Science at St. Margaret's
Intent, Implementation & Impact

Everyone is valued. Everyone is motivated. Everyone is achieved.

Intent: We aim to grow scientists

Our Vision for science

"We aim to develop children's understanding, enjoyment, and interest in science so that they understand the impact science has on our lives and the world in which we live. We encourage children to be inquisitive learners and inspire future budding scientists."

Our teachers aim to nurture a love for the natural world and excitement for future possibilities in science, as well as providing opportunities for pupils to investigate and respond creatively in their learning. We try to harness their natural excitement and curiosity and inspire them to pursue scientific enquiry, both now and in the future.

Scientific enquiry should create exciting and memorable learning and stimulate interest in science. It builds reasoning and problem solving. Key components: observation, pattern seeking, identifying, classifying and grouping, comparative and fair testing and research. We combine scientific enquiry with acquiring knowledge and working scientifically skills. This enables our pupils to develop a good understanding of science and the world around them.

Implementation

We use the 'New primary Curriculum for Science 2014' as a basis for implementing the programmes of study for the subject. Teacher have access to the ASE PLAN resources and the Snap Science scheme of work to aid their planning. We ensure all children are exposed to high-quality science teaching and a range of learning experiences. Science teaching is carefully sequenced to ensure a clear progression of substantive knowledge and disciplinary knowledge. Teachers understand where each scientific topic fits in each year and how it fits in across the school, assessing learning carefully so that pupils' learning progresses well. We use assessment for learning to ensure pupils are on track and to diagnose areas of learning that needs strengthening.

We teach science discreetly each week or as part of a topic that encompasses other subjects, where relevant links help us to deliver learning in a holistic and sustainable way. Our long-term plan sets out the units to be taught in each year group to ensure that the requirements of the National Curriculum are met. Our science progression map shows the key knowledge and skills that our children should acquire each year in a clear sequence of learning that builds across Key Stage 2.

*Please also see our Vision and Principles documents

Occasional science days/weeks provide opportunities for children to immerse themselves in and practise their learning. Scientific trips and visits also play a key part in experiential learning, giving the children opportunities to learn concepts in a scientific setting with specialist equipment and resources.
Each class has a Science Ambassador who assists the science leader by providing pupil voice. They attend half-termly meetings to give feedback from classes, discuss their learning and experiences and plan for science enrichment.

Impact

Teachers plan regular opportunities for pupils to check how well they are learning what they have been taught (for example, through Flashbacks, low-stakes quizzing, vocabulary checks, concept cartoons, Explorify tasks). This ensures that misconceptions are quickly addressed and informs the teacher in planning next steps in learning, making adjustments as required.

Teachers assess pupils against the NC statutory statements for science on Assessment Trackers in line with the school assessment policy. ASE PLAN documents are used to support teacher assessment of pupils' learning with exemplifications of every topic in each year group. Working scientifically skills are woven into lessons and PSTT TAPS assessment activities are used to formally assess these skills.

The successful approach to the teaching of science will result in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world they live in and the acquisition of knowledge and skills needed as they progress to Key Stage 3.

We measure, assess and monitor the impact of the curriculum through the following:

- Formative assessment used to diagnose and address learning gaps
- End of block formative assessments & end of Key Stage summative teacher assessment
- Assessment/Outcomes – Attainment against expected outcomes during the year
- Assessment/Outcomes – Progress made from individual starting points
- Analysis of assessment, diagnosing knowledge and learning gaps
- Monitoring – of books and outcomes to check curriculum delivery, quality learning and pupil understanding
- Monitoring – Learning walks to check learning is delivered effectively
- Monitoring – subject leads reflect and analyse effectiveness of curriculum teaching and learning
- Monitoring – subject leads check that the curriculum meets the needs of all pupils through quality teaching, with tailored support and intervention where appropriate
- Science Ambassadors' meetings to maintain & raise the profile of the subject
- Monitoring of pupil voice to check pupils have retained knowledge/skills
- Children should have acquired key vocabulary and concepts/knowledge
- Pupil self-evaluation
- Reflective staff feedback, joint staff sessions and questionnaires inform CPD to maintain and enhance teacher expertise

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