



St. Mary's Catholic Primary School

At St. Mary's we live and learn, sharing God's love.

MISSION STATEMENT

'As a Catholic school community, we strive to live as a Christian family showing our love for God in the way we treat each other with dignity and respect and by promoting the development of each child as a unique individual.'

SCIENCE POLICY

Our rationale for teaching science

Science is a body of knowledge built up through experimental testing of ideas. Science is also, a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school 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.

We believe that a broad and balanced science education is the entitlement of all children, regardless of ethnic origin, gender, class, aptitude or disability.

The National Curriculum for Science aims to ensure that all pupils:

- + develop **scientific knowledge and conceptual understanding** through the scientific 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 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 local and global environment.



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- ✚ enabling learners to appreciate everyday and technological applications of science, both positive and negative.
- ✚ helping to develop and extend our children's scientific concept of their world.
- ✚ encouraging children to be independent learners, be curious about what they see/learn about the world around them and ask questions.

Through Science the attitudes to be fostered are:

- ✚ 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 enjoyable experience of science, so that they will develop a deep and lasting interest.

Through Science the skills to be developed are:

- ✚ giving our children an understanding of scientific processes.
- ✚ helping our children to acquire practical scientific skills.
- ✚ developing the skills of investigation - including observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, pattern spotting, explaining and evaluating.
- ✚ developing the use of scientific language, recording and techniques.
- ✚ developing the use of ICT in investigating and recording.
- ✚ enabling our children to become effective communicators of scientific ideas, facts and data.

Our teaching aims:

- ✚ to teach science in ways that directly involve our learners and are imaginative, purposeful, well managed and enjoyable.
- ✚ to encourage our children to ask, as well as answer, scientific questions.
- ✚ to give clear and accurate explanations and offer skilful questioning.



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✚ to make links between science and other subjects.

Science is a core subject in the National Curriculum - it has three specific aims. These are:

- to develop scientific knowledge and conceptual understanding
- to develop understanding of the nature, processes and methods of science
- to reflect the importance of spoken language in pupils' development

How science is structured through the school

All teachers are involved in planning for science, to ensure that the school gives full coverage of National Curriculum Science.

The school uses the New National Curriculum and Lancashire Planning for planning and delivering Science in school. This ensures progression between year groups and guarantees topics are fully covered and revisited. Teachers are expected to adapt and modify the plans to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available. We must ensure that any modification still supports full coverage of all parts of the programme of study.

Throughout the school classes work co-operatively to ensure appropriate curriculum coverage within the context of both single and mixed age classes. Mixed age science is comprised of a two-year rolling programme for each Key Stage (KS1, LKS2 and UKS2). Together, Set A and Set B for each mixed year group cover the entire National Curriculum for England's programme of study for a single Key Stage.

1. Our approach to science

The essential elements describing how science is taught are: -

- We use ICT where appropriate in science. Children are given the opportunity to practice science skills and enhance their presentation using carefully-chosen software and hardware including animated/interactive packages, digital cameras, digital microscopes, sound recording equipment and data loggers.
- Other resources include, short on-line video sequences and other teaching resources which have been networked for interactive-whiteboard use.
- The school combines these secondary sources with first-hand scientific enquiries, building children's science skills.
- The majority of resources are stored centrally or in particular classes.
- We encourage children to ask and answer their own questions as far as practicable.



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- We use cross-curricular links to science wherever possible, but also teach it as a discrete subject.
- Science raises many social and moral questions. Through the teaching of science, children have the opportunity to discuss, for example, the effects of smoking and the moral questions involved in this issue. Science teaches children about the reasons why people are different and, by developing the children's knowledge and understanding of physical and environmental factors, it promotes respect for other people.

2. Equal opportunities in science

Science is taught within the 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 and class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and does not involve cultural, social, linguistic or gender bias.
- We aim to teach science within broad and balanced curriculum, using the widest possible perspective and including the contributions of people of many different backgrounds and specialisms.
- 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 and mathematics.
- We recognise the particular importance of first-hand experience for motivating children with learning difficulties and ensure tasks are differentiated to support all learners.
- We recognise that science may strongly engage our gifted and talented children, and we aim to challenge and extend them.

3. Assessment and recording in science

We use assessment to inform and develop our teaching.

- Topics commonly begin with teachers' assessment of what children already know and what they would like to know to involve them in the learning process.
- We assess for learning (AfL). Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve with 'next steps' learning.
- Each piece of work is marked positively, making it clear where the work is good, and how it could be further improved.



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- At the end of each unit of work children are assessed to indicate whether they are progressing at rates which are below, at or above National Curriculum age related expectations for working scientifically and scientific knowledge.
- Reports to parents are made verbally in the autumn and spring terms and written once a year, including each child's effort and progress in science.

Reviewed: January 2019

Next review date: January 2020