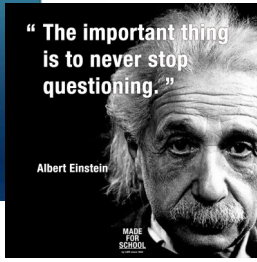




Science - The St. John's Approach

Science at St. John's



Vision

At St John's, our Science curriculum will deliver a high-quality education where children attain high, achieve well and are inspired and enthused to explore and investigate the ever-changing world around them. At St-John's we understand the importance of Science in our every day lives and strive to provide the children with memorable and thought-provoking opportunities which question and challenge their understanding about the world in which we live.

Our Science teaching at St John's is committed to providing stimulating, engaging and challenging learning experiences, providing our children with opportunities to develop their Scientific knowledge and conceptual understanding. We ensure that our children continually build on and develop their Working Scientifically skills, providing them with the opportunity to apply their knowledge of Science when conducting experiments and using equipment, to enable them to explain Scientific concepts confidently.

At St John's, Scientific knowledge is embedded through revisiting and developing topics throughout their time at Primary School. Prior knowledge for each unit is referred to and revisited in order to increase enthusiasm for the topics, whilst embedding knowledge into their long-term memory.

Rationale- Why we do what we do...

The views of our stakeholders (children, staff, governors and parents) have been at the root of all decision making.

*All of the school's stakeholders were consulted in April 2019.

*From this, it was evident that the overwhelming majority of people valued learning linked to Pioneers and famous people.

*They also suggested that the children's knowledge and understanding of environmental issues was an important aspect of both Science and Geographical learning

*All stakeholders valued the immersive 'Topic' learning and enrichment opportunities- trips, visitors and 'wow' moments incorporating a range of subjects

As a result of our stakeholders' views...

1. In May 2019, we created a curriculum vision which is inclusive of all subjects.
2. From the curriculum vision, we created our vision for the teaching and learning of Science
3. We created a knowledge, skills and vocabulary routeway for Science from Reception to Year 6, underpinned by the National Curriculum. Our Science curriculum is designed progressively with a range of enrichment opportunities and 'real outcomes' to enhance learning, 'make it fun' and enable the children to make a positive difference.

How is Science taught?

Timings and Timetabling

In Reception, Science is taught as part of the 'The Natural World' using the St John's Progression Framework which outlines the knowledge and skills towards the Early Learning Goals. It is taught weekly through whole class, small group and 1:1 learning with a mixture of adult-led learning and some child-initiated learning with science learning facilitated within the continuous provision. Across the rest of the school, Science is taught discretely as a minimum of 1 hour per week. This is a deliberate decision in response to the Stakeholder views as well as the high priority we place on deepening knowledge. In order for children to be excited and inspired, it is important to us that they are fully immersed in the learning and can make links to other knowledge acquired-

Within each year group, the timetabling of Science is flexible, depending on the topic being covered and ensuring sufficient time to conduct experiments and report their findings.

Science- An Overview

In Reception, Science comes under the 'Understanding the World: The World' aspect of the Early Years curriculum. From the very beginning of their school journey, children are encouraged to form the foundations of their Scientific skills which they will build on throughout their Primary School years such as; developing their skills of observation, prediction, critical thinking and discussion.

In Key Stage 1, the principle focus of Science teaching is to enable children to experience and observe the natural and humanly-constructed world around them. The children are encouraged to be curious and ask questions about their findings to help develop their understanding of Scientific ideas by using different types of Scientific enquiry. They will begin to use Scientific vocabulary to talk about what they have found and communicate their ideas.

As the children move into Lower Key Stage 2, the principle focus is to broaden their Scientific view of the world around them by exploring, testing and developing ideas about everyday phenomena. They begin to ask their own questions about what they discover and make suggestions as to finding the best ways of answering these questions.

As the children move into Upper Key Stage 2, the principle focus of Science teaching is to enable children to develop a deeper understanding of a wide range of scientific ideas through exploring and discussing their ideas. In Upper Key Stage 2, children should encounter more abstract ideas and begin to recognise how these ideas help them to understand and predict how the world operates. Children begin to draw conclusions based on data and observations, using evidence to justify their ideas, and use their Scientific knowledge and understanding to explain their findings.

Assessing Outcomes in Science

Assessing outcomes in Science is rigorous and focused. Teachers regularly review learning and knowledge within and after lessons and adapt their teaching as a result.

In Reception, all children have a personalised 'Learning Journey' book which is used to record learning from all areas of learning across the year. Teachers use this evidence to ensure that all children are making progress and attaining well. Where children are not meeting expected standards, teachers provide additional support where appropriate.

Progress in skills and knowledge acquired over time is assessed by the teacher, in collaboration with the Science Subject Leader. They do this by comparing the initial knowledge 'Drive' document, which is completed by the children independently, with their 'Vocabulary Glossary', 'Progress Pitstops', end of topic 'Knowledge Harvests' and 'Knowledge Quizzes'.

The Science subject leader completes regular monitoring of attainment and progress through a combination of pupil voice, book monitoring and matching actual outcomes to intended outcomes as identified in the Geography 'National Curriculum– Knowledge, Skills and Vocabulary Routeway' document. From this monitoring, key actions are given to the teacher and are re-visited frequently.

The Science subject leader then has a formal meeting with senior leaders to discuss outcomes and next steps. The Curriculum Senior Leaders use the information given to them to hold 'Curriculum Progress Meetings' each half term. These are in addition to the Maths and English Progress Meetings. These meetings identify and celebrate pupil progress and set agreed targets for narrowing any gaps in knowledge and skills.