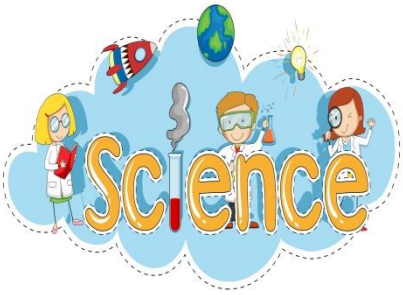
Science at St Dunstan's



The National Curriculum details that a high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims

The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Intent

At St Dunstan's, through science we encourage children to develop the knowledge and skills they need to be inquisitive throughout their time at the school and beyond.

The science curriculum fosters a healthy curiosity and enthusiasm in children about our universe and promotes respect for the living and non-living. We also aim to develop resilience through practical explorations.

We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge and vocabulary that has been identified within each unit and across each year group, as well as the application of scientific skills. Our aim is for pupils to be articulate in the use of scientific vocabulary.

We ensure that the 'Working Scientifically' skills are built-on and developed throughout the children's time at school, so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently, and continue to ask questions and be curious about their surroundings.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science.

Our whole school approach to the teaching and learning of science involves the following;

 Science will be taught in planned topic blocks using the Kent Scheme. This is a strategy to enable the achievement of a greater depth of knowledge. This scheme will be used to inform planning and assessment supported by Target Tracker.

 Through our planning, we include problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning.

 We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.

 Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career. New vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics.

 All Key Stage 1 and 2 classes have a 'Science Working Wall' where vocabulary relating to their current topic is displayed along with examples of the children's work.

 Teachers demonstrate how to use scientific equipment, and the various 'Working Scientifically' skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning.

 Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.

 Regular events, such as Science Week or project days allow all pupils to come off timetable, to provide broader provision and the acquisition and application of knowledge and skills.

Impact

The approach at St Dunstan's is to offer high-quality science education that provides children with the foundations and knowledge for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Children enjoy science (this has been found out through the use of pupil surveys) and this results in motivated learners with sound scientific understanding.

Year Group	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Nursery	Uses of everyday materials	Uses of everyday materials	Properties and changes of materials Seasonal change	Properties and changes of materials	Properties and changes of materials Animals including humans	All living things and their habitats
Reception	Animals including humans	Seasonal change	All living things and their habitats	Uses of everyday materials	Animals including humans	Animals including humans Seasonal change
Year 1	Animals including humans Seasonal change	Everyday materials Seasonal change	Animals including humans Seasonal change	Everyday materials Seasonal change	Plants Seasonal change	Animals including humans Seasonal change
Year 2	Animals including humans	Uses of everyday materials	Uses of everyday materials	Plants	All living things and their habitats	All living things and their habitats
Year 3	Light	Forces and magnets	Forces and magnets nutrition	Rocks Working scientifically	Plants Working scientifically	Animals including humans Working scientifically
Year 4	Sound	States of matter	Animals including humans	Electricity Working scientifically	All living things Working scientifically	All living things Working scientifically
Year 5	Forces	Forces Earth and Space	Properties and changes of materials	Properties and changes of materials Working scientifically	All living things & their habitat	Animals including humans
Year 6	Electricity	Light Working scientifically	Animals including humans SRE	Evolution and inheritance	All living things & their habitat	Animals including humans SRE