



St Mary's
Catholic Primary School and Nursery

SCIENCE SUBJECT STATEMENT

CURRICULUM AIMS

At St Mary's we shape our curriculum so that all pupils are provided with high quality teaching and learning, with Jesus Christ at the centre of all we do. We aim to teach pupils how to grow into positive, responsible citizens, who can work and co-operate with others while developing the knowledge and skills to achieve their true potential.

"The Christian life is a call to a deeper communion with God and with one another, and this finds particular expression in our schools, which are rightly recognised as being families themselves, where no one is a stranger and where everyone, whatever his or her background or academic ability, is welcomed, treasured, supported and helped to become the person whom God calls them to be."

Bishop Malcolm MacMahon.

We aim to provide a Catholic Christian education based on the life and teaching of Jesus Christ, in which the values of the Gospel underpin all aspects of school life;

To provide a friendly, nurturing environment in which the dignity of each person as a child of God is recognised and developed; and to promote the full potential of each child through a curriculum which develops spiritual, academic, creative, social and emotional growth;

To provide a curriculum which is enriching and challenging, where pupils experience the opportunity to learn in a wide range of contexts.

INTENT

At St Mary's, our aims are to fulfil the requirements of the National Curriculum for science; providing a broad, balanced and differentiated curriculum; ensuring the progressive development of knowledge, skills and vocabulary and for the pupils to develop a love of science. Furthermore, we aim to inspire in pupils a curiosity and fascination about the natural and man-made world and a respect for the environment that will remain with them for the rest of their lives. This includes the lessons they complete in their classrooms as well as enrichment experiences they are offered, such as educational and residential visits, visitors and theme days.



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Principles of Teaching and Learning Science.

At St Mary's we strive for outstanding Science Teaching. We will achieve this outcome through the following principles which will be incorporated into our Science teaching across the school.

1. Our children are naturally curious and this curiosity is encouraged and rewarded through engaging lessons and enthusiastic teachers of Science.
2. The use of a practical – 'hands-on' - approach to Science lessons which allow the children to explore in a tactile and first hand way.
3. The use of advanced scientific vocabulary is developed and encouraged across all ability ranges.
4. The children are active in their science learning, taking control of some of their learning in some areas thus developing a culture of enquiry and decision making and a confidence to ask and answer their own questions.
5. The science curriculum in the school is engaging and stimulating to both teachers and pupils and thus fosters a mutual interest and enthusiasm.
6. The content of the curriculum is clear and the progression of skills across the year groups is explicit and well differentiated to meet the needs of all children.
7. The assessment strategies used by teachers are planned to ensure the continuing development of children's skills and knowledge within science. These are used discretely within lessons.
8. Teachers are secure in their knowledge of the science curriculum and have confidence that the subject is taught well in their classes.
9. There is obvious enjoyment of science from both teachers and pupils.
10. There are many opportunities throughout the year for enriching the children's science learning. These can be in the form of trips, visitors and science projects.

Our Science principles which are displayed in every classroom.



The aims of teaching science in our school are to:

- Equip pupils to use themselves as starting points for learning about science, and to build on their enthusiasm and natural sense of wonder about the world
 - Develop through practical work the skills of observation, prediction, investigation, interpretation, communication, questioning and hypothesizing, and increased use of precise measurement skills and ICT
 - Encourage and enable pupils to offer their own suggestions, and to be creative in their approach to science, devising their own investigations and taking lines of enquiry in a way that interests them
 - Gain enjoyment from their scientific work
- Enable pupils to develop their skills of co-operation through working with others, and to encourage where possible, ways for children to explore science in forms which are relevant and meaningful to them
 - Teach scientific enquiry through contexts taken from the National Curriculum for science

- Encourage pupils to collect relevant evidence and to question outcomes and to build resilience to persevere as it is likely they will need to repeat results or will encounter unexpected results that do not support their hypothesis
- Encourage pupils to treat the living and non-living environment with respect and sensitivity



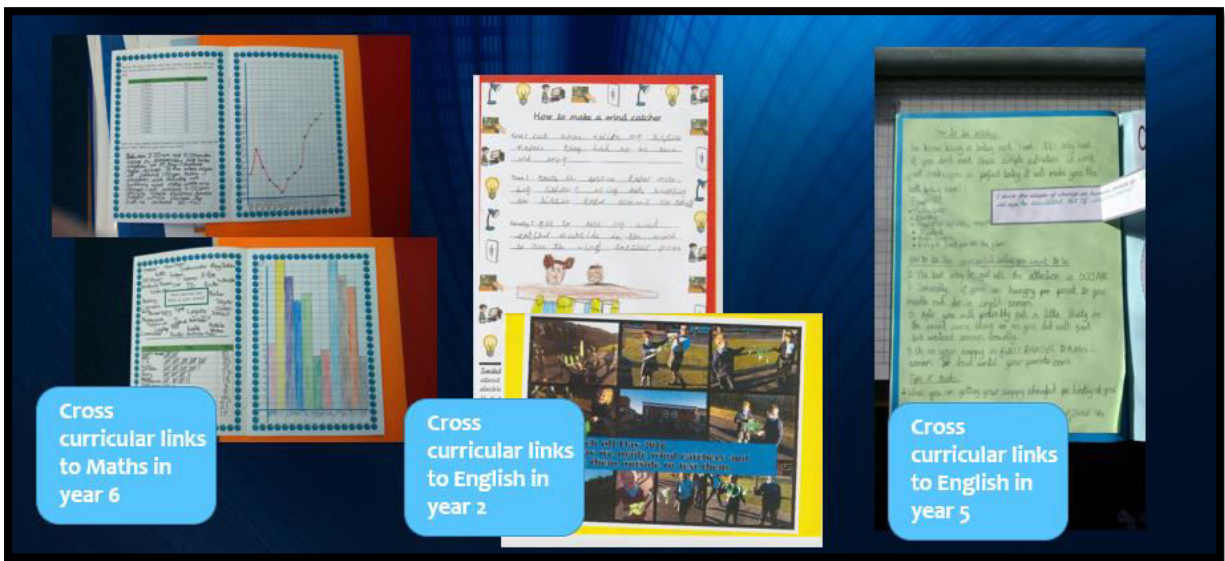
- Stress the need for personal and group safety by the correct usage and storage of resources
- To critically question the world around them
- To enable pupils to appreciate that we do not always know the answers when carrying out scientific enquiry as the world around them is continually changing and developing
- Equip pupils with the language to be able to discuss their learning and confidently explain their scientific understanding

IMPLEMENTATION

At St. Marys we use the scheme Snap Science as the basis for the teaching of science throughout KS1 and KS2.



To ensure high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school. Science is taught in discrete lessons for at least 1 hour 15 minutes in Key Stage One and 2 hours in Key Stage Two. We ensure that teachers have the same expectations during Science lessons that they would have when teaching English or Mathematics and that any mathematical task (such as measuring or drawing graphs) is pitched at an age-appropriate level to ensure sufficient challenge. It is vital that any mathematical or language barriers should not impede a pupil's scientific learning, thus meaning dialogic learning is a central part of our science teaching.



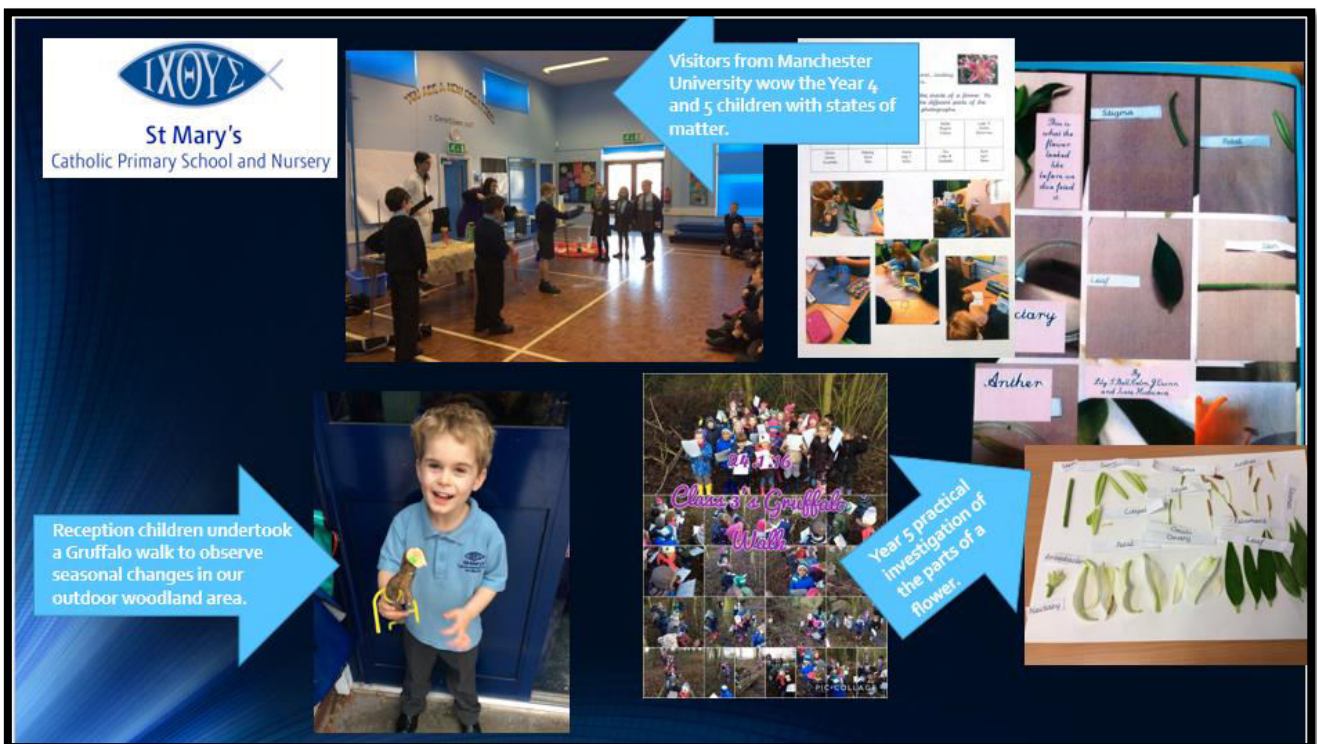
The science curriculum at St Mary's is based upon the 2014 Primary National Curriculum in England, which provides a broad framework and outlines the knowledge and skills taught in each Key Stage. Teachers plan lessons for their class using our online tracking system, Classroom Monitor, which ensures knowledge and skills are progressively taught across the school. Teachers use this document to plan their science lessons to ensure that they align to their class's interests and what they want and need to learn. Teachers have also been provided with a Progressive document that ensures the curriculum is covered and the skills/knowledge taught build up sequentially from year group to year group. Teachers plan lessons for their class using our progression of knowledge and skills document, which incorporates Working Scientifically.



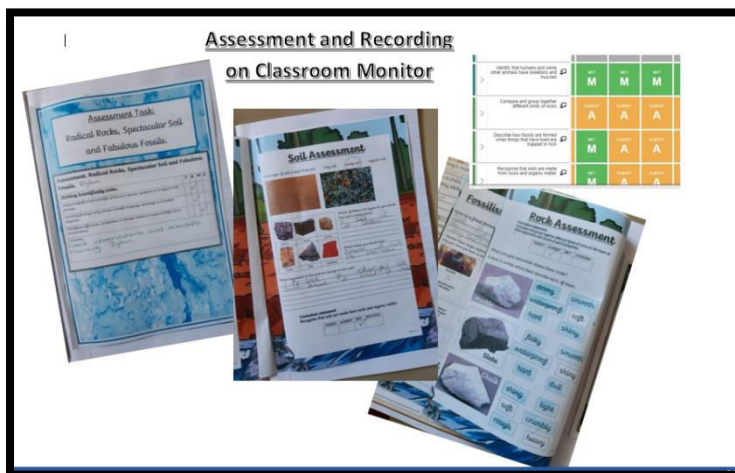
Teaching key subject specific vocabulary is also a key part out science curriculum. The vocabulary children will need for that unit are identified on the school's progression document and this builds upon the vocabulary they have learnt in earlier years. The key vocabulary will be identified and highlighted

Science provides excellent opportunities to enhance the learning of more-able pupils through planning lines of enquiry, asking opened ended problems, analysing results and drawing conclusions based on scientific findings.

At St Mary's, we provide a variety of opportunities for science learning inside and outside the classroom. Learning outside of the classroom, is an essential part to learning science. It is essential pupils observe and immerse themselves in their local environment to apply their learning practically to real-life situations.



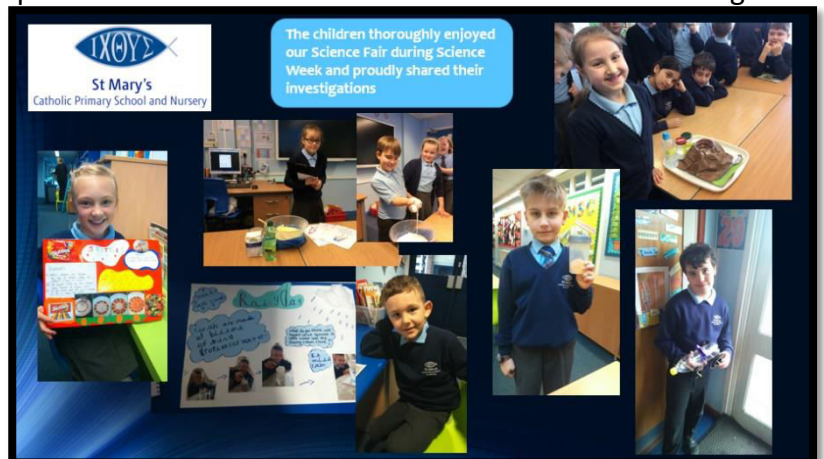
ASSESSMENT



Science assessment is based on teacher's assessment. This is then reported on the school's tracking system, Classroom Monitor and the percentage of children working at, above and below the expected standard are identified. At the end of Key Stage 1 and Key Stage 2 the results are submitted. At the end of a unit, teachers will identify if a pupil is working at the expected standard for that objective. This is shared with the

next class teacher as a record of the pupil's progress throughout the year.

We also believe it is important that parents are involved in their children's science learning in an ever-evolving world. We have set engaging practical activities or science challenges for the children to complete with their parents. This encourages them to ask questions about the world and demonstrates how they can think scientifically and investigate using simple everyday objects. This encourages families to engage with scientific activities themselves at home.



EYFS

The EYFS framework is structured differently to the National Curriculum as it is organised across seven areas of learning rather than subject areas. Children will learn through first-hand experiences to explore, observe, problem solve, predict, think critically, make decisions and talk about the creatures, people, plants and objects in their natural environment. Children will explore the strand 'Understanding of the World' through different exciting concepts such as walks around the school, school trips, living things. The Early Years Framework is where a child begins to gain a wider experience of the world around them.



INCLUSION

All children receive Quality First Teaching. Any children with identified



SEND or in receipt of pupil premium funding may have work additional to and different from

their peers in order to access the curriculum dependent upon their needs. In addition, our school offers a vibrant, demanding and varied curriculum, providing all our pupils with a range of opportunities in order for them to reach their full potential, enjoy and achieve regardless of their starting points.

IMPACT



We have been recognised for our achievements in Science teaching at St Mary's by being awarded the Primary Science Quality Mark. This demonstrates that the standard of science teaching and learning and the enrichment opportunities offered to the pupils is very high. Within science, we strive to create a supportive and collaborative ethos for learning by providing opportunities for pupils to question and investigate, to discover answers for themselves and take their learning in a direction they are interested in. We are currently in the process of renewing this accreditation.

We measure the impact of our curriculum through the following methods:

- Assessing children's understanding of topic linked vocabulary before and after the unit is taught
- Marking of science work in books
- Using dialogic learning tasks to assess children's understanding
- Summative assessment of pupil discussions about their learning.
- Images and videos of the children's practical learning.
- Displays
- Interviewing the pupils about their learning (pupil voice)
- Staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to consider quality, content and consistency
- Formal reporting of standards at the end of each Key Stage
- Annual reporting of standards to parents

IXOYX
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The children thoroughly enjoy their Science lessons and are excited and engaged by their Science learning.

I really love Science because you get to learn about things in the world and that's cool.
Alex year 4

Science is good because we make experiments and they help us to learn.
Harry year 2

I like Science lessons because I want to know more about the world and how stuff works.
Sam year 5

Science is my best subject because we get to work in groups and find things out for ourselves.
Eden year 3

The science subject leader will continually monitor the impact science teaching is having on the pupil's learning through scrutinised books, to ensure the progress of knowledge and skills is being taught. They will also ensure the knowledge taught is retained by the pupils, continually revisited and that the learners are able to apply the skills they have been taught to a variety of different contexts, demonstrating independence with their learning.

IXOYX
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Specific evidence of the direct impact of Science co-ordinator's intervention and CPD through book and planning scrutiny and introduction of new Science scheme.

Recommendations from a recent book scan in Year 3.

Lead to much more practical lessons which are engaging the children

Use of the new scheme means explicit differentiation and access to curriculum for all children.

<p>Summary of Strengths</p> <ul style="list-style-type: none"> Topic overviews are included on the inside front covers of the books. Marking includes an extension question which is responded to by the children. Excellent use of scientific language in children's work. Evidence of practical work reflecting the working science learning outcomes. Presentation in books is neat, well organised and creative. Varied activities are included. 	<p>Summary of Limitations</p> <ul style="list-style-type: none"> Only slight differentiation evident needs to be more explicit between B and C groups. Working scientifically links should be included in all marking boxes. Making use of Snap Science will help with both of the above points.
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Continuing Professional development

CPD for staff is always ongoing through staff meetings or Team meetings delivered by members of the Science Team or Senior Leadership Team. All staff are regularly updated with any changes.

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CPD
As soon as I know about the CPD available this year I will let you all know.

WATCH THIS SPACE

Science CPD

Mary Bevington
Mon 05/02, 21:37

Hi ladies,
I am aware that you were not here when the Snap Science scheme was introduced. I am going to trigger an email for you to change your password access to the site. If we could get together at Wednesday lunchtime (12.30) I can show you the site and explain how to use it. It will make you life a lot easier when planning Science I promise 😊

Thank you.
Mary.

Rachel Bond
Tue 07/02, 07:55

Mary Bevington

Hi Mary!
I've reset my password all good to go!...hopefully 😊
A meeting at Wednesday lunch sounds great thank you! Where would you like to meet? Resource room?

Thanks for all your help Mary, let me know if I need to bring anything with you on Wednesday.

Rachael x

School Photographs TBC		
October	3rd	Performance Appraisals begin this week (Target setting)
	3rd	SLT Focus: EAL
	5th	Pupil Premium provision review
	5th	Team Meeting: Phonics Focus + Review provision for spelling and phonics
	6th	Newsletter articles deadline
	10th	Newsletter
	10th	Formal Writing Observations – please book in time with CW until 21st
	10th	SLT Focus: Pupil Premium- pupil voice
	12th	Science staff meeting – book feedback from scrutiny earlier in term!
	17th	Formal Observations continue this week!

The Subject leader has held two staff meetings throughout the year to update staff on any curriculum changes and to provide new and exciting ideas for the teaching and assessment of science using the new scheme of work.

Ad-hoc staff CPD is provided by the Science co-ordinator as and when needed in order to ensure that all staff are confident in the expectations of science teaching across

Staff are given the opportunity to attend CPD sessions for science and are advised of these via email.