INTENT: Safe, Happy, Challenged, Memories Made

Our curriculum: Knowledge and understanding.

The National Curriculum defines Working Scientifically as the understanding of the nature, process, and methods of science. Since we want the children to work scientifically through raising and then answering their questions. Our curriculum is taught through the working scientifically statements for primary schools. We have made our SOW cards based on this.

Impact: Teaching develops pupils' understanding of the world, nurture their curiosity and teach essential skills, including enquiry, observation, prediction, analysis, reasoning and explanation.

Visitors

As a school, we value and encourage visitors. We have science shows and animal groups coming into school regularly. In KS1 classrooms we have butterfly larvae, and Chick/duck eggs in the classroom so we can watch them complete their life cycles. This gives the children the opportunity to see firsthand how animals grow. In KS2 children visit a variety of museums and outdoor areas that fit within their units.

Impact: Through this interactive learning, children are engaged and excited. It leads to questioning, debates, and discussions with their peer's staff and visitors. It enhances and fosters a wider understanding of the world around them.

Questioning

Varied questioning techniques are used to ensure that all children are challenged in every lesson, developing their mastery of science. Teachers and support staff use open and closed questions, targeted questioning and a variety of feedback opportunities. Children also question each other and build on one another's contributions. Our enquiries start with a question.

Impact: All children access learning and can benefit from questions pitched to challenge them individually.

Museum Visits:

Staff make good use of museums across London to help make Science an interactive and interesting subject. Workshops are booked (eg; feel the force, wonderland, 3 little pigs, etc.)
Museums used include; The Science Museum, Natural History Museum, the London Museum of Docklands.

Impact: Museums offer connections to Science that can easily be overlooked in the classrooms. They give the children opportunities to compare and contrast what is important for them, which leads to higher critical thinking skills. Visiting a museum opens the door for our children's curiosity in the form of questions. Research has shown that most children report that museum and gallery visits improved their knowledge and understanding of the subject. Children's understanding and thinking skills improve in this subject.

Science

"Science is exciting, you might find out something that no one else has yet!" Year 5 child.

Assessment

Learning reflection sheets are used to assess each lesson. Class teachers use these to inform their subsequent lessons and provide specific support to children as needed. These are used towards supporting teachers final judgements when a stage is decided on for each child at the end of a unit. Assessment is also carried out through teacher questioning and Head start tests are taken at the end of each year groups science unit. All of these are used to support teacher judgements.

Impact: The reflection sheets allow staff to note any areas and children of concern for support; these can then be planned into the next sessions and children can be identified to be focused on by either the class teacher/TA or the phase support with added support through questioning and resources. All relevant teachers have good knowledge of the needs of their pupils.

Science Scheme of Work

Our Science Sow of work is our own. Each unit has its own card. Each card contains information on the prior learning that should have taken place in previous years, NC objectives, Key skills and knowledge to teach through scientific enquiries. Enquiry questions, Significant Scientists, Key Vocabulary, writing opportunities, weblinks, CPD unit on Reachout Science and suggested learning goals are included on each card.

Impact: Teachers will have a good understanding of the prior learning that should have taken place in previous units of the subject being covered. Teachers will know the significant scientists within this subject area and who to cover while teaching the unit. Teaching through enquiry questions allows the children to investigate, research and use higher thinking skills. The link to writing opportunities allows for cross-curricular links to be made.

William Davies

Together we achieve more

Our science curriculum develops children's knowledge and teaches methods, processes and vocabulary to understand and question the world around them. Through investigations and research, they develop a sense of excitement and curiosity about the natural world. They learn that science explains what is occurring, predicts how things will behave and analyses causes.

Mixed-attaining pairs

Children's partners are regularly changed, with children working in mixed-attaining pairs, carefully selected by teachers. They are given opportunities to share their thinking with their partner and work collaboratively throughout the lesson.

Impact: Children are able to discuss with peers before sharing with the rest of the class so that they have time to develop their own thinking and build on that of their partners to further deepen their understanding and justification skills.

Science Capital

Children are encouraged to engage with Science through thought-provoking experiments to develop their understanding of the influence and impact of science in the world that we live in. We hold a stem day once a year.

Impact: Children build cultural capital, which enables them to engage confidently and knowledgeably with the world around them, as well as aspire to future roles in STEM.

Science Vocabulary

Specific and explicit teaching of carefully chosen vocabulary for science helps to broaden and enrich children's vocabulary. There is a vocabulary list on our curriculum hub that is checked and updated for each year group,as well as on each SOW Card .

Impact: Increased vocabulary enables greater understanding (comprehension) of concepts and improves understanding of the topic.

CPD

Teachers have been introduced to Reach out CPD run by Imperial College London allowing them to build on their subject knowledge before they teach each unit. Staff have also been told about the Explorify website and Switched on science to help with their delivery of this subject. The SOW cards contain information about which Reachout CPD to do, plus other links.

Impact: Teachers take confidence in their teaching of Science, thus raising standards.