

# St Marie's Catholic Primary School

## Science Policy

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*'The Love of Christ, nurture, guide and inspire us.'*

<b>Approving Body</b>	<b>Full Governors</b> Committee Head/Leadership team	<b>Review Term: 1yr/2yr/3yr</b> <b>Autumn</b> Spring Summer
<b>Signature:</b>	Chair of the relevant body	<b>December 23</b>
<b>Review Date:</b>	<b>March 24</b>	<b>Version:</b> (applicable if changed within the review period, if no changes this would remain as version 1)

# MISSION STATEMENT



*'The Love of Christ, nurture, guide and inspire us.'*

## **To do this we will:**

- Be a Christian community that lives the Gospel values; 'Love of Christ' (Christ centred)
- Provide opportunities for all to grow and achieve by igniting a desire for learning; 'Guide and inspire' (Education)
- Be a haven of peace and love that enables all to thrive; 'Nurture' (Community)

## **Objectives: Christ Centred**

- Provide high quality collective worship and enriching liturgical celebrations
- Enable our children to acquire an excellent religious education and develop their relationship with God
- Share faith, love and hope in the likeness of Mary, Mother of God
- Provide a safe harbour where all can succeed

## **Objectives: Education**

- Have high expectations of ourselves and others in all that we do
- Value our pupils and staff, appreciating their uniqueness and individual talents, enabling them to achieve well
- Provide a curriculum that opens the world, in all its awe and wonder, to our pupils

## **Objectives: Community**

- Create a peaceful, happy school where all feel welcomed and valued
- Nurture and grow our pupils and community in the Gospel values
- Celebrate each person as a beautiful work of art, created on God's image

## St Marie's Key Objectives and Priorities 2023/2024

Key Objectives and Priorities	Success Criteria
<p><b><i>Christ at the Centre</i></b></p> <p>1. Priority: Culture</p>	<ul style="list-style-type: none"> <li>✚ Ensure that staff and pupils are clear on whole school expectations, routines and behaviours</li> <li>✚ Pedagogy, policies and procedures are shared and implemented with fidelity</li> <li>✚ Relationships across the school community become strong</li> <li>✚ Staff seek every opportunity to promote learning within and beyond the school day</li> <li>✚ Pupils and staff have the tools needed to ensure resilience in their learning and wider lives</li> </ul>
<p>2. Priority: Aspiration</p>	<ul style="list-style-type: none"> <li>✚ School has unapologetically high aspiration for our children through a fully understood, common pedagogy</li> <li>✚ All children can access a low floor-high ceiling, fully resourced, holistic curriculum that meets our high aspirations which staff are equipped to deliver</li> <li>✚ Percentage of children at greater depth standards is rapidly closing the gap with national</li> </ul>
<p>3. Priority: Resources</p>	<ul style="list-style-type: none"> <li>✚ The staff structure, skills and knowledge meet the needs of the school</li> <li>✚ 'The curriculum' is fully resourced and meets the needs of our children with effective schemes of work, curriculum knowledge and skills progression maps</li> <li>✚ All staff receive high quality assured CPD that improves learning for all pupils</li> </ul>
<p>4. Priority: Community</p>	<ul style="list-style-type: none"> <li>✚ Parents are well equipped to support children learning in school and at home</li> <li>✚ Families are well supported to meet our aspirations for our children, i.e. through uniform and attendance</li> <li>✚ Our community is well involved in school life, e.g. Parent Council, FAF group etc</li> </ul>
<p>5. Priority: Environment</p>	<ul style="list-style-type: none"> <li>✚ The school building and grounds are a safe place to work and play</li> <li>✚ The buildings and classrooms promote our high aspirations</li> </ul>

## **Science is a sacred subject**

Science enables us to plummet the mysteries of the mind of the Creator of the universe and inform our world view through a deeper understanding of the interconnectedness of all levels of creation. Scientific exploration and discovery help students to recognise their potential and responsibility through the development of humility and the dependence on their ability to discern how to make the right choices. Science encourages students to respond to the big questions of the purpose and meaning of life as it works in collaboration with other disciplines within the curriculum.

## **Rationale**

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

## **Vision**

Through high-quality science teaching, we aim to help our pupils understand how major scientific ideas have played a vital role in society. Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world. We aim to do this by:

- Delivering high quality, interesting and engaging science lessons;
- Using scientific contexts to develop and consolidate cross curricular skills in literacy, Maths and ICT;
- Teaching science in a global and historical context; including the contributions significant scientists from a range of cultures;
- Developing and extending pupils' scientific knowledge and understanding;
  - Developing pupils' ability to work scientifically and involve pupils in planning, carrying out and evaluating investigations;
  - Developing pupils' scientific vocabulary and ability to articulate scientific concepts clearly and precisely;
- Ensuring that all pupils are appropriately challenged to make good progress in science.

## **National Curriculum Aims**

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.

### **Teaching and Learning Overview**

At St Marie's we believe that the best science teaching fosters and develops pupils' curiosity in the subject whilst also helping them to fulfill their potential. For our pupils to achieve well in science, they need to acquire the necessary scientific knowledge and also be able to enjoy the experience of engaging and purposeful scientific enquiry in order to help them to answer scientific questions about the world around them.

We want to encourage - Open mindedness - Perseverance - Tolerance - Curiosity - Respect for peers - Teamwork - Respect for living things and the environment - Confidence.

### **Planning**

- Science in the Early Years Foundation Stage is planned using the Early Years Curriculum 'Understanding of the World'.
- Key Stage 1 and 2 teachers plan science lessons using the new National Curriculum (2014). Teachers use Cornerstone topics which incorporates Science within the topic.
- All science lessons have focused learning objectives, clear differentiation and success criteria to ensure that pupils make at least good progress.
- 'Working scientifically' is embedded throughout the areas of learning in key stage 1 and 2; this focuses on the key aspects of scientific enquiry which enable pupils to investigate and answer scientific questions.
- Areas of learning within key stage 1 and 2 ensure that statutory requirements are being covered through the specific disciplines of biology, chemistry and physics (teachers may also refer to the non-statutory guidance which provide additional support).

Key Stage 1 (Years 1 and 2) and Key Stage 2 (Years 3 to 6) The content of science teaching and learning is set out in the 2014 National Curriculum for primary schools in England. Within this, certain topics and areas are repeated across year groups, meaning that children may revisit a particular topic in each year of primary school but with increasing difficulty and with a different focus each time.

### **Vocabulary**

The national curriculum for science reflects the importance of spoken language in pupils' development across the whole curriculum – cognitively, socially and linguistically. At St Marie's science lessons provide a quality and variety of subject specific language to enable the development of children's confident and accurate use of scientific vocabulary and their ability to articulate scientific concepts clearly and precisely. They are encouraged and assisted in making their thinking clear, both to themselves and others, and teachers ensure that pupils build secure foundations by using discussion to probing and remedying their misconceptions.

### **Additional support for lower-attaining pupils**

Teachers ensure that they adopt an inclusive approach to their science planning and teaching; ensuring that pupils of all abilities and backgrounds have an equal opportunity to make good progress and enjoy science. We recognise that there are children of a wide range of academic ability within every class and we aim to provide suitable and beneficial learning opportunities by matching the challenge of the task to the ability of the child. We achieve this in a number of ways:

- Setting common tasks which are open-ended and can have a variety of responses.
- Setting tasks of increasing difficulty. Not all children complete every task.
- Grouping children by ability within the classroom and setting different tasks for each ability group – provision should be in place to both support the children with special educational needs and of a lower ability and stretch the more able and gifted and talented children.
- Providing resources of different complexity depending upon the ability of the child.
- Using classroom assistants, when available, to support groups.

### **Homework**

Homework is provided half-termly through our homework menu which can be found on each class page.

### **Assessing and tracking progress**

We assess pupils as we observe them during lessons and mark their work following this, annotating with appropriate comments if necessary. Science skills and learning can be enhanced through effective verbal and written questions. The Science subject leader monitors samples of children's work across the school and completes regular learning walks. Furthermore, a sample of children are spoken to from all year groups to gauge their enjoyment, understanding and opinions on their Scientific learning. Their pupil voice is taken into consideration to help teachers to plan an effective and inspiring curriculum. Monitoring of the standards of work and the quality of teaching in Science is the responsibility of the subject leader and SLT. The work of the subject leader also includes supporting colleagues in the teaching of Science, updating staff on current developments in the subject and providing lead and direction for the subject in the school. Observations of teaching, planning and work scrutiny take place over the course of the year in order to maintain and continue to raise standards.

### **Feedback and marking (see schools separate marking policy for further guidance.)**

Marking can take a variety of forms, this could include verbal feedback, peer and self-marking and ticks and positive comments. Next steps will usually be the next lesson, as teachers will have used the previous lesson to inform their planning. However there will be opportunities for target setting/next steps in the extended writing book.

### **Quality of teaching, learning and assessment**

- SLT, the Science lead and teachers, monitor pupils' progress together.
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