Science

intent, implementation, impact

intent

Academic: We aim for every child to actively participate in science whether this be in a classroom environment or at home. Children should be enthused by our science curriculum and link the work that is done in school with the wider world.

With children coming from a range of backgrounds we aim to make science a career that our children can and will pursue by giving the curriculum real-life context. We believe that children should be at the heart of how a unit of work is delivered and each teacher is given the capability to teach science effectively through our Career Professional Development (CPD) sessions.

Each child will be given the opportunity to predict outcomes and articulate a hypothesis both verbally and in written form. They will be encouraged to share their reasoning and justify their thinking.
Children will not only study the practicalities of modern science but also explore its history and recognise the efforts of the pioneers that helped change the face of the modern world.

Written work will be purposeful and teach the children to value the importance of meticulous planning, conducting methods as well as analysing and evaluating the outcomes and results.

intent

Children will be given the opportunity to link acquired knowledge to their everyday lives. They will have the capability to explain why we have day and night, why poles on magnets attract and repel and give descriptions of the functions of a plant.

Social: The aim is to give children the tools to be confident young scientists. They will be able to use appropriate scientific vocabulary in context and share their ideas with others.
They will develop social skills through teamwork and collaboration and be able to accept different roles within group situations. Experiments and investigations will be sufficiently challenging so as not to produce simple foregone conclusions but rather promote investigative thought.

Pupils will be able to engage with real life scientists through arranged visits to school who can share their experiences and help promote engagement in the subject and potential future careers. STEM provide free visitations to schools and this has proved successful in the past.

implementation

At St Michael's, we teach scientific knowledge and enquiry together. Across Key Stage 2, pupils build on what they already know as they learn to ask questions, make predictions, record observations and use evidence to explain their findings.

Scientific vocabulary is taught explicitly and revisited throughout each unit. Teachers model how to use new terms accurately, and pupils practise using them in discussion, practical work and written explanations. Staff development has focused on strengthening vocabulary teaching and improving the quality of written work, so pupils can communicate their scientific thinking with increasing precision.

Teachers use Explorify activities to spark discussion and find out what pupils already understand. A photograph or a short 'odd one out' activity, for example, can prompt pupils to look closely, compare features and explain their reasoning. These discussions help teachers spot misconceptions and give pupils a chance to use scientific vocabulary in context.

We also look for opportunities to connect classroom learning with science beyond school. A previous visit from a STEM Ambassador who worked in engineering gave older pupils an insight into how science is used to solve practical problems and introduced them to a career they might consider in the future.

impact

At St Michael's, we assess what pupils know about science and how well they use that knowledge to investigate questions and explain what they find. As pupils move through Key Stage 2, we look for more precise use of scientific vocabulary, greater independence in practical work and explanations that draw on evidence.

Teachers check understanding throughout lessons by listening to pupils' explanations, observing practical work and reviewing written responses. For example, when separating mixtures, a pupil might demonstrate how to use a sieve and explain why it works for that mixture. These checks help teachers identify misconceptions, give timely feedback and decide when pupils need further practice or are ready for more challenge.

The science subject leaders regularly review pupils' books across year groups to see how knowledge and enquiry skills develop over time. Year-group teams use meeting time to discuss what pupils have understood, identify common misconceptions and plan what to revisit. Together, these reviews help leaders see how consistently the curriculum is being taught and where further support would improve pupils' learning.

Professional development helps staff strengthen their science teaching and assessment. Training for all teaching staff provides a shared approach to teaching scientific vocabulary, developing written explanations and recognising what pupils can do in practical work. Staff also share examples from their classrooms and discuss how to use pupils' responses to plan the next steps in learning.