

St Mary Magdalene C of E Primary School
Headteacher: Miss S Robinson
Deputy Headteacher: Mrs S Pearson



Science Policy

April 2025

Policy: Science Policy

Approved by: Headteacher

Date: April 2025

Review cycle: Annually

VERSION CONTROL

VERSION	DATE	AUTHOR	CHANGES
2	04.04.2025	C Smith	Added version control Updated timetable changes to ensure that Science is taught weekly in all year groups.

Science Policy

Vision and Values

We choose courage over comfort because we know that 'the Lord our God is with us' (Joshua 1:9).

Our Vision and Values

In our family, we have the courage to embody Jesus' love for us. We put others' needs above our own. We act with integrity and respect. And when others fall short of our expectations, we support them to atone and extend our forgiveness. In doing this, we prepare children to live life in all its fullness: its joys and celebrations, its sorrows and struggles. The values which are most pertinent to this policy, alongside their links, are detailed below:

Respect

We seek to model to children an ethos of living well together. The flourishing of pupils goes hand in hand with the flourishing of the wider school community: staff, families, governors and friends of the school. Just as Jesus respected people by taking the time to care for them, we endeavour to:

- celebrate the Christian faith;
- foster deep respect for other cultures, faiths and traditions;

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- provide an inclusive environment where special provision is afforded to those with disabilities or special educational needs; and
- challenge inequality.

We will develop respect for science and its continued developments. We will respect the scientific beliefs of others.

“Whatever you wish that others would do to you, do also to them.” (Matthew 7:12)

Love

Jesus embodies the love and compassion of God for each person, and Christians are called to follow him in this. Love impels us to consider Christian perspectives on life, such as:

- putting others’ needs above our own;
- acting with humility and without entitlement;
- supporting those experiencing suffering and sadness – in our community and beyond.

We will develop a love for learning about life, matter and energy and for conducting our own scientific research. Understand the impact science can have on people’s lives.

“Let all that you do be done in love.” (1 Corinthians 16:14)

Courage

We are called to create an environment where both children and staff aspire to be, and give, their best. Everyone is emboldened to take risks, overcome challenges and be courageous in their efforts to achieve their potential. Leaders make bold curriculum choices that enable children to:

- gain knowledge, skills and experiences to navigate life in an evolving world
- develop characteristics such as self-belief, ambition, and resilience to overcome life’s challenges.

We can use courage to ask questions and undertake research and experiments to prove or refute scientific beliefs.

“Be strong and courageous. Do not be afraid; do not be discouraged, for the Lord your God is with you.” (Joshua 1:9)

Aims

At St Mary Magdalene C of E Primary School we aspire to cultivate the gifts and talents of every child and equip them with the wisdom, knowledge and skills to live life in all its fullness: its joys and celebrations, its sorrows and struggles.

“For I know the plans I have for you, declares the Lord, plans for welfare and not for evil, to give you a future and a hope.” (Jeremiah 29:11)

At St Mary’s the worth of each child impels us to work to fulfil their God-given potential, whatever the religion or other tradition with which their family identify, and with special consideration given to those who are disadvantaged.

Therefore, we aim to:

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- Develop the curriculum to address the needs and extend the fascinations of **all our** children.
- Ensure that Science is treated as a **core subject** by aiming to teach this as a main, morning session.
- Build curiosity and excitement through rich first-hand experiences and visits.
- Nurture the aspirations and hopes of our children so they can achieve highly.
- Ensure that all children make good or better progress.
- Facilitate high quality training for staff to equip them with the skills to ensure that our children flourish.
- Develop children's collaboration skills
- Ensure that children have a strong voice in every aspect of school life
- Afford special provision to ensure equity for children with disabilities or SEND.
- Primarily, the aim of our Science curriculum is to encourage our children to take an interest in the world around them within the strands of life, matter and energy. This will prepare them for the next stage of their learning.
- Through the study of Science, children make sense of their world and enrich their understanding of it by exploring and experimenting with different concepts through the scientific strands. They will also learn about prominent scientists.
- Developing pupils' interest, and enjoyment of Science, through the curriculum will help to instil a positive attitude towards this subject. They will be encouraged to relate their understanding and discoveries to their everyday life.
- Ensuring Science lessons are purposeful, accurate and imaginative. There will be a balance of practical, research and scientific writing.
- Ensuring pupils have sufficient scientific knowledge to understand that our lives today will influence the world of the future.
- Making pupils aware of and alert to links between Science and other school subjects, namely English, Maths and Geography. These links will ensure a thread of learning is woven throughout other core subjects the wider curriculum.

Legal framework

This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (updated September 21) 'Statutory framework for the early years foundation stage'
- Education Act 2002
- Equality Act 2010

This policy has due regard to the most recent version of the following school policies:

- Assessment Policy
- Teaching and Learning Policy
- Special Educational Needs Policy
- Marking and feedback Policy
- Behaviour Policy
- Assessment Policy
- Homework Policy
- Health and Safety Policy

Roles and responsibilities

The subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the concept curriculum and advising on their implementation.
- Monitoring the learning and teaching of science, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.

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- Organising the deployment of resources and carrying out an annual audit of all science-related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of science to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of science in subsequent years.

The classroom teacher is responsible for:

- Acting in accordance with this policy and ensuring that lessons are taught in line with the schools health and safety policy at all times.
- Ensuring progression of pupils' scientific skills, with due regard to the concept curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the concept curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an annual basis to parents.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject.

The special educational needs coordinator (SENCO) is responsible for:

- Liaising with the subject leader in order to implement and develop science throughout the school.
- Organising and providing training for staff regarding the science curriculum for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of scientific objectives in pupils' individual education plans.
- Advising staff on the use of teaching assistants in order to meet pupils' needs

Curriculum Progression and Sequencing

- The school carefully sequences knowledge and concepts to build knowledge and skills systematically over time. This is illustrated by way of a Curriculum Progression Map which sets out the objectives taught in each year group across the school alongside the order of units taught; this can be found in the appendix of this policy.
- The school also sets out Long Term Overviews, which mirror and add detail to the Progression Map. These can also be found in the appendix to this policy.
- Within the curriculum, there is sufficient flexibility so that the school can address identified gaps in pupils' knowledge. Opportunities are planned to revisit previously learned knowledge, concepts and procedures; this is to ensure that, once learned, knowledge becomes deeply embedded in pupils' memories and allows rapid and accurate recall. This enables pupils to work with increasing independence, apply their knowledge to more complex concepts and procedures, and gain enjoyment through a growing self-confidence in their ability

Assessment, Marking and Feedback

- Assessment should be carried out in line with the school's Assessment Policy and Effective Marking and Feedback Policy.
- At St Mary's, staff ensure that pupils have sufficient understanding of, and unconscious competence in, prerequisite knowledge, concepts and procedures that are necessary to succeed in each lesson through effective marking and feedback procedures as detailed below:
- Highlighting of learning objectives to show achievement (indicative marking); pink to signal achievement, blue to signal that it is not yet met.
- Mistakes/misconceptions highlighted in blue each time books are marked. Ticks will be used to show correct answers and dots to identify errors.
- Developmental marking will be undertaken when appropriate.
- Marking of books should be carried out before the next session so that this can inform planning/teaching/focus groups. This will also inform ongoing tracking.
- **Science Portfolios Checklist**

Each page should contain:

- **Date**
- **Note of subject and concept** (taken from Master Curriculum Book)
- **Note of learning objective** (taken from Master Curriculum Book)
- Brief explanation of the **context of the lesson**, including differentiation opportunities
- **Quotes** to illustrate children's thoughts and contributions to **evidence learning and critical thinking**
- **Key vocabulary** (written visibly/highlighted in context so that children can quickly locate this and use it their recaps & explanations of learning)
- **Samples of finished products/pieces which evidence learning** (please make sure that high quality outcomes are showcased from a range of abilities)
- **Samples of teaching materials** where appropriate to show learning process, or children's thoughts (handwritten flipcharts etc.)
- **Reflections** - to include a brief assessment reflection on the lesson (how well did children grasp the learning, any misconceptions and modifications made, some specific next steps.

Children should respond to feedback as soon as possible after marking has been completed.

Verbal feedback should be recorded with VF & a note when given.

Type	Why?	What does this look like?
Immediate intervention	<ul style="list-style-type: none"> To prompt deeper thinking, and swiftly address misconceptions <u>during lessons.</u> 	<ul style="list-style-type: none"> Verbal feedback - signalled by VF 1:1 or group learning conference - signalled by VF Questioning to clarify or refocus tasks Mini plenaries Mid-lesson adjustments – signalled on planning
Indicative marking	<ul style="list-style-type: none"> To inform the teacher and child about their achievement against the learning objective To address any missed non-negotiables and misconceptions. 	<ul style="list-style-type: none"> Indicative highlighting of LI (blue/pink) and symbols. Pupils made aware of misconceptions through use of symbols and highlighting Individual spelling mistakes are signalled at the end of the piece/writing stage Brief comments if appropriate A response from pupils is required to correct mistakes – complete in green pen.
Developmental marking / feedback	<ul style="list-style-type: none"> To celebrate successes To give ways to improve against the learning objective, and advice on how to do this. 	<ul style="list-style-type: none"> Incisive, written feedback: in KS2, this is provided as whole class feedback. Personalised praise for effective work shown through pink highlighting of relevant aspects If required, personalised written comments to detail next steps Common misconceptions/mistakes be highlighted in WCF. A response from pupils is required to accelerate and deepen learning; this should be completed in green and focus on edits and revisions. This is not required in the EYFS
Self/peer assessment	<ul style="list-style-type: none"> To share ideas To celebrate successes To give ways to improve against the learning objective 	<ul style="list-style-type: none"> In an age/subject appropriate format to be determined by the teacher

Non-Negotiable Procedures for Marking

- Learning intentions:** these should be recorded on every piece of work, in all subjects even if pupils are absent as this will demonstrate work missed. This can be in the form of a code linked to learning intention/assessment criteria. In KS2, children should undertake this, for younger children, the adult will write the code.
- Date:** all learning must be dated.
- Timing:** all marking should be completed before the next lesson in that subject area, and used to inform planning.
- Colours for marking:** written feedback should be carried out in blue pen and must be clear, legible and a high-quality model of handwriting. In all subjects, solid pink highlighter will be used to show learning intentions are achieved, along with successes throughout the piece of work, e.g. well-chosen words, clearly set out maths calculations. The learning intention should be boxed in pink highlighter if the children are achieving it with some support. Blue highlighter will be used to signal that the learning intention is not yet met and will be accompanied by blue highlighting around aspects

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of pupils' work e.g. a box around an incorrect calculation, or to signal a better choice of word is required. Blue highlighter will also be used to highlight any misconceptions or missing non-negotiables.

- **Responsibility for giving feedback:** written feedback is usually given by the teacher (or adult responsible for the class) but should be given by support staff if they have worked closely with the pupil within a session. Supply teachers who carry out work in the school are expected to mark all work in accordance with this policy. The person who marks the work should write their initials on the top right-hand corner of the page.
- **Pupils' response to feedback:** staff should give pupils regular, adequate time to review and respond to their feedback.
- **Self/Peer Assessment:** regular opportunities should be given in KS1 and KS2.

With specific reference to formative assessment in Geography, the following will apply:

- Ongoing achievement in learning objectives should be tracked on O-Track after each session. Pre and post unit assessments are carried out for each unit taught and inform teachers' planning and differentiation.

Key Stage Specific Marking and Feedback Expectations:

Foundation-

Across areas of learning/provision	<ul style="list-style-type: none"> • Immediate intervention – in each guided session and as required throughout provision • Indicative marking – marked on planning rather than pupils' work. Termly FFT entries show pupils OT and NOT across areas of learning. • Developmental feedback – given verbally as appropriate in guided group and throughout provision 	Lesson observations/ learning walks will show: <ul style="list-style-type: none"> • Evidence of immediate intervention and its impact FFT entries show pupils OT and NOT across areas of learning.	<ul style="list-style-type: none"> • Pupils who require support will be identified so that they can receive targeted support • Pupils make good progress, are challenged to take next steps in learning • Adults use formative assessments to inform planning
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KS1-

Foundation subjects: pupil books (Y2 only)	<ul style="list-style-type: none"> • Immediate intervention – in each session, as required • Indicative marking – every session • Developmental marking - at least once per unit given as WCF • Self/peer assessment – once per unit 	Book scrutiny will show that: <ul style="list-style-type: none"> • pink/ blue highlighting • VF symbol in book scrutiny • pupil editing in green pen to correct NN/spellings 	<ul style="list-style-type: none"> • High standards will be maintained throughout all subjects • Marking informs next steps in teaching and provides formative assessment • All spelling/ NN errors corrected by the pupil.
Foundation subjects: independent journals	<ul style="list-style-type: none"> • Immediate intervention – in each session, through provision and in PDR • Developmental marking - at least once per week as part of a guided group 	<ul style="list-style-type: none"> • At least one piece of high quality of learning per week • Quality PDR is evident in the journal • High quality learning is showcased in the journal 	<ul style="list-style-type: none"> • High quality PDR sessions and pupil engagement in continuous provision.
Foundation subjects: subject portfolios	<ul style="list-style-type: none"> • Indicative marking – FFT entries for each session, KWL grids at start and end of unit • Developmental marking - reflections provided on each page to include a brief assessment reflection on children's grasp of learning, any misconceptions and 	Pupil voice will show: <ul style="list-style-type: none"> • regular use of the portfolio to recap and consolidate learning. Book scrutiny will show that: <ul style="list-style-type: none"> • Organisational checklist is met, including indicative and developmental marking. 	<ul style="list-style-type: none"> • Pupils have regular opportunities to recap and consolidate previous learning. As a result, they know more and remember more.

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	<p>modifications made, some specific next steps</p> <ul style="list-style-type: none"> • Self/peer assessment – Quotes to illustrate children's thoughts and contributions on each page 		
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KS2-

Foundation subjects: pupil books	<ul style="list-style-type: none"> • Immediate intervention – in each session, as required • Indicative marking – every session • Developmental marking - at least once per unit, provided as whole class feedback • Self/peer assessment – once per unit 	<p>Book scrutiny will show that:</p> <ul style="list-style-type: none"> • pink/ blue highlighting • at least 1 WCF sheet per unit • pupil editing in green pen to correct NN/spellings 	<ul style="list-style-type: none"> • High standards will be maintained • Marking informs next steps in teaching • All spelling/ NN errors corrected by the pupil.
Foundation subjects: subject class portfolios	<ul style="list-style-type: none"> • Indicative marking – highlighting grids at the end of each session. • Developmental marking - reflections provided on each page to include a brief assessment reflection on children's grasp of learning, any misconceptions and modifications made, some specific next steps • Self/peer assessment – Quotes to illustrate children's thoughts and contributions on each page 	<p>Pupil voice will show:</p> <ul style="list-style-type: none"> • Regular use of the portfolio to recap and consolidate learning. <p>Book scrutiny will show that:</p> <ul style="list-style-type: none"> • Organisational checklist is met, including indicative and developmental marking. 	<ul style="list-style-type: none"> • Pupils have regular opportunities to recap and consolidate previous learning. As a result, they know more and remember more.

With specific reference to summative assessment in Science, the following will apply:

- Ongoing achievement in learning objectives should be tracked on FFT after Post Assessment.
- Pre and post unit assessments are carried out for each unit taught and inform teachers' planning and focus groups.

Planning

- All relevant staff members are briefed on the school's planning procedures as part of their staff training.
- In KS1 and KS2 Science is taught as a discrete lesson once a week and as part of cross-curricular themes when appropriate.
- Reception has a bi-weekly UTW input. Learning is documented in the class learning journey book.
- Reception covers the full range of concepts over the year; the timings of this is guided by the children's interests. This is planned and delivered through highly personalized objective-led planning and carefully planned enhancements and ongoing continuous provision opportunities.
- During reception class, in accordance with the 'Statutory framework for the early years foundation stage', focus will be put on the seven areas of learning, with the scientific aspect of pupils' work relating to the objectives set out within the framework alongside the concepts in the school concept curriculum.

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- In KS1 the classrooms have a discovery area to allow the children to apply their science knowledge during continuous provision. Carefully planned enhancements are recorded on the planning.
- In KS1 and KS2 the outcomes of each lesson will be presented in the class Science book-see portfolio check list.
- Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning.
- There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.
- Long-term planning, set out by the Science Subject Lead, will be followed in each year group.
- Short-term planning is the responsibility of the class teacher. This is achieved by building on long-term planning, taking into account pupils' needs and identifying the method in which topics could be taught. Foundation Stage and KS1 will use their shared planning format to record planning and enhancements and KS2 will use the science planning format that is assigned to the subject.
- All lessons will have clear learning objectives, which are shared and reviewed with pupils.
- Lessons will be differentiated to meet the needs of all pupils. This will be flexible and informed by assessment, marking and feedback.
- Homework may be set in this subject area, but is not a weekly requirement.
- Homework can take a variety of formats, including games, oral practice and written tasks.

Cross-curricular links

Wherever possible, the science curriculum will provide opportunities to establish links with other curriculum areas. These include, but are not limited to, the following:

English

- Pupils are encouraged to use their speaking and listening skills to describe what is happening.
- Pupils' writing skills are developed through recording their planning, what they observe and what they found out.
- Science based texts are sometimes used in English lessons and in guided reading sessions.

Maths

- Science will involve a degree of numeracy at all levels.
- Pupils use their knowledge and understanding of measurement and data handling.
- Where appropriate, pupils record their findings using charts, tables and graphs.

ICT

- Pupils will use ICT to locate and research information.
- ICT will be used to record findings, using text, data and tables.
- Pupils are encouraged to use electronic devices, gaining confidence throughout their school experience.

PSHE

- Health education is taught as part of science.
- History
- Scientific discoveries and the contribution of individuals to science will be studied.

Spiritual development

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- Pupils' development will be focussed on the vastness of science and the natural world, encouraging a sense of awe.
- Pupils are encouraged to think about the effect of scientific discoveries on the modern world.
- Current scientific developments and issues will be discussed in the classroom, where appropriate.

DT

- Pupils will apply their DT skills to make a product for a purpose in response to their learning in science.

Health and safety

- Staff members will act in accordance with the school's Health and Safety Policy at all times.
- All pupils will be shown how to correctly use equipment and will be monitored by staff members whilst using equipment.
- All pupils will be made aware of how they are expected to behave, ensuring that they show respect to other people and the environment.
- Pupils are made aware of the personal safety protocols and equipment needed when using different equipment or carrying out different tasks.

Equal opportunities

- All pupils will have equal access to the entire science curriculum, including practical experiments.
- Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all science lessons.
- Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.
- All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.
- As a dyslexia friendly school, staff will use a variety of ways to support childrens learning and the recording of learning. These include supporting children when reading texts, the use of mixed ability pairings, displaying key words with pictures, pre-teaching topic vocabulary and the use of art and IT as a means of recording. We will also support the children to record their ideas through the use of writing frames, word banks as WAGOLLS as appropriate.

Monitoring and Review

- This policy will be reviewed after one year by the subject leader.
- Any changes made to this policy will be communicated to all members of staff.
- All members of staff involved with directly leading and supporting the teaching of Science are required to familiarise themselves with this policy.
- The scheduled review date for this policy is April 2026

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Appendices

Please follow the hyperlinks to the following documents:

- **Appendix 1** – [Subject Progression Map](#)
- **Appendix 2** – [Year 6 LTP](#)
- **Appendix 3** – [Year 5 LTP](#)
- **Appendix 4** – [Year 4 LTP](#)
- **Appendix 5** – [Year 3 LTP](#)
- **Appendix 6** – [Year 2 LTP](#)
- **Appendix 7** – [Year 1 LTP](#)
- **Appendix 8** – [Year R LTP](#)