

Science Intent, Implementation and Impact



Intent

At Redscope Primary School, it is our intention to provide a high-quality science education that provides children with the foundations they need to recognise the importance of Science in every aspect of daily life. We give the teaching and learning of Science high prominence as a core subject which is enjoyed by all children whatever ability or gender. It is important that children enjoy Science and build on their natural curiosity.

We aim to teach the children substantive and disciplinary knowledge through the specific disciplines of biology, chemistry and physics. By stimulating them, we hope they will learn to investigate and develop a questioning attitude about the world around them, encouraging them to think like and become scientists. Our curriculum will enable children to become enquiry-based learners, collaborating through researching, investigating and evaluating experiences. It will encourage respect for living organisms and for the physical environment which will support children in their role of making a positive contribution towards our local area and beyond.

Teachers will ensure that all children are exposed to high quality teaching and learning experiences. These will hook the children's interest, enabling them to develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to ask questions about the world around them and work scientifically to further their conceptual understanding and scientific knowledge.

Children will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. It will provide opportunities for the critical evaluation of evidence and rational explanation of scientific phenomena as well as opportunity to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. Children will be immersed in key scientific vocabulary, which supports in the acquisition of scientific knowledge and understanding.

All children will be provided with a broad and balanced science curriculum which reflects the equality and diversity policies and practice in school.



Implementation

At Redscope Primary school we base our teaching on the Programmes of Study for Key Stage 1 and 2 as specified in the Primary National Curriculum. EYFS use statements from the Development Matters curriculum and will look for opportunities to show the children when they are being scientist. Staff will use carefully chosen language to encourage science-based behaviours and will encourage the children to explore the world around them.

The programmes of study describe a sequence of knowledge and concepts. The science curriculum has clear progression documents which have been adapted to meet the needs of our pupils. These documents have been developed within the MAT using PLAN support documents from a leading team in primary science consultancy. Science leaders across all schools have contributed to the development of these documents and they continue to be a working document. The documents also identify opportunities for science to take place outside of the classroom. Where possible, staff are encouraged to make use of natural environments within the local area such as Barker's Park and the woodland area that surrounds it. Staff have the freedom to deliver science in creative and engaging ways and are encouraged to make use of a wealth of high-quality resources that are available in the central store.

At the start of every unit, prior learning is recapped. Children will carry out a pre-learning assessment exercise which shows what they know and provides an opportunity to ask questions about the subject before they begin the unit. At the start of every lesson, retrieval practice occurs and key vocabulary is recapped so that the learning sticks. All lessons are sequential, build on prior learning and work towards a final presentation of learning through the post-learning assessment exercise. Children can identify the five key areas of working scientifically and are encouraged to explain the key disciplinary skills needed in order to be a successful scientist. For all concepts in each year group, planning documents have fingertip facts which provide staff with the key learning required for the unit. It is expected that all children will be able to recall those facts at the end of the unit and beyond. Staff will encourage children to draw upon these facts at various points within the year.

Creativity and teacher expertise is woven into the curriculum with specialist teachers from the local comprehensive schools and outside agencies such as AMRC, working with pupils and teachers, sharing good practise and ensuring that learners learn to be the best that they can be. Major events such as Science and Engineering week are celebrated within school to further raise the profile of Science. When possible, to encourage cultural capital, children are exposed to a variety of professionals within the world of Science and are provided with opportunities to learn more about specific sectors. In order to tackle stereotypes, 'Scientist like me' posters are displayed and discussed in class.

Science has a subject intent, whole school policy and an annual action plan which outlines development opportunities and clearly links with the school development plan. Staff across the academy regularly meet to discuss further developments within Science and plan collaborative events in order to promote the subject further to ensure that the children at Redscope get the best possible opportunities. An action plan is also devised within the working party and monitored regularly.

Impact

The successful approach to the teaching of science at Redscope Primary School will result in a fun, engaging, high quality science education, that provides children with the foundations for understanding the world that they can take with them once they complete their primary education. The impact of the Science curriculum is monitored through a triangulation of outcomes: pupil voice, planning, monitoring of books and displays, lesson learning walks, discussions with teaching staff, pupils and parents. Pupils, parents and staff are regularly updated about the Science curriculum and the impact that it makes. The desired outcomes of the Science curriculum will ensure that pupils are ready to embark on secondary school education by the time they leave Redscope Primary School and will be equipped with the foundations needed to achieve success in later education. Children will be able to apply their disciplinary skills to future Science education and possibly aspire to work within the Science sector one day.