St Mary's RC Primary School Haslingden

Science Policy 2025-26

Curriculum Intent

At St Mary's RC Primary School, we believe that learning should be a lifelong process and a rewarding and enjoyable experience for everyone. Through our teaching of science as with all subjects, we focus on inspiring the children to learn, equipping them with the skills, knowledge and understanding necessary to be autonomous learners who reach their full potential. We believe that appropriate teaching and learning experiences contribute to children becoming successful learners and enable each person to call forth their unique God given gifts in the love and service of both God and others.

Our rationale for teaching science

Science is a body of knowledge built up through the experimental testing of ideas. Science is also methodology, a practical way of finding reliable answers to questions we may ask about the world around us. Science at St Mary's is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying process skills.
Science is also a collaborative activity where ideas and suggestions are shared and investigated together. Through practical activities and teamwork, children experience and learn how to work together, have mutual respect for one another and value social cohesion.
We believe that a broad and balanced science education is the entitlement of all children. Our aims in teaching science include:

- Preparing our children for life in an increasingly scientific and technological world:
- Fostering concern about, and active care for, our environment.
- Fostering curiosity and a questioning mind.
- Nurturing confidence to question and test, to evaluate and reflect natural processes
- Helping our children acquire a growing understanding of scientific ideas and enabling them to work scientifically.

- Helping develop and extend our children's scientific concept of their world.
- Developing our children's understanding of the international and collaborative nature of science.

Attitudes

- Encouraging the development of positive attitudes to science.
- Building on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and responsibility.
- Building our children's self-confidence to enable them to work independently.
- Developing our children's social skills to work cooperatively with others.
- Providing our children with an exciting experience of science, so that they will develop a deep and lasting interest and may be motivated to study science further.

Skills

- Giving our children an understanding of scientific processes.
- Helping our children to acquire practical scientific skills allowing them to work, think and process scientifically.
- Developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Developing the use of scientific language, recording and techniques.
- Understanding and using scientific vocabulary accurately and effectively throughout science lessons and other curricular subjects.
- Developing the use of computing in investigating, recording and researching and becoming fluent when using computing in lessons.
- Enabling our children to become effective communicators of scientific ideas, facts and data.

Aims of the Curriculum

We aim to teach science (NC 2014) in ways that are imaginative, purposeful, well managed and enjoyable; giving clear and accurate teacher explanations and offering skillful open questioning. Links between science and other subjects is a feature of practice throughout the school. Science is a core subject in the National Curriculum.

The national curriculum for science aims to ensure that all pupils:

- 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 knowledge required to understand the uses and implications of science, today and for the future

Our role is to teach scientific enquiry through the contexts of the three main content areas. Further to this, the children will learn about health and safety in the context of scientific enquiry.

How Science is structured through the school.

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of National Curriculum science and science in the Foundation Stage. Science teaching in the school is about excellence and enjoyment. We adapt and extend the curriculum to match the unique circumstances of our school and the pupils. Science is taught within the guidelines of the school's teaching and learning policy.

Science is taught according to year group. In the Early Years Foundation Stage, children are taught science through their exploration of the world around them. This is covered in the specific area, 'Understanding of the World' of the Early Years Foundation Stage. Here, Science is experienced both directly and indirectly through activities that encourage every child to explore, problem solve, observe, predict, think and make decisions about the world around them.

In both KS1 and KS2, Science is taught in a 2 hour block each week. Extra learning opportunities such as visitors and external trips may be within this time or additional to this.
In KS1 and Foundation stage, a minimum of one third of lessons overall include practical scientific enquiry.
In KS2, a minimum of 50% of lessons overall include practical scientific enquiry.
St Mary's ensures that a broad and balanced science curriculum is followed in which enquiry is at the heart of our children's scientific learning. It ensures progression between year groups and guarantees topics are revisited to maximize learning retention
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Our approach to science

Teachers create a positive attitude to science learning within their classrooms and reinforce this through our shared vision using our Science principles:
There is an expectation that all pupils are capable of achieving high standards in science.
Our whole school approach to the teaching and learning of science involves the following;

- Science is arranged and taught in single year groups according to our Science curriculum map.
- The curriculum map has been carefully planned to incorporate revisit opportunities within each year group to consolidate knowledge.
- Teachers make use of both the indoor and outdoor learning environment to maximise opportunities to develop scientific discovery, exploration and enquiry skills.
- Teachers use a range of 'big questions' throughout their teaching sequence to foster a sense of ambiguity and excitement to unpick scientific concepts.

- Working walls are evident within every classroom, in line with a bank of non-negotiables. Staff draw on these regularly to support children's learning and independence within in each unit of work.
- In line with the Teaching and Learning Policy, Knowledge Organisers are used at the start of each unit together with enlarged knowledge notes (on tables) to aid children in their learning.
- Teaching is carefully planned to ensure each lesson incorporates the following: Connect, Explain, Example, Attempt, Apply, Challenge.
- As a natural complement to the Knowledge Notes, thinking Science Tasks are devised to ensure pupils are challenged to both think and work as scientists. The activities are designed to make science engaging and relevant, and to foster curiosity. With a focus on science skills, the tasks also make explicit the Working Scientifically strand of the National Curriculum. Many of the tasks also provide opportunities for pupils to develop their oracy skills through science.
- Within each year group, the 5 key types of scientific enquiry are used:
  - Identifying, classifying and grouping
  - Research using secondary sources
  - Observing over time
  - Comparative and fair testing
  - Pattern seeking

Assessment and recording in science

We use assessment to inform and develop our teaching.

- Assessment is both formative and at the point of learning as well as summative to feed forward to the next point of contact pupils will have. Recording of assessment is multi-faceted. Any notes made must be useful and insightful, not lengthy or cumbersome and at the end of, each topic record achievement and celebrate success.
- Feedback should pay attention to the following questions:
  - Does it provide clarification?
  - Does it provide sophistication?
  - Does it motivate?
- Children's work is compared with age appropriate exemplification.
- We have a tracking system to follow children's progress. The school science Leader monitors progress through the school by sampling children's work at regular intervals. Each teacher will complete an assessment post each lesson and with an overall assessment at the end of each unit. Assessment records are reviewed regularly. Children who are not succeeding, or children who demonstrate high ability in science, are identified and supported.
- Assessment data is used to highlight areas where intervention or catch-up work is needed. Equally important is the continuous assessment of children's work, much of which is informal. This assessment is used to inform teaching throughout the school.
- We use Pupil Book Study as a way of assessing the impact of the science curriculum on children. The Science Subject Leader will consider how the

teaching supports long term learning and how it enables children to think hard and create long term memory.
- The Y2 & Y6 staff assess children's attainment and progress at the end of each key stage. This is based on assessment records and work samples from across the key stage and is support by the science coordinator and previous class teachers if needed.
- Reports to parents are made once a year in written form, describing each child's attitude to science, his/her progress in scientific enquiry and understanding of the content of science.

Equal Opportunities

Science is taught within guidelines of the school's equal opportunities policy.
- We ensure that all our children have the opportunity to gain science knowledge and understanding regardless of gender, race, class physical or intellectual ability.
- We adopt a mastery approach to science. Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- We aim to teach science in a broad global and historical context, using the widest possible perspective and including the contributions of people of many different backgrounds.
- We draw examples from other cultures, recognizing that simple technology may be superior to complex solutions.
- We value science as a vehicle for the development of language skills, and we encourage our children to talk constructively about their science experiences.
- In our teaching, science is closely linked with literacy, mathematics and computing.
- We recognize the particular importance of first-hand experience for motivating children with learning difficulties.
- We recognize that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.
- We exploit science's special contribution to children's developing creativity: we develop this by asking and encouraging challenging questions and encouraging original thinking.
- Children with Special Needs are taught within the guidelines of the school SEN policy.

Health and Safety

Science is taught within the guidelines of the school Health & Safety Policy. Science should use both the indoor and outdoor school environment and teachers have the responsibility for ensuring the Health & Safety of pupils, following the guidelines in the 'Safe' publication and in accordance with CLEAPSS. Children are encouraged to be involved in being responsible for their own health & safety.

Review

This science policy will be reviewed by the Science Leader and the senior management team.

Reviewed September 2025
Date of next review of this document September 2026