

SAINT MARY'S CATHOLIC PRIMARY ACADEMY

Mr J O'Connor – Head Teacher



CURRICULUM POLICY FOR SCIENCE

Approved by: Joseph O'Connor

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Next review due by: To be monitored and updated as required

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CURRICULUM POLICY FOR SCIENCE

Mission Statement

"We Value All in the Name of Jesus the Christ"

Learning is a sacred endeavour.

Here are some highlights from a document shared in full on our 'Building the Kingdom' course – to whet your appetite!

How is Science a sacred subject?

Through the development of humility and the dependence on their ability to discern how to make the right choices (and) respond to the big questions of the purpose and meaning of life...

Introduction

Science is the process of investigation into the natural world. As scientists, we observe, experiment and ask questions to improve our understanding.

Science teaching at St Mary's Catholic Voluntary Academy aims to give all children a strong understanding of the world around them, whilst acquiring specific skills and knowledge to help them think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of science, today and for the future.

Intent

Science teaching at St Mary's Academy aims to ensure that all pupils know and understand:

- A developing scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- A developing understanding of the nature, processes and methods of science through different types of investigations that help them to answer scientific questions about the world around them
- The scientific knowledge required to understand the uses and implications of science, today and for the future

Implementation

All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.

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Specialist vocabulary for topics is taught and built up, and effective questioning to communicate ideas is encouraged. Concepts taught should be reinforced by practical methods when possible, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Impact

- Gain a wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- Have a richer vocabulary which will enable children to articulate their understanding of taught concepts.
- Have high aspirations, which will see them through to further study, work and a successful adult life.
- Have a general knowledge of biology, chemistry and physics which will allow them to make sense of the world around them, enabling them to take on further learning and acquire new skills.
- Become 'scientists' with a love and understanding of science.

Planning and Organisation

Topics, such as plants, are taught in Early Years and Key Stage one and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge and increases their enthusiasm for the tasks, whilst embedding this procedural knowledge into the long-term memory.

The areas of the curriculum are timetabled to provide progression and challenge throughout the school. Most of the learning about science will be carried out through the use of first-hand practical experiences, this will be backed up with the use of appropriate secondary sources, such as books, photographs and videos. Work in science will be evidenced through written work, photographs and discussions.

Science at St Mary's is delivered using the 'Maestro' curriculum. At St Mary's Academy, we understand the importance of first hand experiences for our children and visits are encouraged where possible.

Long Term Planning

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This is based on the National Curriculum for Science, which details what is to be taught over the Key Stages and provides the topic basis for planning Science activities for each year group. Opportunities for recap and recall through the school will be clearly identifiable.

Medium Term Planning

This takes the long term plan and organises the teaching of Science into half-termly sections. The planning is more detailed and the objectives are more specific in nature. This planning is developed by class teachers, who respond to the needs of their pupils. It also ensures a balanced distribution of work is undertaken across each term. The medium term planning includes the learning intents for each lesson and the key knowledge the children will be learning. The medium term planning will also give opportunities for recap and recall through the school.

Short Term Planning

The short term planning is rooted into the medium term planning; this is to allow teachers to focus on preparation for the lessons. Teachers can use the medium term planning to identify the key knowledge they will be teaching, which will make the preparation of resources more efficient.

The coordinator will be responsible for:

- The implementation, review and update of the policy.
- Providing schemes of work for all aspects of the Science Curriculum.
- Consultation and advice on resources and activities for other teachers.
- Attending CPD courses and cascading relevant information.
- The ordering, storage and inventory of resources.
- Monitoring and evaluating how the curriculum is delivered.
- Auditing the needs of staff and arranging CPD.

SEND and Equal Opportunities

All children at St Mary's Academy will access quality first science teaching and are taught age appropriate objectives which are set out in the subject overview document. To enable all children to achieve their potential in science, scaffolding and support is used appropriately. All children at St Mary's Academy have access to quality first teaching in all areas of the curriculum which enables them to take part in a broad and balanced curriculum.

Teachers have high expectations of all children. Inclusive and high-quality teaching is delivered to the whole class in science with bespoke support and interventions carefully planned for groups or individuals where needed.

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In order to develop knowledge and skills in science, some children may need extra intervention or provision. Interventions, additional support, resources and scaffolds are put in place to ensure the children reach their goals and learn in the best possible environment and any barriers to science are minimised.

Support in science can be in the form of one to one or small group but the needs of the child and how they learn best are always considered first and foremost. Working closely with peers in mixed ability groups enables the children to work inclusively and to support each other. Parallel to this, we believe firmly that a child should develop independence skills in science as soon as possible. Opportunities are provided to enable this and any support given to a child/children will be short term and reviewed regularly.

Recording of Children's Work

Children are encouraged to record work in their exercise books when appropriate and photos and videos taken when completing other activities. Any photos and videos are to be uploaded to the server. Children may use a combination of written responses, mind-mapping, artwork and other activities as a record of their work. Examples of children's work will also be displayed on the school website including photographic/video evidence of displays, presentations and spoken activities to provide a source of engagement with parents, carers and the wider community.

Marking and Feedback

Marking and feedback is provided in line with the whole school marking and feedback policy. Feedback relates to their attainment against the learning objectives for Art and Design.

Monitoring and Evaluation

Science is monitored throughout school by the Science coordinator.

Evidence is provided through:

- work scrutiny
- data analysis
- review of planning
- learning walks
- pupil interviews

Feedback is shared and discussed with senior management, staff and governors regularly.

Assessment

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Formative assessment is carried out constantly within the lessons, through questioning and discussion to check the children's understanding. Marking in Science books links to basic skills to promote a high standard of spelling, punctuation and grammar across the curriculum. Marking also links to factual knowledge as well as their understanding and summarisation of the tasks. Proof of Progress quizzes and quick questions to help children retain knowledge. This also enables children to assess their own learning and identify targets for their future work. In turn, this supports teachers in providing feedback for children's work.

Arrangements for Review

Policies are regularly updated/reviewed by staff and governors to ensure that all aspects of the Science policy aims are being met and that the standards of Science are continuing to improve. This policy will be reviewed again by the Leadership team and Science coordinator by May 2024.