**Science**

**Intent, Implementation and Impact**

**Underpinned by our Curriculum Drivers: Faith and Oracy**



**Our Mission Statement:**

St. Mary’s school community follows the teachings of Jesus Christ working together to develop the whole child in a spiritual, moral, academic, physical, social and emotional way within a caring and supportive environment.

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| **INTENT** | **IMPLEMENTATION** | **IMPACT** |
| The national curriculum states that science, ‘provides the foundation for understanding the world through the specific disciplines of biology, chemistry and physics... All pupils should be taught essential aspects of the knowledge, methods, processes and uses of science.’At St. Mary’s Catholic Primary School, our Science Curriculum is designed to develop confident, discerning learners who are highly motivated to achieve their full potential by developing scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics as well as, developing their ability to explain their scientific understanding and effectively communicate their learning and ideas. In our school we follow the Gospel values so we strive to respect and care for God’s creation. In our curriculum we plan to give children time to investigate through observing, recording, measuring and the use of equipment. This is achieved through the Science Ninja Reward Scheme which we have been part of over the last four years. We acknowledge learning as a change in the long-term memory. We recognise that in order for this change to take place, repetition is key and this is achieved by repeating the teaching of the key scientific enquiry skills. We intend to teach science in a systematic and methodical manner which enables children to develop their knowledge and understanding by regularly revisiting taught content and skills in order for this teaching to become embedded. We intend to teach our children how to make sense of the world around them by developing their ability to ask relevant scientific questions and conduct scientific enquiries focusing on a particular enquiry skill. Our intention is that our children recognise and understand the relationships between scientific knowledge and enquiry skills.We intend for Science to be utilised as a tool beyond the Science lessons and beyond the classroom.At St. Mary’s Catholic Primary School, a typical Science lesson will provide the opportunity for all children as:* Lesson objectives are taken from the National Curriculum statutory guidelines and activities are differentiated in order to allow all children to access the learning.
* Our children have access to high quality lessons that are both challenging and enjoyable- this is underpinned by our **curriculum driver; ‘oracy** where all our children are openly encouraged to explain their reasoning in a clear and concise manner. This is supported by the Science Ninja Reward system which we have in place, where the children will need to show an understanding of how their achievement of a particular Science Ninja Sticker has helped improve their learning.
* We provide our children with a variety of scientific opportunities, which will enable them to make the connections needed to enjoy greater depth in learning.
* We ensure children are confident scientists who are not afraid to take risks.
* We fully develop independent learners with inquisitive minds who have secure scientific foundations and an interest in self- improvement.
 | **Planning:** Lessons are planned and sequenced so that new knowledge and skills build on what has been taught before. Teachers loosely follow the Snap Science materials to help support their planning. Staff also use the INSET knowledge on the Science Ninja Scheme to ensure there are opportunities for this being build upon in their planning and over an academic year. At St. Mary’s Catholic Primary School, we employ a variety of teaching styles and opportunities for children to learn and develop their scientific skills and competencies, both individually and collaboratively. The main aim of all lessons is to develop children’s knowledge, understanding and skills, and to apply these to scientific enquiries focusing on key scientific skills. One of the key elements in lessons throughout the school should be on developing the children’s oral and written ideas to scientific enquiries. Resources are used effectively to support the teaching and learning of Science at St. Mary’s Catholic Primary School. The Subject leader attends cluster meetings to learn about changes and updates in the Science Curriculum. We have good links with our local feeder school St. Ignatius and children have had the opportunity to work with these teachers in their science labs. Science is monitored regularly. Our PSQM renewal WAS IN September 2019 and we were delighted to be awarded the PSQM Gilt Award.Rich learning opportunities such as school trips enhance learning and build cultural capital. We have regular science workshops in school such as animal workshops, forensic science workshops and even have had duckling eggs delivered to school.The progression maps are structured using the topic headings as they appear on the National Curriculum as well as the key scientific skills which are repetitively being covered each year:* Measuring
* Recording
* Observing
* Using Equipment

Our pupils are encouraged to show their understanding in a number of ways, e.g. through oral answers, written answers and even scientific diagrams. **EYFS:** All children in the Foundation Stage are given the opportunity to being thinking scientifically through looking at the world around them.  | At St. Mary’s Catholic Primary School, we expect that by the end of year 6, our children;* Become fluent in the fundamentals of science
* Reason scientifically by following a line of enquiry, conjecturing relationships and generalisations
* Solve scientific enquiry problems by applying their scientific enquiry knowledge and skills to a variety of routine and non-routing problems with increasing sophistications.

In order for this to happen, the Science leader, the headteacher and the Senior Leadership Team take responsibility for the monitoring of the Science curriculum and the standards achieved by the children. The Science leader will monitor for appropriate pitch and progression at least once every half term.This monitoring takes the form of:1. Lesson observations and feedback
2. Learning walks and pupil voice conversations
3. Planning scrutiny followed by support where necessary
4. A termly look at books
5. Termly data analysis
6. Moderation of work with the Science Ninja cluster group.

Data is collected termly and reported to SLT. All teachers should identity the pupils who are not making sufficient progress when the data is analysed and subsequently targets are made by highlighting these pupils and focusing on next steps.  |