



Intent

At St Edmund's, our curriculum has been developed by staff to ensure full coverage of the National Curriculum. Teachers ensure that all children are exposed to high quality teaching and learning experiences. Teachers plan learning sequences which give every child a broad and balanced science curriculum which enables them to confidently explore and discover the world around them.

We want our children to develop a wide scientific vocabulary. They will be encouraged to ask questions and work scientifically to further their conceptual understanding and scientific knowledge. Throughout our school, children will work scientifically by raising questions, researching scientific concepts and making their own observations. Our science lessons will hook the children's interest, enabling them to develop a sense of excitement and curiosity about natural phenomena.

Children will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave and analyse causes. We will use the natural areas within our school grounds and locality to build on children's curiosity and sense of awe. We encourage children to explore the natural world and to extend their learning outside of the classroom. We want our children to enjoy science and achieve well within this subject area.

Implementation

The teachers at St Edmund's model positive attitudes towards science learning within their classrooms, allowing all children to achieve within this subject. In our science lessons, we give children the opportunity to explore their understanding whilst challenging any common misconceptions they may have. Children work hard to make their own predictions and routinely hypothesise prior to conducting different investigations. As a result of considered lesson sequencing, children are able to use their prior knowledge and skills to make accurate predictions. Children are able to build upon their prior knowledge whilst maintaining the accurate use of key vocabulary made available to them.

In EYFS, children develop their understanding of the physical world and their community through the planning and teaching of 'Understanding the World.' The children are provided with a careful balance of teacher-led and children-initiated learning opportunities that allow them to: use their senses to investigate a range of objects and materials, find out about and observe living things, look closely at similarities and differences, patterns and change, ask questions about why things happen and why things work. Children enjoy spending time outdoors, exploring minibeasts and their habitats, observing the changing seasons and immersing themselves in the fascinating world of plants and animals.

In KS1 and KS2, science lessons are taught in discrete lessons which have been carefully planned to allow children to make connections with prior learning and new learning. The children are provided with opportunities to plan and conduct experiments, record evidence and findings as well as making conclusions and predictions. Differentiated lessons and recording strategies are provided to ensure all pupil needs are met. Children explore the key aspects of a topic before embarking upon investigations so that they can use their understanding to aid their conclusions.

Children are excited by the subject and have the opportunity to learn about Science in different contexts such as trips to secondary schools and links to the local community as well as extra-curricular clubs.

Impact

- ✓ Children will perform highly at the end of their key stages for science (Early Learning Goal – knowledge and understanding of the world), KS1 and KS2 outcomes for science 2019-2020
~ Whole school science progress ending 2021: End of KS1 – 88% reached the expected standard. End of KS2 – 93% reached the expected standard.
- ✓ Children will become confident in posing scientific questions, planning investigations and drawing conclusions by interpreting data.
- ✓ They will have participated in a wide range of science events and worked to contribute to a whole school awareness of science through science trips and workshops, members of the local community visiting and science celebration events.
- ✓ Studying science will enable them to ask questions about the world around them and encourage them to develop a greater curiosity in the natural world.

If you were to walk into science lessons at St Edmund's, you would see:

- **A wide range of scientific enquiry being used to engage children and provide greater depth and understanding to a topic** – each year group has access to a wide range of scientific resources to help engage and deepen children's understanding. The science lessons draw upon a combination of knowledge and skills so pupils can use their prior understanding to aid them when conducting experiments. We aim to incorporate our St. Edmund's value of being prepared and helpful into scientific investigation so that the children are able to handle equipment safely and sensibly.
- **Relevant trips to extend and engage children within their learning** – children take part in exciting scientific trips in our local community. Previous enrichment opportunities have included: working with a local secondary school to explore how the heart works, an exciting visit to the London Water and Steam Museum learning about water filtration and how the transformation of water to steam shaped the modern world.
- **The use of key vocabulary throughout the school** – children have vocabulary made available to them through displays, word mats and slideshows. We encourage the children to refer back to the key terminology and become increasingly independent in using the correct vocabulary to demonstrate their understanding.

Pupil Voice

Year 2 child *"Science is when we do experiments, play science games, explore and learning new things. We like doing practical activities."*

Year 4 child *"We investigate and find out different things. We investigate things you ask yourself every day."*

Year 6 child *"We learn about how the body works. Sometimes we use skeletons and models."*

We complete investigations and write up our findings."



Observing life cycles



St Mark's Heart Workshop



Planning investigations during science week

An example of skill progression within our science curriculum

Science aspect: Working scientifically (observing and recording data)						
Reception: Looks closely at similarities, differences, patterns and change.	Year 1: Observing closely using simple equipment. Talk about what they can see.	Year 2: Using their observations to suggest answers to questions. To observe changes over time with guidance and begin to notice patterns and relationships. Use simple measurements and equipment.	Year 3: Gathering, recording, classifying and in a variety of ways. Learn to use some new equipment – e.g. data loggers. Begin to measure accurately using standard units including time in mins and secs.	Year 4: Recording findings using simple scientific language, drawing, labelled diagrams, keys, bar charts and tables. Help make decisions about what observations to make, how long to make them for and the type of equipment that might be used. Can choose from a selection of equipment.	Year 5: Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs. Begin to make their own decisions about what observations to make, how long to make them for and when to repeat them.	Year 6: Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms. Take measurements using a range of scientific equipment, with increasing accuracy and precision.

Outstanding examples of learning



Successes in 2020 – 2021

- ☺ Successful reaccreditation for the school of the Primary Science Quality Mark
- ☺ Children were provided with the opportunity to use microscopes provided by the Royal Microscopical society
- ☺ All classes participated in a very successful Science Week

Priorities for 2021- 2022

- ☉ To participate in the PSTS Science Sketch book project
- ☉ For all teaching staff to be able to demonstrate an accurate and confident understanding of the working scientifically elements within the National Curriculum
- ☉ To plan a series of whole school activities for Science Week 2022
- ☉ Continuing to organise a range of science enrichment opportunities e.g. Now Press Play Devices, Holly Lodge, Zoo Lab.