objectives are highlighted green if achieved during the lesson.
3. End-of-Unit Quiz: Pupils complete a final quiz (via PowerPoint or Google Forms) to assess retention.
4. Tracking: Pupils not meeting expected knowledge are recorded on a tracking sheet (moving to Excel), informing future planning and retrieval practice.

To assess Working Scientifically (WS) skills:

1. WS Grids: Used in each lesson to assess whether pupils are working towards, at, or above expectations.
2. Monitoring Progress: Pupils below expected progress in WS skills are tracked and targeted in future lessons.
3. Intervention Review: Teachers review WS skill progress at the end of each unit, recording improvements and adjusting interventions accordingly.

Tracking and Interventions:

We use 'Insight' to track children's progress and this is updated half termly to identify and support pupils needing intervention in either scientific knowledge or skills. This ensures that all children are supported to achieve expected standards over time.

Monitoring and Evaluation

The Science Subject Leader is responsible for monitoring standards and progress across the school through:

- Book looks and learning walks
- Pupil voice and feedback
- Lesson observations and team teaching
- Assessment data
- Mentoring and CPD for staff where required

This ensures consistent high-quality teaching and identifies areas for development across the curriculum.

Health and Safety

Pupils are taught to use equipment safely during all practical activities. Staff are responsible for:

- Conducting risk assessments where necessary.
- Ensuring equipment is checked, maintained, and used appropriately.
- Removing any defective equipment and reporting it to the Science Lead.

We use CLEAPSS guidance to ensure high standards of health and safety in all scientific activities, with advice provided through Kym Allen.

Parental and Community Involvement

We believe that parental and community involvement is vital to raising Science Capital. We aim to:

- Engage families through science-themed homework, events and workshops.
- Involve local STEM professionals and employers to share real-world science contexts.
- Build partnerships with external providers to enrich classroom learning.

Reporting to Parents

Science attainment and progress are reported through:

- Parent Meetings – providing updates on current learning and next steps.
- End-of-Year Reports – summarising progress in scientific knowledge and working scientifically skills.

Review of Policy

This policy is reviewed annually by the Science Subject Leader, in collaboration with SLT and the governing body, or earlier if required due to curriculum changes or statutory updates.