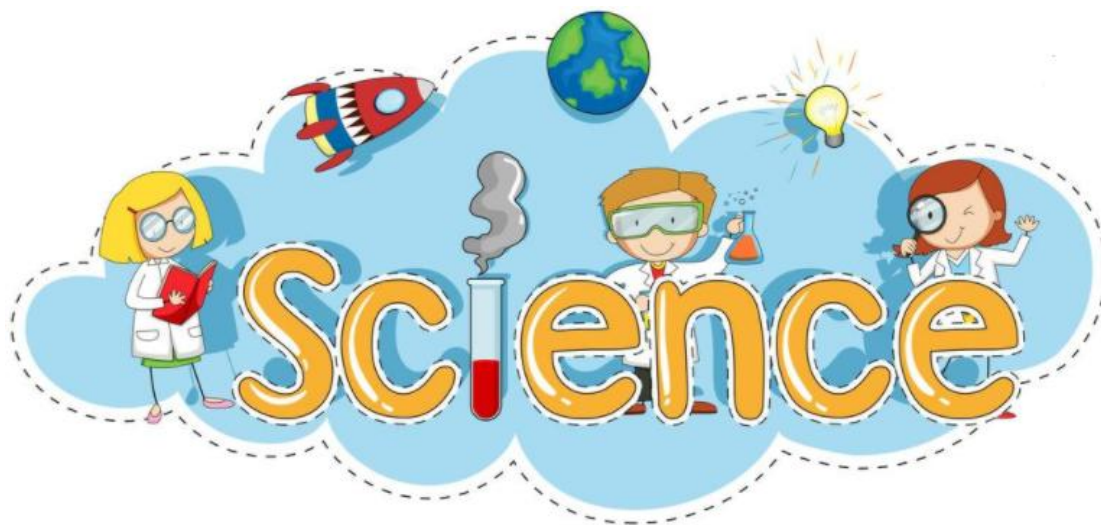




Science Policy



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Our Vision

St Marie's is proud to be a Catholic school, using the teachings of Christ as our foundations.

Within the care of Our Blessed Lady, we aim to make our school a place where children can safely learn through outstanding and innovative teaching, build on their potential, fulfil their dreams, and grow in faith and love

Our Mission

As Christ's hand and feet on earth, we will...

- Follow the teachings of Christ so that all may grow in faith
- Recognise and value each child as a loved and unique child of God
- Treat each person with respect, tolerance and honesty in an atmosphere of love and security.
- Celebrate, nurture and strengthen the relationship between our school family: Our school, our families, our parish and our community
- Inspire those within our care to become successful, caring members of our diverse society and transform the lives of others.

Intent

At St. Marie's we want our children to be naturally curious about the world around them and make sense of various phenomena. Whilst following the national curriculum (NC). We are committed to providing a stimulating, engaging and challenging learning environment, where children are taught specific knowledge, methods, processes and uses of science. Throughout our school, children are encouraged to develop and use a range of skills and work scientifically by; observing, questioning and researching. We want our children to have a broad vocabulary; scientific language is to be taught and built upon as topics are revisited in different year groups and across key stages. We intend to provide all children regardless of ethnic origin, gender, class, aptitude or disability with a broad and balanced science curriculum.

Aims

We believe that in science the children should:

- Develop spiritually, gaining an interest and have a sense of awe and wonder in the world around them through purposeful, accurate and imaginative lesson. By building on children's curiosity, our science curriculum will help to instil positive attitudes towards science.
- Be taught all the requirements of the NC to develop age appropriate scientific knowledge and skills, including "scientific enquiry".
- Be encouraged and helped to develop skills of prediction, hypothesising, experimentation, investigation, observation, measurement, interpretation and communication with use of scientific vocabulary.
- Develop culturally, recognising how scientific ideas and discoveries link to other subjects and the world around them, making links to their lives more generally.
- Understand both uses and implications of science, today and in the future, giving children and appreciation of the changing world around them.

Knowledge and Understanding

We recognise that all the children in our school are entitled to a broad, balanced Science curriculum. At both KS1 and KS2 the content of the science is in line with the NC Document 2014. Scientific enquiry will be introduced and embedded from an early age through continuous, well planned practical activities. Children will work scientifically by: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources.

The Long term planning (Curriculum Overview document) sets out in more detail the Science programme to be followed by each year group and highlights where cross-curricular links can be made. Medium term planning highlights learning objectives to be covered in each topic and also objectives covered in previous year groups, to aid assessments and starting points for each topic. Throughout both Key Stages, Science topics will be taught every half term, with some topics spreading over a full term (particularly in KS1) and to ensure continuity and progression, we plan our science coverage as a whole school.

The National Curriculum (NC)

At St Marie's, the NC is followed – It provides a full breakdown of the statutory content to be taught within each unit. Our scheme of work is closely matched to the NC to ensure that children are being taught all areas of the Science curriculum.

EYFS

Following the 'areas for of learning and development' set out in the Statutory framework for the Early Years Foundation Stage (EYFS), children in Nursery and Reception will be guided to make sense of their physical world and their community through opportunities to explore, observe and find out about people, places, technology and the environment.

Key Stage One

Children will:

- Be encouraged to experience and observe phenomena at the natural world around them; they will observe closely, using simple equipment.
- Be encouraged to be curious, ask simple questions and recognise that they can be answered in different ways.
- Engage in first hand practical experiences by perform simple tests to develop skills of grouping, classifying and comparing.
- Use books, photographs and videos to support learning and develop research skills.
- Use their observations and ideas to suggest answers to questions whilst beginning to use scientific vocabulary.
- Be taught to work scientifically throughout the programme of study.

Children will cover the following topics:

Year 1

- Plants
- Animals including humans

- Everyday materials
- Seasonal changes

Year 2

- Living things and their habitats
- Plants
- Animals including humans
- Uses of everyday materials

Lower KS2

Children will:

- Ask relevant questions and make some decisions about which type of scientific enquiry may answer these questions.
- Set up simple, practical enquiries, comparative and fair tests to observe changes over time as well as using secondary sources of information to support learning.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units and a range of equipment, including thermometers and data loggers.
- Gather, record, present and classify data in a variety of ways to help answer questions.
- Record findings and conclusions both orally and written, using simple, scientific language, drawings, labelled diagrams, keys, bar charts and tables.
- Use results to draw simple conclusions, make predictions, for new values, suggest improvements and raise further questions.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Use straight forward scientific evidence to answer questions or to support their findings.
- Be taught to work scientifically throughout the programme of study.

Children will cover the following topics:

Year 3

- Plants
- Animals including humans
- Rocks
- Light
- Forces and Magnets

Year 4

- Living things and their habitats
- Animals including humans
- States of matter
- Sound
- Electricity

Upper KS2

Children will:

- Plan and select the most appropriate ways to answer questions using different types of scientific enquiries, including recognising and controlling variables where necessary.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Make predictions using test results and set up further comparative and fair tests.
- Present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations, using scientific vocabulary.
- Identify scientific evidence that has been used to support or refute ideas or arguments.
- Be taught and encouraged to read, spell and pronounce scientific vocabulary with increased confidence.
- Work scientifically throughout the programme of study, with increased confidence.

Children will cover the following topics:

Year 5

- Living things and their habitats
- Animals including humans
- Properties and changes of materials
- Earth and space
- Forces

Year 6

- Living things and their habitats
- Animals including humans
- Evolution and inheritance
- Light
- Electricity

Teaching and Learning (Implementation)

Lessons will allow for a wide range of scientific enquiry including the following:

- Questioning
- Practical experiences – such as carrying out experiments
- Collaborative work
- Researching using secondary sources
- Outdoor learning where possible

Education visits will be planned as and when appropriate, to support learning.

Progression maps, long term plans and vocabulary mats can be found on the shared drive for all staff to access, ensuring clear progression is made throughout school.

To ensure full coverage of the NC, Science topics are taught through stand-alone lessons using the Grammarsaurus schemes of work and link to core texts or foundation topics, where possible.

Planning

- *Long term planning* (See Curriculum Overview) is used to outline the units to be taught within each year group.
- *Medium term planning* will be used to outline the vocabulary and skills that will be taught in each unit of work, as well highlighting the opportunities for assessment. It will identify learning objectives, main activities and differentiation.
- *Short term planning* will be used flexibly to reflect the objectives of the lesson. *Short term planning* is the responsibility of the teacher and will take into account pupils' needs.
- *Short term planning* will include specific activities for each group, adaptation, the resources required and the use of support staff.
- All lessons will have clear learning objectives, which are shared and reviewed with pupils.

Cross Curricular Links

Science is taught as a separate subject to ensure all areas of the NC are covered. However, every effort is made to link science with other areas of the curriculum, particularly English, Maths, Geography and Computing.

English

- Speaking and listening skills are developed through discussions and explaining their finding in Science.
- Writing skills are developed during written task, such as instructions, planning and observation of experiments etc.
- Non-fiction, science based texts are sometimes used during guided reading sessions or as part of writing task.

Maths

There are many opportunities to provide meaningful mathematical learning through:

- Data handling and measurement
- Recording findings using charts, tables and graphs

Computing

- Research tasks provide opportunities use of technology and development of key skills in computing.
- Various programmes and apps can be used for recording photographic evidence and data in graphs, tables and word processing documents.
- Augmented reality can be used to further understand scientific information, such as learning about internal organs.
- Video clips and aid the teaching of science.

PSHE

Health education is taught during Animals including humans and covers:

- Nutrition
- Growing
- Exercise
- Teeth and hygiene
- Life cycles

History

Children learn about famous scientists and scientific discoveries

Geography

Scientific enquiry can be linked to Geography when looking at topics such as materials, rocks and soils, plants and where they grow best, weather in different counties etc.

Assessment (Impact)

Assessment is an integral part of the teaching progress. Teachers record and monitor the progress of their pupils by continuous assessment and by commenting upon pupils' work positively. Teachers will assess the children formally throughout each unit of work using the Teacher Assessment in Primary Science (TAPS). The planning of these assessments, along with the outcomes will be saved onto the shared drive to be monitored by the Science Subject Leader each half term.

Teachers produce a summative record and an annual report to parents on pupils' progress in science.

Pupils will be assessed continuously throughout the year through formative assessments such as:

- Marking of pupils' work
- Collaborative tasks
- Questioning
- Quizzes
- Discussions with the teacher
- Observations during science lessons
- Peer and self-assessments

SEND children will be monitored by the class teacher and SENDCO.

Equipment and Resources

- All Science resources, for each unit, are stored in the Science and Geography store room.
- The subject leader is responsible for maintaining an inventory of resources.
- The subject leader will carry out an annual audit and, in liaison with the Business Manager, will ensure that all resources and equipment are sufficiently maintained and consumables reordered.
- Equipment must be checked prior to each use and any damages or defects must be reported to the subject leader immediately.
- Staff members must inform the subject leader of any changes regarding science resources, such as broken items or when new resources are required.
- Any equipment or resources that are a cause for concern will be removed from the storage cupboards immediately.

Health and Safety

- Staff members will act in accordance with the school's Health and Safety Policy at all times.
- Accidents will be reported, following the school's Accident Reporting Policy.
- Risk assessments will be carried out by class teachers before conducting experiments and practical activities.
- All staff will be shown how to use equipment correctly as part of ongoing CPD.
- All pupils will be shown how to use equipment correctly and safely, and will be monitored by staff members whilst using equipment.
- All hazards and safety precautions will be outlined to children before carrying out an experiment.
- All pupils will be reminded of the school's behaviour policy, ensuring that the environment is safe for all.

Roles and Responsibilities

The *Subject Leader* is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject and leasing with teachers across all phases.
- Reviewing changes to the NC and communicating changes and developments with all teaching staff.
- Monitoring the teaching and learning of Science, including planning and pupils' books to collate samples of work for evidence and talking with pupils.
- Monitoring assessment termly.
- Providing support or arranging CPD where necessary, helping to develop colleagues' expertise in the subject.
- Encouraging the teaching of effective and engaging science lessons across the school, which are cross-curricular where possible.
- Encourage staff to participate in activities that help develop a greater understanding of science.
- Maintain appropriate resources to support delivery of science and to ensure these are easily accessible.
- Promote a purposeful, relevant, enjoyable image for science amongst staff, children, parents and outside agencies.
- Establish and maintain an active partnership with external bodies, e.g. St. Gabriel's RC High School.
- Attend science courses, keeping up to date with developments in Science and disseminate as appropriate.

The *Class teacher* is responsible for:

- Acting in accordance with St Marie's Science Policy, ensuring that lessons are taught in line with the school's Health and Safety Policy at all times.
- Liaising with the subject leader about key topics, resources and supporting individual pupils.
- Delivering the science curriculum, in accordance with the NC, school scheme of work and in consultation with the Science Subject Leader.
- Monitoring pupils in their class and reporting any concerns.
- Undertaking any CPD that is necessary in order to teach the subject effectively.

Equal Opportunities

All pupils, regardless of gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will have access to the entire science curriculum, including practical experiments and will fully in science lessons.

Where necessary, lessons will be adapted to meet the special educational needs of a child and alternatives arrangements will be made, which may include support from a teaching assistant, one-to-one teaching or small group teaching.

At St Marie's we aim to provide more academically able children with opportunities that extend their scientific thinking through extensions activities such as problem solving, investigative work and research of a scientific nature, ensuring that all children are able to reach their full potential.

Monitoring and Review

In collaboration with the Head Teacher, this policy will be reviewed on an annual basis by the subject leader.

The subject leader will monitor teaching and learning in Science at St Marie's, ensuring the content of the NC is covered. This may include looking at evidence of learning in books and on displays, and monitoring long and medium term planning.

All changes made to this policy will be communicated to teaching staff.

Stephanie Woods
Science Subject Leader
Reviewed January 2026