



Science Policy

'I will show wonders in the heavens and on the earth, blood and fire and billows of smoke...' Joel 2:30

Policy Type	Policy Number	Prepared By (Job Title) and Date
Statutory		Mrs Breeze – Teacher Summer 2024
Approval Date	Review Frequency	Review Due Date
	Every Two Years	Summer 2026
Signed on behalf of the Full Governing Body: _____		

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Introduction - INTENT / Rationale / Aims of the policy -

This policy outlines the learning, teaching, organisation and management of Science at Shrewsbury Cathedral Catholic Primary School. It explains the intent of the teaching and organisation of Science at Shrewsbury Cathedral Catholic Primary School and describes the implementation of the teaching and planning across the school.

The implementation of this policy is the responsibility of all teaching staff. The responsibility for monitoring and reviewing rests with the Science co-ordinator.

Organisation of the Geography policy

1. Legislation and guidance - National Curriculum - INTENT
2. Roles and responsibilities - IMPLEMENTATION
3. Organisation and planning - IMPLEMENTATION
4. Inclusion - IMPLEMENTATION
5. Monitoring and Assessment arrangements - IMPACT
6. Links with other policies
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Legislation and guidance - National Curriculum - INTENT

At Shrewsbury Cathedral Catholic Primary School and Nursery we believe that Science is a body of knowledge built up through enquiry. Science is also a practical way of finding reliable answers to questions we may ask about the world around us. Science in our school is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as using and applying skills.

Our bespoke Science curriculum is designed to create curious, critical scientists who look at the world around them with an enquiring eye.

We want to empower the diversity of children in our school family as STEM leaders of the future so we develop both skill and knowledge throughout our unit with opportunities for children to investigate using the five main enquiry types. This is even developed in Nursery and Reception where the children are given opportunity to understand their world through a cycle of play, observe and ask.

We recognise that vocabulary is key to understanding and so prioritise developing scientific vocabulary and use units of writing to develop our knowledge of science further.

By the time they leave our school we aim to:

- Prepare our children for life in an increasingly scientific and technological world today and in the future.
- Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Help develop and extend our children's scientific concept of their world.
- Build on our children's natural curiosity and developing a scientific approach to problems.
- Encourage open-mindedness, self-assessment, perseverance and developing the skills of investigation - including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.
- Develop the use of computing in investigating and recording.

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- Make links between science and other subjects.

Roles and responsibilities – IMPLEMENTATION

The Subject Leader should be responsible for improving the standards of teaching and learning in Science through:

- **Monitoring and evaluating pupil progress;**
- **Provision of Science;**
- **The quality of the Learning Environment;**
- **Taking the lead in policy development;**
- **Auditing and supporting colleagues in their CPD;**
- **Purchasing and organising resources;**
- **Keeping up to date with changes in the subject.**

Class teachers should be responsible for improving the standards of teaching and learning in Science through:

- A clear understanding of the requirements for Science in their year group and Key stage and reinforce them wherever possible.
- Plan, teach and assess Science in accordance with the school's agreed methods.
- Seek advice whenever they are unsure in what they are delivering.

Governors

Governors are responsible for:

- Ensuring that the Science policy is in keeping with the national guidance.
- Ensuring that the policy is available to parents
- Ensuring that the programme and the resources are suitably monitored and evaluated

Regular reports are made to the governors on the progress of Science provision and to our Science Governor. This policy will be reviewed every two years or in the light of changes to legal requirements.

Organisation and planning – IMPLEMENTATION

Planning for science is a process in which all teachers are involved to ensure that the school gives full coverage of, 'The National Curriculum programmes of study for Science 2014 and later updates in 2019' and, 'Understanding of the World' in the Early Years Foundation Stage.

Science teaching at Shrewsbury Cathedral Catholic School involves adapting and extending the curriculum to match all pupils' needs. As well as the discrete Science units taught, where possible, Science will be linked to other areas of the curriculum including opportunities for outdoor learning. This will be outlined on our Unit Cover sheets which form an integral part of our planning. Science teaching and coverage will be prepared and delivered using a range of useful units and resources where appropriate supported by the Engaging Science Scheme and PLAN and Play, Observe, Ask documents. All units in Key Stage 2 will be linked to the 'Big Ideas in Science' which centre our learning on the purpose of science at a global level.

All lessons are linked to both scientific skill and knowledge and teachers strive to incorporate the five enquiry styles into their teaching throughout a unit:

Comparative / fair testing

Research

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Observation over time
Pattern seeking
Identifying, grouping and classifying
Problem solving

Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

Early Years and Foundation Stage:

Pupils explore science topics through making predictions, using their senses and investigating materials and their properties. Science is taught primarily through the strand of, 'Understanding the World'. Science teaching and learning is also linked to the other strands of The EYFS framework for learning,

Teachers and teaching assistants use responsive planning and teaching to support pupils to develop a solid understanding of things occurring around them in their day-to-day lives. Science teaching is built into forest school, child initiated and responsive activities. Teachers use the Play Observe Ask cycles and PLAN documents to support this. Children are encouraged to be creative and inquisitive as they participate in activities. Pupils are encouraged to use their natural inquisitiveness, while taking part in exploratory play in specific scientific areas such as forest school as well as areas that link across the EYFS framework.

Key Stage One (year one and two):

During Key Stage one, pupils observe, explore and ask questions about living things, materials and the world around them. They begin to work together to collect evidence to help them answer questions, find patterns, classify and group objects, research using a variety of sources and carry out fair testing.

Pupils use reference materials to find out more about scientific ideas. They share their ideas and communicate them using scientific language, drawings, charts and tables. Science lessons in Key Stage one are taught discretely as well as being connected to other curriculum areas. Pupils often use the outdoor areas in their science learning including as part of the forest school programme.

Key Stage Two (years three - six):

Children are encouraged to extend the scientific questions that they ask and answer about the world around them. Pupils develop independence in carrying out a range of scientific enquiries including: observations over time, pattern seeking, classifying, grouping and researching using other sources (including computing resources). Children in Key Stage Two learn to plan science investigations by only changing one variable to make it a fair test. Pupils in Key Stage Two continue to extend their scientific learning using the outdoor areas with regular access to forest school.

Inclusion – IMPLEMENTATION

We are an inclusive and school and therefore ensure that our classrooms and learning environments are ASD and SEND friendly. This means that we plan differentiated learning to meet the needs of all our pupils, including those with SEND, EAL and any other barriers to learning. Our curriculum is planned and taught so that children can achieve in Science regardless of their starting point or ability. Through the use of quality-first and adaptive teaching, teachers, supported and monitored by the subject lead and SLT, are responsible for promoting equality and provide meaningful quality Science teaching for all student including through enquiry. This means ensuring that all pupils including those with special educational needs, those for whom

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the pupil premium provides supports and those for whom English is an additional language make good progress and are inspired and challenged through the Science curriculum. Each unit includes targeted vocabulary which is taught to help address language gaps for our high percentage of EAL learners.

Every Science unit is planned using a front cover sheet and the PLAN matrices. The objectives outlined on these are designed to offer stretch and challenge for children of all abilities and are used to support teachers in planning appropriate activities and setting goals.

We aim to provide for all children so that they achieve as highly as they can in Science according to their individual ability. We will identify which pupils or groups of pupils are under-achieving and take steps to improve their attainment through, responsive marking, end of unit assessment and RFL. Effective science teaching will be an integral part of our provision in 'The Dell'.

Intervention Programmes: Intervention programmes may be used to support pupils learning in Science as necessary. Intervention programmes may be taught by a teaching assistant or the class teacher. Some interventions may be taught within Science lessons and others may be taught during other parts of the school day. Intervention programmes are used when the need arises as accessed by the class teacher. The primary source of science intervention is 1:1 tuition and pre teaching to address specific needs.

Equal Opportunities:

Shrewsbury Cathedral Catholic School has universal ambitions for every child, whatever their background or circumstances. Children learn and thrive when they are healthy, safe and engaged.

In order to engage all children: cultural diversity, home languages, gender and religious beliefs are all celebrated. Our curriculum includes a wide range of texts and other resources which represent the diversity and backgrounds of all our children (see equal opportunities policy).

Teachers are sensitive to how some scientific issues can require particularly sensitive handling because of students' background, culture of religious belief and are committed to teaching values and controversial issues in Science in a way that supports and promotes a culturally diverse society and respects religious views.

Monitoring and Assessment arrangements - IMPACT

At Shrewsbury Cathedral Catholic Primary School, throughout the curriculum, we are enabling children to gain a broad and balanced understanding of the key scientific skills and knowledge.

The curriculum design and planning will lead to outstanding progress for all pupils, regardless of their starting, over time. Learning is progressive and builds on prior knowledge and understanding and supports children in producing outcomes of the highest quality. Teaching and learning is adapted to cater for the needs of all pupils, providing support for children with special educational needs and enrichment and challenge for more able children.

The Science subject leader is responsible for regularly monitoring and reviewing the curriculum, the standard of the children's work and the quality of teaching in Science. This is done through a rigorous monitoring timetable including pupil voice, coaching lesson dips and book looks. The geography subject leader is responsible for supporting colleagues in the planning and teaching of Geography, for being informed about current developments in the subject, and for providing a strategic lead and direction for the subject in the school. Feedback will be given around what is going well and what are the ways to grow and examples of good practise shared with all staff. When children produce work they or the teacher is proud of in Science, they will take their work to the Science co-ordinator to be shared.

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End of unit assessments are used to assess the pupils' recall of key knowledge and skills. These incorporate a series of questions that reflect the skills and knowledge gained in the unit. Lessons and RFL (retrieval for learning) tasks are then planned to address any gaps. Teachers use responsive marking during lessons to catch and address misconceptions as they occur. Objectives are used for teacher, peer and self assessment and will be reviewed by the teacher after each lesson. Think pink is used to address gaps, challenge learners and ensure high standards of English are maintained in Science.

Each half term, teachers will bring a sample of books to a moderation meeting. The Science leader will support staff in assessing the pupils using the unit cover and this is used to inform future planning and as a guide to assessing other learners.

Links with other policies

Appendix