



Curriculum Science

Intent

At the Minster Juniors, science is inclusive to every child. Our aims are to fulfil the requirements of the National Curriculum for science; providing a broad, balanced and differentiated curriculum; ensuring the progressive development of knowledge, concepts, essential skills and vocabulary and for all pupils to develop a love of science.

We follow the 'Education People' scheme for Primary Science. The scheme works for our teachers because it supports the provision of excellent learning opportunities for science by providing long term planning in line with the guidance from the National Curriculum. Regular discourse between teachers and the subject lead ensures science expectations are regularly reviewed and bespoke resources and excursions are always sought after to ensure pupils are given first quality teaching.

In accordance with the guidance in the National Curriculum, the sequence of knowledge and concepts in our lessons clearly indicate progression from Years 3-6. (See science rationale)

When it comes to reading, the staff are role models and foster a love of reading. Pupils have a broad and balanced range of books read to them across the year. When studying each topic pupils are opened up to the scientists who are working, or have worked, in that particular area of science. There are a range of science books, articles and websites on display on the class science-working wall. The vocabulary pupils will need for that topic are identified in each unit and this builds upon the vocabulary they have learnt in earlier years. This helps pupils to become familiar with, and use, technical terminology accurately and precisely. Pupils are also encouraged and specifically invited (Higher Attainers, PPG and SEND) to attend Science Enrichment workshops that are held weekly.

We also encourage pupils to research key scientists when studying each new topic through our whole school approach to Home Learning, which are engaging practical activities for pupils to complete with their families. Every pupil has access to 'the Amazing People' platform, which links to our curriculum values, PSHE objectives and school vision. This encourages pupils to ask authentic questions about the world and demonstrates how they can think scientifically and encourages families to engage with scientific activities themselves at home.

Implementation

The science subject lead is responsible for the curriculum design, delivery and impact in this subject. This includes regularly meeting with year group teams to review and quality assure the subject planning and teaching. As well as ensuring that science is being implemented successfully and that coverage and breadth and balance is secure. To ensure high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school. Every unit of work has a section designed to provide teachers with a good understanding of the knowledge and concepts that will be covered within that unit. (See science rationale)

Science lessons are taught in discrete lessons for a minimum of one hour per week. We ensure that teachers have the same expectations during science lessons that they would have when teaching English or Mathematics and that any mathematical task (such as measuring or drawing graphs) is pitched at an age-appropriate level to ensure sufficient challenge. It is vital that any mathematical or English barriers should not impede a pupil's scientific learning, thus meaning dialogic learning is a central part to our science teaching.

Special Educational Needs Disability (SEND) / Pupil Premium / Higher Attainers

Before planning a unit of work, teachers assess pupil's prior knowledge and understanding to ensure work is pitched at the correct level (Rising Stars Diagnostic tests). A variety of adapted teaching approaches and activities are then used based on the teacher's judgement. Teaching key subject specific vocabulary is also an essential part of our science curriculum.

'Let us be concerned for one another, to help one another to show love and do good.' Hebrews 10: 24-26

Science provides excellent opportunities to enhance the learning of more able pupils through a full range of practical scientific enquiries, asking open ended questions, drama, deep thinking time, problem solving in various contexts and analysing results and drawing conclusions based on scientific findings. Consideration has been given to not just how pupils will record, but also the reason for recording in each of the different instances.

We provide a variety of opportunities for science learning inside and outside the classroom. Learning outside of the classroom is an essential part to learning science. It is essential children observe and immerse themselves in their local environment to apply their learning practically to real-life situations and we use the local parks and nearby river Wandle.

Impact

As a staff, we aim to inspire in pupils a curiosity and fascination about the natural and man-made world through scientific enquiry and a respect for the environment that will remain with them for the rest of their lives within their home and working life. This includes the lessons they complete in the classroom but also the other experiences they are offered, such as educational visits, enrichment workshops and competitions.

Within science, we strive to create a supportive and collaborative ethos for learning by providing opportunities for pupils to question and investigate so they discover answers for themselves and take their learning in a direction they are interested in.

We measure the impact of our curriculum through the following methods during mid-way and end-way points:

- Assessing pupil's understanding of topic linked vocabulary before and after the unit is taught (Science vocabulary is part of lesson retrieval quizzes)
- Live Feedback
- Using dialogic learning tasks to assess children's understanding
- Summative assessment of pupil discussions about their learning
- Images and videos of the pupil's practical learning
- Interviews with pupils about their learning (pupil voice)
- Moderation in staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand their class's work
- Moderation of pupil's work and test results at the end of Year 6

The science subject lead will continually monitor the impact of science teaching on pupil's learning through book scrutinies to ensure the progress of knowledge and scientific enquiry skills are taught. She will also ensure the knowledge taught is retained by the pupils and continually revisited and that the learners are able to apply the skills they have been taught to a variety of different settings, showing independence within their learning.

Within Science, the Impact on all Pupils including SEND, EAL, Pupil Premium, Higher Attainers is:

- Levels of achievement are secure and lead to greater depth
- Pupils exhibit very positive attitudes towards science
- Pupils have a good understanding across all the sciences
- Pupils acquire a wider science vocabulary and understanding of the key scientists throughout history
- Pupils develop their reading in Science and this supports their acquisition of knowledge
- Pupils research science topics for pleasure both at home and school on a regular basis
- Through science pupils develop culturally, emotionally, intellectually, socially and spiritually; they ask the 'Big Idea' questions
- Pupils make secure progress across KS2
- Pupils have fun and enjoy working scientifically
- Pupils ask the Big questions that will lead to their natural wonder throughout their lives

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