Science Policy

Our School Vision

At Merton Abbey Primary School our vision is to provide a science curriculum which enables pupils to explore and discover the world around them, so that they have a deeper understanding of the world we live in. We accomplish this through exciting, practical, hands on experiences, which encourage curiosity and foster learning.

Rationale for Science

"Every kid starts out as a natural-born scientist." - Carl Sagan

"Science is simply the word we use to describe a method of organising our curiosity." - Tim Minchin

Science's development over time has changed people's lives and is vital to the world's future prosperity. Therefore, as part of a broad and well balance curriculum, all pupils should be taught the essential aspects of the knowledge, methods, processes and uses of science.

Intent (what is meant to be learnt and what do we aspire for our children)

The 2014 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 skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this

At Merton Abbey, our school's motto is "Working hard and caring for each other," and this is reflected in how we teach science to our students.
We recognise the importance of science in every aspect of daily life and we encourage children to be inquisitive throughout their time at the school and beyond. We all champion primary science and our intent is to make sure that every child has a positive, memorable and first-hand experience of science throughout their primary school education. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group. We will ensure that the working scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, building arguments and explaining concepts confidently. We will encourage them to continue asking questions and to be curious about the world around them. At Merton Abbey Primary School we are committed to high quality teaching, learning and education in science which ultimately arises from our inspiring science curriculum. We aim to inspire our children to explore the opportunities of science and to see themselves as capable problem-solvers and creative thinkers. Who knows, perhaps some of the learners from Merton Abbey Primary School today will use their passion to solve problems that will continue to change the world for the better in the days to come?

Implementation (how we teach our curriculum)

At Merton Abbey Primary School, teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following:

- Science is taught as a separate subject in planned and arranged topic blocks by the class teacher.
- The curriculum covers all major areas of science, including biology, chemistry, physics and earth science.
- Each new unit of work begins with a recap of the previous related knowledge from previous years. This helps children to retrieve what they have learnt in the earlier sequence of the programme of study. Key vocabulary for the new topic is also introduced and means that children are able to understand the new vocabulary when it is used in teaching and learning activities and apply it themselves when they approach their work.

- Within all lessons, teachers plan a phase of progressive questioning to promote active participation and engagement in the learning process.

- Through our planning, we involve problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom.

- Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Tasks are selected and designed to provide appropriate challenge to all learners, in line with the school's commitment to inclusion.

- At Merton Abbey Primary School, we build upon the knowledge and skill development of the previous years. As the children's knowledge and understanding increases, they become more skilful in selecting, using scientific equipment, gathering and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.

- Teachers demonstrate how to use scientific equipment, and the various working scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning.

- Children are offered a range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum.

- Regular events, such as British Science Week or Family Gardening allow all pupils to come off-timetable, to provide broader provision on developing students' creativity and application of knowledge and skills. These events often involve families and the wider community.

- At the end of each topic, key knowledge is reviewed by the children and checked by the teacher. This process helps to ensure that the children have a good understanding of the key concepts and information covered in the topic.

Impact

At Merton Abbey Primary School, through our rich and broad curriculum we are enabling children to gain the knowledge, skills and understanding they need for their future. The approach at Merton Abbey Primary School results in a fun, engaging science education that provides children with the foundations and knowledge for understanding the world. Children will know more, remember more and understand more about the curriculum. Children retain prior-learning and explicitly make connections between what they have previously learned and what they are currently learning.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills
- A richer vocabulary which will enable them to articulate their understanding of taught concepts
- Confidence and a joy of learning science

Our curriculum design will lead to good progress for all pupils, regardless of their starting points. Planned learning will progressively build on prior knowledge and understanding and support children in producing outcomes of the high quality. The impact of the curriculum design will lead to progress over time at all key stages. Children will learn the possibilities for careers in science, as a result of inviting experts working in STEM roles. From this exposure to a range of different scientists from various backgrounds, all children will feel they are scientists and capable of achieving. Children will leave school at least achieving Age Related Expectations. Children will be confident, resilient, self-motivated, independent learners, with a thirst for challenge and depth of understanding of scientific skills and concepts.

Assessment

Children's existing knowledge of the topic and the key related knowledge from previous year groups are checked at the beginning of each unit. Their knowledge and skills are continually assessed and developed by the teacher during the lesson, in accordance with the lesson's success criteria. The children receive effective feedback through teacher assessment, both orally and through written feedback in line with the success criteria. The success criteria are used to identify areas of difficulty for children and teachers when reviewing and assessing work. Ongoing assessment also includes:

- Observing children at work, individually, in pairs, in a group, and in classes.
- Questioning, talking, and listening to children.
- Considering work/materials/investigations produced by children together with a discussion about this with them, retrieval questions, and end-of-unit tests or quizzes.

EYFS

The teaching of science in EYFS is in accordance with the EYFS national framework. Children are guided to make sense of their physical world and community through opportunities to explore, observe and find out about people, places, technology and the environment. They are assessed according to the Development Matters attainment targets.

Understanding the World: Describe the immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps.

The Natural World: Explore the natural world around them, making observations and drawing pictures of animals and plants. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons.

KS1 and KS2

In Key Stage 1 and Key Stage 2 Science is taught by the Class Teachers. This ensures that the quality of Science teaching throughout these Key Stages remains consistent. Science is taught every week for 1 hour with additional sessions being taught where and when possible. Science is taught in planned and arranged topics. Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and are given opportunities to use their scientific skills and research to discover the answers.

The heart of Science teaching at Merton Abbey Primary School is our commitment to practical, explorative and investigative learning. We believe in a hands-on approach where children learn by doing it for themselves. This approach encourages our children to build resilience and become creative, critical thinkers. Our teaching and learning support our curriculum by ensuring that lessons build on prior learning and provide opportunities for guided and independent practice.

Links:

Science Curriculum

Science Progression in Disciplinary knowledge

Curriculum map

This policy will be reviewed in full on an annual basis.

This policy was reviewed and updated in November 2025

Next review date: November 2026

Member of staff responsible for monitoring and reviewing the policy: Monika Brown