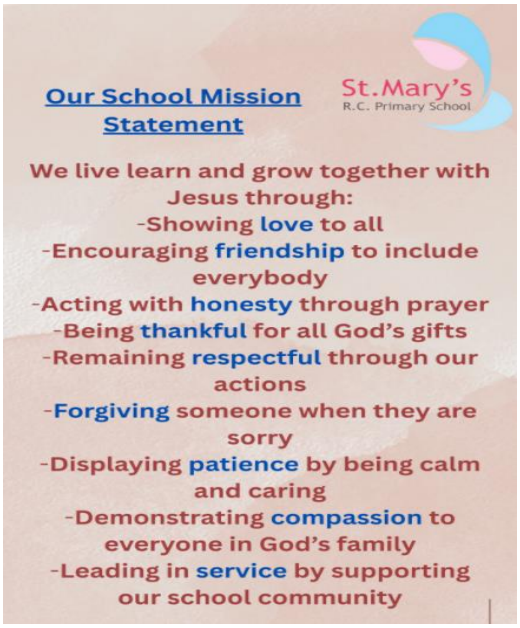
Science Policy

2026-2027



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Approved by governors on:

Policy will be reviewed: Annually

We live, learn and grow together with Jesus

St.Mary's
R.C. Primary School

This policy outlines the guiding principles by which this school will implement science in the National Curriculum (2014) in England and its staffing, curriculum planning, health & safety and equal-opportunities policies.

Our Curriculum Aims

- We hope to instil a sense of wonder around the phenomenon of science within our children.
- We encourage children to ask questions, explore and test theories in science.
- We encourage children to work scientifically through providing children with opportunities to explore, predict, observe, record, explain, test and measure.
- We will provide engaging learning experiences to foster a love of science within our school.
- We teach from a coherent curriculum which is flexible, progressive and applicable to each individual child.
- We aim to prepare children for the future in an increasingly scientific and technological world.
- Our children will be good stewards of God's earth and share concern and care about our environment.
- We will use effective forms of assessment strategies to inform the teaching and learning; so as to ensure provision for support, consolidation and extension of learning for each child.

Aims (NC2014)

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.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of science content in the programme of study.

Teaching & Learning

At St Mary's we use a variety of teaching and learning styles in Science lessons, our principle aim is to develop children's knowledge, skills, and understanding in Science. We do this through lessons that have a high proportion of whole class and group teaching. Children have the opportunity to experience and use a wide range of resources. Children use ICT in Science lessons where it enhances their learning. Wherever possible we encourage children to use and apply their Literacy and Numeracy skills in Science.

Science is a core subject in the National Curriculum. We use the Science framework as the basis for implementing the statutory requirements of the programme of study. The National Curriculum Programmes of Study for Science, Key Stages 1 and 2 (September 2014) details what we teach in the long term. A Long-Term Plan for Science has been developed considering the changing class structure at all Key Stages, ensuring the appropriate coverage and progression in all topics. The content and coverage of our science curriculum is regularly monitored by the science subject lead and class teachers.

Our medium-term plans, give details of the main teaching objectives for each topic as set out in the NC and KLIP's documents. These plans define what we teach and ensure an appropriate balance and distribution of work across each term. Teachers have access to various support with planning and delivering engaging science lessons through ASE, twinkl, Hamilton trust and other useful websites.

All staff receive INSET for Science when support is required.

EYFS

Foundation Stage Science involves the children beginning to behave like scientists through structured play, continuous provision and focused tasks where there are specific learning intentions within a cross-curricular theme. This could be key scientific language, Science ideas or concepts or Science skills. Teachers and Teaching Assistants are all well equipped to respond to children's questions and have suggestions for taking learning further. They are always prepared to go 'off course' whilst keeping the learning intention in mind. The knowledge or skills that the children have gained can then also be

assessed by following another line of enquiry. The children's suggestions are used effectively to plan further activities that will develop understanding or enhance further learning.

Cross Curricular Science opportunities

The skills that children develop in English are linked to and applied in, Science and every subject of our curriculum. The children's skills in reading, writing, speaking and listening enable them to communicate and express themselves. In Year 1 for example the children begin to use simple scientific language to talk about what they have found out or why something happened and use this language to add annotations to photographs, drawings or a display. In Year 6 children use scientific language and terminology to explain why something happened, describe patterns in results and make decisions about how to present and explain their findings. The children's skills in Mathematics are also linked to and applied in Science particularly in the areas of measurement and recording. In Year 2 the children learn how to use simple standard measures with increasing accuracy and record simple data in a variety of tables and charts to help in answering questions. In Year 5 the children choose the most appropriate equipment to make accurate measurements and make their own decisions about how to record the data.

Inclusion

We aim to provide for all children so that they can progress as much as they can in Science according to their individual abilities, we do this through using the '5-A Day' Principle of adaptive teaching. All science lessons are adapted where needed so that all children can access and achieve. Through formative and summative assessment, we track and monitor pupils progress and attainment carefully and identify which pupils or groups of pupils are underachieving and take steps to improve their attainment. This can be done through the intervention programmes available or through support in class with teaching assistants. Gifted children will be identified and suitable learning challenges will be provided.

Resources

There is a range of up to date resources to support the teaching of Science across the school and these are kept in a central resource area. Opportunities to use ICT to support teaching and learning in Science is planned for and used as appropriate. Children also have access to the outdoor classroom, school grounds including the vegetable patch within their science lessons. The school has a good supply of non-fiction home and school reading books that cover a wide range of Science topics to ensure that the children have the opportunity to develop their interests and satisfy their curiosity further at home. Appropriate books are used in the classroom along with a working wall within every classroom.

We develop Science informally in a number of ways but most notably through our Green Flag Eco-Schools Status. The children are involved in a wide range of voluntary activities as well as those linked to the formal Science Curriculum. Often the two are linked, as can be seen on the Long Term Plan for Science. Care for the world we live in is an inextricable part of the ethos of our school. In Year 4, the study of Electricity links with the 'Switch Off Fortnight Campaign' and the need to investigate alternative forms of energy.

Regular visits and experiences running in school help raise the profile of science in our school, for example themed science days and events. We have three themed science days per academic year as well as yearly trips to nature reserves such as Brockholes (Yr2). We have opportunities for science clubs within school (lead by the subject lead) and also through the 'Mad Science' company who provide afterschool sessions. Other environmental groups as well as parents, grandparents and friends of the school and parish are keen to offer their expertise and get involved in the Eco-Garden so that children can grow and eat their own food whilst observing the seasonal changes that affect plants and animals.

We have Science ambassadors who work closely with the science subject lead to monitor, improve and raise the profile of science in our school. They also benefit from regular science sessions with the subject Lead.

Assessment and recording

We use both formative and summative assessment to inform and develop our science teaching. Assessment is an on-going and vital tool to aid future planning. Teachers assess in a variety of ways including discussion, AFL questioning, observation and marking written work in line with the marking and feedback policy. At the end of every science topic, children will complete a summative assessment which class teachers will use to inform their end of unit data.

The Key Learning Indicators of Performance (KLIPS) grids are used within school and will enable staff to assess children and to help them to plan for progression.

Reports to parents are made verbally each term and written once a year, describing each child's attitude to Science, his/her progress in scientific enquiry and understanding of the content of Science linked to age related expectations.

Monitoring and Evaluating

The science subject leader and senior leadership team will monitor planning, teaching and the children's learning on a regular basis in the following ways:

- Monitoring pupil progress & attainment
- Provision of Science
- The quality of the learning environment
- The deployment and provision of support staff
- Moderation of Science
- Observations/development of subject portfolio
- Book scrutiny
- Taking the lead in policy development
- Auditing and supporting colleagues in their CPD
- Purchasing and organising resources
- Keeping up to date with recent Science developments
- Raising the profile by organising Science/Eco events
- Managing and developing the role of science ambassadors in school.

Key strengths will be identified along with issues for attention. Any additional actions to be taken are noted on the science action plans for that school year.

Review

This Science policy will be reviewed by the Science subject leader and the senior management team.

Science Non-Negotiables

- **Wow launch/hook into the topic.**

All topics should start with a hook. E.g. observing a teacher lead investigation/ completing an investigation/practical/observation/video etc *Can be used to get your wonder wall questions.

- **KWL grid/wonder wall.**

All science units need to be started with a KWL. Not only does this give an idea of progress but also gives children chance to ask their own questions/lead their own learning. Ks2 + year 2 completed independently. KS1 completed as a class but needs to be in everyone's books. (Filled in at the end of topic- IPads could be used to research answers to questions that might not have been answered during the topic).

- **LO's/KLIPS *see sequencing document.**

At least 1 full practical investigation per topic. As much practical activities as we can (covering the working scientifically skills). Use the ASE resources to see examples of progress/sequencing/activities & practical. If struggling for investigations, please see Jess for help.

- **Evidence of practical activities in books**

Use photos, jottings on post its, speech bubbles etc to record practical learning. Get children to narrate what they have been doing and what they have learnt. Videos can be saved in our science area on the server.

- **Working Scientifically**

Tracker should be in the front of every child's book. It needs ticking and dating after each lesson/skill has been shown. Children need to be able to talk about and show an understating of the working scientifically skills.

- **Science Working Wall**

Every Working wall should have:
A wonder wall (with children's questions), Topic related vocabulary, evidence of pupils work (pictures/post its/photocopies of work etc) The big question for that topic & the lab coat with key vocab.

- **Marking & Feedback**

Science books should be marked in line with our Marking & Feedback policy.

- **Assessment**

Teachers should use the twinkl assessments for summative assessment of the topic. These can be adapted and changed accordingly. These must then be present in their

science books at the end of each topic. This can then inform the judgements we make on itrack.