



Our Lady of the Rosary Catholic Primary School

Science Policy

2026- 2027

Overview

This document is a statement of the aims, principles and strategies for the teaching and learning of Science at Our Lady of the Rosary Catholic Primary School. It contributes to the school's philosophy of teaching and learning as expressed through the Mission Statement 'Christ at the Centre, children at the heart'.

Intent

Our science curriculum enables pupils to:

- Develop scientific knowledge and conceptual understanding, building on prior knowledge and problem solving.
- Ask questions and investigate scientifically.
- Understand how science affects everyday life, making links with how their learning fits with the world around them including careers.
- Appreciate the role of science in the future of our planet.
- Develop confidence in using scientific vocabulary.
- Meet the National Curriculum expectations in science, developing mastery of concepts and inspiring enthusiasm.
- Enrich their knowledge outside of the classroom and exploring the natural world around them.

Implementation

Science is taught weekly for 60 minutes throughout Key Stages 1 and 2 through a carefully sequenced curriculum that enables pupils to build substantive and disciplinary knowledge over time. Learning is planned to ensure progression in both scientific knowledge and the skills of working scientifically.

Teachers use the BCCET's agreed curriculum and medium-term planning to ensure consistency and progression across year groups. Prior learning is revisited regularly through retrieval activities, questioning and review tasks, enabling pupils to make connections between scientific concepts.

Lessons provide opportunities for pupils to:

- Develop scientific knowledge through direct teaching and practical experiences.
- Use scientific vocabulary accurately and confidently.
- Ask questions and plan investigations.
- Observe, measure, record and analyse results.
- Draw conclusions using evidence.
- Evaluate methods and suggest improvements.

Pupils experience a range of enquiry types, including fair testing, pattern seeking, identifying and classifying, comparative testing, research and observations over time.

Practical work is an integral part of science teaching and is used purposefully to deepen understanding of scientific concepts. Teachers provide opportunities for pupils to work collaboratively, solve problems and apply their knowledge in meaningful contexts.

Assessment is ongoing and informs future teaching. Teachers use questioning, observation, discussion and recorded work to identify misconceptions and adapt learning accordingly. End-of-unit assessments are used to evaluate pupils' understanding and progress against curriculum expectations.

The curriculum is adapted to meet the needs of all learners. Appropriate scaffolds, resources and adult support are provided for pupils with SEND, while challenge opportunities ensure that all pupils can achieve and make progress.

Where appropriate, learning is enriched through educational visits, visitors, outdoor learning and links with STEM initiatives, helping pupils to understand the relevance of science in the wider world.

Impact

The impact of our science curriculum is that pupils develop a secure understanding of scientific concepts and can apply their knowledge and skills confidently across a range of contexts. Pupils demonstrate curiosity about the world around them and are equipped with the scientific knowledge and enquiry skills needed for the next stage of their education.

As a result of effective science teaching, pupils:

- Acquire and retain key scientific knowledge and vocabulary.
- Make clear links between scientific concepts and prior learning.
- Use a range of scientific enquiry skills with increasing independence.
- Ask questions, make predictions and draw conclusions based on evidence.
- Communicate scientific understanding using appropriate terminology.
- Develop resilience, curiosity and critical thinking skills.
- Understand the relevance of science in everyday life and future careers.

The impact of the curriculum is evidenced through:

- Pupil voice demonstrating enthusiasm and confidence in science.
- High-quality work in books and other recorded outcomes.
- Assessment information showing progress and attainment across year groups.
- Lesson visits and learning walks indicating effective teaching and learning.
- Pupils' ability to recall and apply previously taught knowledge.
- Participation in enrichment opportunities, STEM projects and scientific investigations.

Leaders monitor the quality of science education through assessment analysis, pupil discussions, work scrutiny, lesson visits and curriculum reviews. Findings are used to inform school improvement priorities and ensure that all pupils achieve their potential in science.

The science curriculum

Science and the National Curriculum Key Stage 1

The principal focus of science teaching in Key Stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests and finding things out using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical

experiences, but there should also be some use of appropriate secondary sources, such as books, photographs and videos. 'Working scientifically' is described separately in the programme of study but must always be taught through and clearly related to the teaching of substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Lower Key Stage 2

The principal focus of science teaching in lower Key Stage 2 is to enable pupils to broaden their scientific view of the world around them. They should do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. They should ask their own questions about what they observe and make some decisions about which types of scientific enquiry are likely to be the best ways of answering them, including observing changes over time, noticing patterns, grouping and classifying things, carrying out simple fair tests and finding things out using secondary sources of information. They should draw simple conclusions and use some scientific language, first, to talk about and, later, to write about what they have found out. 'Working scientifically' is described separately at the beginning of the programme of study but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read and spell scientific vocabulary correctly and with confidence, using their growing word reading and spelling knowledge.

Upper Key Stage 2

The principal focus of science teaching in upper Key Stage 2 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. They should do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically. At upper Key Stage 2, they should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. They should also begin to recognise that scientific ideas change and develop over time. They should select the most appropriate ways to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out fair tests and finding things out using a wide range of secondary sources of information. Pupils should draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings. 'Working and thinking scientifically' is described separately at the beginning of the programme of study but must always be taught through and clearly related to substantive science content in the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should read, spell and pronounce scientific vocabulary correctly.

Organisation

EYFS

Science in EYFS is covered in the 'Understanding the World - the natural world- area of the EYFS Curriculum. It is introduced indirectly through activities that encourage our children to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. Science in the Early Years also helps children with skills in other areas of learning, such as physical development and expressive arts and design through hands on investigation and observational drawings of the world around them. During the first year at school in reception, our children will explore animals, people, plants and objects in their natural environments. They will observe and manipulate objects and materials to identify differences and similarities. They will also learn to use their senses, exploring the world around them to develop an understanding of the world. They will make lots of observations of animals and plants and explain why some things occur and talk about changes they see. A fundamental part of Understanding of the world is the children's ability to communicate effectively as scientists in order to make sense of the things they see. At Our Lady of the Rosary Catholic Primary School, we believe this key skill is essential to allow our children to progress as young scientists and focussing on the effective use of vocabulary when discussing aspects of the world around them.

Key Stage 1 and Key Stage 2

At Our Lady of the Rosary Catholic Primary School each year group covers National Curriculum objectives specific to their classes during their science teaching. Science is taught as a discrete lesson and as part of cross-curricular themes when appropriate. Science has links with other areas of the curriculum including geography, English, maths, art and design technology. Teachers in Key Stage 1 and 2 use the National Curriculum guidelines to inform medium term planning. Teachers also use a wide range of resources, including the school environment to enhance and enrich the children's learning. Children work at their own level of understanding in science. We aim to ensure that children are given the opportunity to achieve through their experience of science tasks and activities, and always provide the opportunity for our children to work towards higher level tasks.

Assessment

Assessment in science is based upon scientific knowledge and understanding. In reception we assess children's knowledge and understanding according to the Early Learning Goals. In KS1 and KS2 we assess enquiry skills using Teacher Assessment in Primary Science (TAPS) to ensure that children are making appropriate progress. At the start of each science lesson, children are assessed against prior knowledge and at the end of each science topic, children carry out a short quiz to assess their conceptual knowledge. All staff strive to ensure that our children reach their full potential in science and enjoy their experiences. Children with Special Educational Needs will be monitored by our SEND Co-ordinator ensuring that these children follow the National Curriculum Programmes of Study through work schemes that promote the child's development and self-esteem. Multi-Cultural links will be developed wherever possible in the teaching of this National Curriculum subject. We endeavour to include aspects of science within our themed weeks in school so that our children begin to realise the global importance of science.

Assessment should:

- Be formative and summative
- Be used to inform the teacher for future planning

- Promote continuity and progression
- Form the basis for reporting to parents
- Be based on observation, participation and written outcomes

Recording

Children's recording will take many forms according to the nature of the activity:

- Verbal
- Pictorial
- Diagrammatic
- Graphical
- Written
- Symbolic
- I.C.T.
- Photographic

Classroom Organisation

Children will be grouped as appropriate for the task to encourage flexibility:

- Ability groups
- Mixed ability groups
- Mixed ability partners
- Ability partners
- Individuals
- Whole class groups

Monitoring and Evaluation

The quality of science education is monitored and evaluated regularly to ensure that all pupils receive a high-quality, ambitious and inclusive science curriculum. Monitoring activities are used to celebrate strengths, identify areas for development and inform future school improvement priorities.

The Science Subject Leader, in collaboration with senior leaders, monitors the effectiveness of science provision through:

- Lesson visits and learning walks.
- Work scrutiny and review of pupils' outcomes.
- Pupil voice activities.
- Analysis of assessment information and attainment data.
- Review of planning and curriculum coverage.
- Monitoring of teaching and learning resources.
- Staff discussions and professional development reviews.

Monitoring focuses on:

- The implementation of the science curriculum.
- Progression of knowledge, skills and vocabulary.
- The quality of teaching and learning.
- Pupil engagement and attitudes towards science.

- Achievement and progress of all groups of pupils, including those with SEND and disadvantaged pupils.
- Consistency of assessment practices across the academy.

Findings from monitoring activities are used to inform subject action planning, staff training and curriculum development. The science subject leader reports outcomes and recommendations to senior leaders and, where appropriate, governors or trustees.

The impact of the science curriculum is evaluated through evidence that pupils know more, remember more and can apply their scientific knowledge and skills with increasing confidence and independence. Continuous review ensures that science remains a high-profile subject and contributes positively to pupils' academic achievement and personal development.

This policy will be reviewed annually by the Science Subject Leader and Senior Leadership Team to ensure that it remains current, effective and aligned with academy and national expectations.

Inclusion

At Our Lady of the Rosary Catholic Primary School, we are committed to ensuring that all pupils have access to a high-quality science education and are supported to achieve their full potential. We believe that every child should be able to engage with and enjoy science, regardless of their starting points, needs or background.

Teachers adapt learning to ensure that all pupils can access the curriculum and make progress. This may include the use of scaffolding, adapted resources, practical and visual approaches, pre-teaching of vocabulary, adult support and appropriate challenge.

Pupils with Special Educational Needs and Disabilities (SEND) are supported through high-quality adaptive teaching in line with their individual needs and provision plans. Where appropriate, reasonable adjustments are made to enable pupils to participate fully in practical investigations and scientific enquiry.

Disadvantaged pupils are supported through equitable access to resources, enrichment opportunities and high-quality teaching. Teachers maintain high expectations for all pupils and ensure that barriers to learning are identified and addressed.

More able pupils are provided with opportunities to deepen their understanding through greater challenge, independent enquiry and the application of scientific knowledge in unfamiliar contexts.

We promote equality of opportunity and foster an inclusive learning environment in which all pupils feel valued, represented and able to succeed. Science teaching reflects the contributions of a diverse range of scientists and encourages all pupils to see themselves as capable scientists.

Sustainability and Environmental Awareness

We recognise the importance of developing environmentally responsible citizens who understand their role in protecting and improving the natural world. Through the science curriculum, pupils are encouraged to explore environmental issues, consider the impact of human activity on the planet and develop an awareness of sustainable practices.

Pupils are provided with opportunities to learn about:

- Biodiversity and ecosystems.
- Climate change and its impact on the environment.
- Conservation of natural resources.
- Renewable and non-renewable energy sources.
- Waste reduction, recycling and sustainable living.
- The importance of protecting habitats and wildlife.

Where appropriate, environmental themes are embedded within science units and linked to real-world issues. Pupils are encouraged to apply their scientific knowledge to understand current environmental challenges and consider evidence-based solutions.

Resources

Central resources in science are the responsibility of the Science Co-ordinator who has a budget available. Science equipment is audited annually. Consumables are replaced and discussions with staff determine if there are any other pieces of equipment required to enhance the teaching and learning of science. Children are encouraged to value and take care of all equipment. Central resources houses a range of resource books. Books which are pertinent to a particular year group can be found in relevant classrooms. Topic boxes and science related books are borrowed from Durham Learning Resources to supplement learning.

The academy promotes environmental awareness through practical experiences, including outdoor learning, environmental projects, school initiatives and participation in local or national sustainability events. These opportunities help pupils to develop a sense of responsibility for their environment, and an appreciation of the role science plays in creating a sustainable future.

Through the science curriculum, pupils develop the knowledge, skills and values needed to make informed decisions and contribute positively to their communities and the wider world.

The role of the science leader

The science subject leader is responsible for:

- Leading the development of science throughout the academy.
- Monitoring curriculum implementation, progression and standards.
- Supporting colleagues with planning, assessment and subject knowledge.
- Organising and maintaining science resources.
- Keeping up to date with current developments in science education.
- Analysing assessment information and identifying areas for improvement.
- Conducting monitoring activities, including lesson visits, work scrutiny and pupil voice.
- Producing and reviewing the Science Action Plan and contributing to academy improvement priorities.
- Promoting enrichment opportunities, STEM initiatives and wider engagement in science.

Health and safety

We are committed to providing a safe learning environment for all pupils and staff during science lessons and practical activities. All science teaching and investigations are carried out in accordance with the academy's Health and Safety Policy and current guidance from CLEAPSS.

Teachers are responsible for ensuring that practical activities are planned and conducted safely. This includes:

- Following relevant health and safety guidance and risk assessments.
- Ensuring that equipment and materials are used appropriately and for their intended purpose.
- Providing clear instructions and safety expectations to pupils before practical activities.
- Supervising pupils effectively during investigations and practical work.
- Ensuring that any hazards are identified and managed appropriately.

Pupils are taught to work safely and responsibly when carrying out scientific enquiries. They are expected to follow instructions, handle equipment with care and report any concerns immediately to a member of staff.

Where required, risk assessments are completed prior to activities involving specific hazards, equipment or environments. Appropriate control measures are implemented to minimise risk and ensure the safety of all participants.

Science resources are stored securely and maintained regularly to ensure they remain safe and fit for purpose. Any damaged or unsafe equipment is removed from use and reported in line with school policies and procedures.

Educational visits, outdoor learning activities and visiting workshops involving science are subject to the academy's educational visits and risk assessment procedures.

The Science Subject Leader supports staff in accessing appropriate guidance and ensures that science resources and activities comply with current health and safety requirements.

Policy Review

This policy will be reviewed bi-annually or as necessary in view of government or LA initiatives, analysis of assessments or curriculum development.