

Science Policy

St Matthew's Catholic Primary School



Written September 2026

Review September 2027

Vision and Aims

We want every child to be curious about the world, ask questions and recognise that science helps us understand everyday experiences. Pupils explore living things, materials and physical processes through practical experiences, discussion and carefully sequenced teaching. They learn to explain ideas using evidence and accurate scientific vocabulary.

Our aims are to develop secure scientific knowledge, teach pupils how to investigate questions and enable them to apply their understanding to real situations. Lessons connect science to health, the local environment, technology and caring for creation. Pupils encounter scientists from different backgrounds and recognise that science is open to everyone.

Progression in Science

Progression begins in EYFS with noticing, exploring, comparing and talking about the natural world. Children investigate through play and guided experiences, building the language and observational habits that support Year 1 learning. Teachers make these links explicit when introducing new topics.

In Key Stage 1, pupils ask simple questions, observe closely, carry out simple tests, identify and classify, and collect information. In lower Key Stage 2 they develop systematic observation, measurement and comparative or fair testing, recording findings and drawing conclusions. In upper Key Stage 2 they exercise greater independence when selecting methods, controlling variables, using repeated measurements where appropriate and evaluating evidence.

Teachers revisit concepts in greater depth and check prerequisite knowledge before introducing new learning. Progression in vocabulary, scientific knowledge and enquiry skills is planned together. Working scientifically is embedded within topics throughout the year; designated consolidation units supplement this ongoing work.

Curriculum Design and Planning

Our Key Stage 1 and Key Stage 2 science curriculum is based on the National Curriculum for England. EYFS provision is guided by the statutory EYFS framework, particularly Understanding the World. The curriculum map identifies the sequence of topics for Years 1–6 and supports continuity across the school.

We use PLAN primary science documentation, supported and made available through the Association for Science Education (ASE), to inform planning and assessment. Teachers draw on knowledge matrices, working scientifically guidance, vocabulary resources and examples of pupils' work to identify prior learning, key concepts, likely misconceptions and appropriate expectations.

Teachers use the school planning format to identify the knowledge and enquiry skills to be taught, key vocabulary, opportunities for exploration, assessment evidence and adaptations. Planning includes observation over time, identifying and classifying, pattern seeking, comparative and fair testing, and research using secondary sources. Teachers choose an enquiry approach that fits the question.

Teachers liaise with the science subject leader to review coverage and refine next steps. The attached map is read alongside the National Curriculum and detailed unit plans so that topic headings alone do not determine coverage. Seasonal observations, outdoor learning and investigations are timed to support first-hand experience.

EYFS and Key Stage 1 Curriculum Design and Planning

In EYFS, adults provide rich opportunities to explore plants, animals, weather, materials and change. Children use their senses safely, handle suitable resources, notice similarities and differences and explain what they observe. Adults model questions and introduce vocabulary through conversation, stories and practical experiences.

In Key Stage 1, pupils build on these experiences through structured exploration and simple investigations. They use real objects, pictures, sorting, drawing and talk to communicate ideas. Examples include observing seasonal changes, growing plants, identifying animals and comparing materials used for familiar objects. Teachers support children to move from describing what they notice to giving simple explanations.

Key Stage 2 Curriculum Design and Planning

Key Stage 2 teaching deepens knowledge in biology, chemistry and physics and develops increasingly independent enquiry. Pupils apply prior learning, measure with suitable equipment, record results in appropriate forms and explain conclusions. They discuss how reliable evidence is and how investigations could be improved.

Real-world contexts include digestion and dental health, habitats and environmental change, electrical devices, sound, forces, material properties and space. Teachers distinguish evidence from opinion and help pupils use scientific explanations accurately. Research activities include evaluating age-appropriate sources and learning how scientists have developed ideas over time.

Strong Foundations in Science

Secure foundations depend on practical experience, explicit vocabulary teaching and repeated opportunities to retrieve and apply learning. Teachers use manageable steps, demonstrations, clear explanations and discussion to address misconceptions before these become barriers to later learning.

Pupils practise observation, comparison, questioning and explaining throughout the curriculum. Links to mathematics support measurement and interpretation of data; links to English support speaking, reading and communicating findings. These connections strengthen scientific understanding while keeping the science learning clear.

Teaching and Learning the St Matthew's Way

Lessons begin by checking relevant prior knowledge and introducing the learning intention and vocabulary. Teachers model new ideas and enquiry skills, check understanding and provide guided practice before pupils apply learning with increasing independence. Talk partners, oral rehearsal, sentence stems, demonstrations and visual resources help pupils explain their thinking. Feedback informs the next stage of learning.

Exploration is purposeful: pupils handle resources, investigate questions and connect observations to the concept being taught. Teachers use familiar contexts, outdoor spaces and real-life problems to show how science matters beyond the classroom. Practical work includes clear roles and expectations for sharing equipment and recording evidence.

We use the Discovery Dog format to plan scientific investigations. Teachers use it to support pupils in identifying the problem or question, discussing what they think may happen, deciding how to investigate, selecting resources and recording what they find. Pupils review their evidence

and explain what it suggests. Support is adapted to pupils' age and experience, with greater independence and attention to variables in Key Stage 2.

Before practical activities, teachers assess risks and establish safe routines. Equipment, plants and substances are selected carefully; pupils are taught safe handling, hygiene and responsible outdoor behaviour. Electrical investigations use suitable low-voltage school equipment. Teachers follow school health and safety procedures and relevant current guidance.

Inclusion and Adaptation

All pupils access ambitious science learning, including pupils with SEND, pupils learning English as an additional language and those who need further challenge. Teachers adapt access through visual instructions, vocabulary rehearsal, concrete resources, accessible equipment, smaller steps and additional modelling.

Pupils may demonstrate scientific understanding through talk, photographs, drawings, practical demonstrations or supported recording. Difficulties with reading or writing should not obscure what a child understands in science. Adults support participation while enabling pupils to make decisions and demonstrate learning as independently as possible. Challenge develops deeper explanations, application and evaluation.

Assessment and Responsive Teaching

Teachers assess scientific knowledge and working scientifically through questioning, observation, discussion, retrieval activities and pupils' outcomes. They plan opportunities to see what pupils can do independently and use findings to revisit misconceptions, provide consolidation and extend understanding.

We use science exemplification and criteria within PLAN and ASE resources to support consistent judgements. Knowledge examples and working scientifically examples help teachers recognise secure understanding and compare evidence with the relevant expectations. The underlying assessment expectations are those of the National Curriculum; exemplification supports professional judgement.

Teachers review evidence across a topic and over time, rather than relying on a single written task or the appearance of a book. Moderation uses agreed criteria and exemplification to discuss the quality of pupils' explanations, practical skills and application. Assessment information informs subsequent planning and transition between classes.

Personal Development and Building the Kingdom

As a Catholic school, we connect science with respect for life, stewardship of creation and responsibility for our shared world. Pupils explore ways to care for habitats, use resources responsibly and make informed choices about health and the environment.

Collaborative investigations develop patience, honesty about evidence, respectful listening and perseverance. Pupils consider how scientific knowledge can serve others and encounter diverse role models. Teachers encourage participation and ensure enrichment opportunities include pupils who may otherwise face barriers.

Leadership Monitoring and Review

The science subject leader supports teachers with planning, subject knowledge, assessment and resources. Allocated leadership time enables planning reviews, learning walks, book monitoring,

pupil discussions and coaching or team teaching. Monitoring considers practical enquiry and pupil understanding alongside written work.

The subject leader reviews progression, curriculum coverage, working scientifically and inclusion, identifies priorities and shares effective practice through staff meetings and CPD. Leaders review standards and provision with senior leaders and report relevant developments to governors. This policy and the curriculum map are reviewed annually, or sooner where changes are needed.

Working with Families

We share science learning and curriculum information with families and encourage children to talk about discoveries at home. Suggested activities use accessible everyday experiences, such as noticing seasonal changes, discussing materials or observing plant growth. Families are encouraged to support curiosity and discussion.

Homework

School does not currently ask children to complete formal homework each week. We do however, signpost children to science activities in local museums etc. Children are also encouraged to take part in whole school events such as the St Matthew's Science Fair and science competitions at local secondary schools. This may require additional research and homework.

Related Guidance

Department for Education National Curriculum in England science programmes of study:
<https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study>

Statutory framework for the Early Years Foundation Stage and current school policies for curriculum, assessment, SEND, safeguarding and health and safety.

Association for Science Education primary science assessment PLAN:
<https://www.ase.org.uk/primary-science-assessment-plan>

PLAN knowledge matrices, working scientifically resources and exemplification:
<https://www.planassessment.com/teacher>

Discovery Dog investigation planning materials used by the school. Appendix 1 reproduces the supplied Science Curriculum Overview for Years 1–6.

Appendix 1 Science Curriculum Map



St Matthew's Catholic Primary School Science Curriculum Map



Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	Animals Including Humans-Ourselves Children will learn to identify, name and label basic parts of the human body. They will learn the basic functions of such body parts.	Living Things and their Habitats Pupils identify things that are living, dead, and things that have never been alive. They learn about habitats and basic food chains.	Animals Including Humans Pupils learn to identify that animals, need the right types and amount of nutrition which comes from what they eat. They also identify that humans and some other animals have skeletons and muscles for support, protection and movement	Animals Including Humans Pupils describe the simple functions of the basic parts of the digestive system in humans They explore further by identifying the different types of teeth in humans and their simple functions They work scientifically by: comparing the teeth of carnivores and herbivores and suggesting reasons for differences; finding out what damages teeth and how to look after them.	Earth and Space Pupils find out about the work of scientists including Copernicus and how they influenced our knowledge of the solar system. Pupils also learn about the solar system, sun and moon.	Animals Including Humans Pupils learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body. Additionally, pupils learn how the circulatory system enables the body to function
Autumn 2	Seasons (Autumn) Pupils observe and talk about changes in the weather in Autumn. They learn how to investigate weather in Autumn and length of day during this season. They will make observations about plant, flowers, trees and habitats around them.	Animals Including Humans-Healthy Animals Pupils will be introduced to the basic needs of animals for survival, as well as the importance of exercise and nutrition for humans. They will also notice that animals have offspring that grow into adults.	Rocks and Fossils Pupils explore different kinds of rocks and soils, including those in the local environment based on their appearance and properties. They also learn how fossils are formed when things that have lived are trapped within rock	Living Things and Their Habitats Pupils group living things in a variety of ways and explore and use classification keys to help group. Additionally, they recognise that environments can change and that this can sometimes pose dangers to living things	Forces Pupils explore and investigate the impact that forces such as: gravity, air resistance, water resistance and friction have upon the speed and movement of objects. They work practically by investigating the effects of levers, pulleys and simple machines on movement.	Evolution and Inheritance Pupils find out more about how living things on earth have changed over time. They are introduced to the idea that characteristics are passed from parents to their offspring. They also learn that variation in offspring over time can make animals more or less able to survive in particular environments,

Spring 1	Seasons (Winter) Pupils build on their learning from the Autumn Term about seasons. They begin to explore the changes in weather and day length as we move into the winter months and observe the differences in the living things around them.	Everyday Materials- Pupils will build upon their knowledge of materials from Year 1. They will investigate the impact of forces such as: bending, stretching and squeezing have upon such materials.	Forces and Magnets Pupils in this unit explore the everyday uses of magnets in the world around us. They work scientifically by exploring how magnets behave including their strength, how they behave to attract and repel one another and work with a range of magnets such as: bar, ring and horseshoe.	Electricity Pupils work in groups to construct simple series circuits, trying different components, including: bulbs, buzzers and motors, and including switches, and use their circuits to create simple devices	Forces (continued) Pupils continue to explore practically forces from Autumn Term. They will continue to develop their key scientifically skills, collaboration and science roles.	Electricity Building on their work in year 4, pupils construct simple series circuits, to help them to answer questions about the impact on different components. They learn here how to represent circuits in a diagram using recognised symbols
Spring 2	Seasons(Spring) Pupils continue to observe changes across the season by investigating weather, temperature and day length in spring. Additional observations are based around living things and habitats during this season Animals Including Humans Pupils will identify, name and learn the basic structure of common animals including fish, amphibians, reptiles, birds and mammals Children will also learn to identify basic animals including animals that are herbivore, carnivores or omnivores.	Everyday Materials-Continued Pupils will build upon their knowledge of materials from Spring 1. This topic will further develop with working scientifically skills, scientific group roles and working collaboratively.	Light Recognise that they need light in order to see things and that light is reflected from surfaces. They will also learn how to investigate how shadows are formed and how to change the size of shadows.	States of Matter Pupils compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Materials- Reversible and Irreversible Pupils explore reversible changes; including evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils explore changes that are difficult to reverse, They also research products created by scientists in the field of chemistry.	Light Pupils build upon their knowledge in year 3. They learn how light travels and behaves and how our eyes function so that we can see objects in the presence of light.

Summer 1	Uses of Everyday Materials Pupils consolidate their learning from the previous topic by testing the suitability of materials for a purpose such as: what material would make the best raincoat?	Working Scientifically and Inspirational Scientists from Year 1 and 2 Children will use this time to consolidate any prior learning from Key stage 1 by looking at inspirational scientists who have shaped our knowledge and understanding in the topics taught in Year 1 and 2.	Plants Pupils will build upon their learning in year 1 and 2 here. Pupils will develop further by learning about the functions of parts of flowering plants. They will learn about water transportation in plants and learn how to grow a wider variety of plants, fruit and vegetables.	States of Matter (continued) Children will continue to build upon their knowledge of states of matter from Spring 2. They will continue to develop their key scientifically skills, collaboration and science roles.	Materials- Properties and Testing Pupils build upon their knowledge of materials in Key stage 1 by exploring and comparing the properties of a broad range of materials including those that are conductors and have magnetic properties.	Living Things and Their Habitats Pupils build on their learning about grouping living things by looking at the classification system in more detail including broad groupings, such as micro-organisms, plants and animals can be subdivided. They learn about the pioneering work of Carl Linnaeus
Summer 2	Seasons (Summer) Children observe temperature, day length and weather in summer and compare these observations with those from the autumn, winter and spring including changes in habitats and living things such as plants, flowers and trees. Plants Children will begin to explore the structure of plants and flowers and use their observation and classification skills to compare and contrast these. Pupils will also learn common wild and garden plants including those that are deciduous and evergreen.	Plants- Growth and Care Pupils build upon their learning from earlier on in the year. Pupils will have a greater chance to see how the plants and flowers have grown and matured and harvest any food that they planted in spring.	Working as Scientists Children will develop some further understanding of working scientifically. They will research key scientists in the areas that they have learnt so far and doing some STEM challenges during this unit.	Sound Pupils identify how sounds are made, find patterns between the pitch of a sound and volume and the strength of the vibrations that produced it. They investigate how sounds get fainter as the distance from the sound source increase	Living Things and their Habitats Pupils work scientifically by: observing and comparing the life cycles of plants and animals in their local environment. They also learn about types of sexual and asexual reproduction in plants, and sexual reproduction in animals.	.Working Scientifically and Inspirational Scientists from Key stage 2 Children will use this time to consolidate any prior learning from Key stage 2 by looking at inspirational scientists who have shaped our knowledge and understanding in the topics taught in lower and upper key stage 2.