

Science

Intent

The science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes that are all essential parts of everyday life and help us to understand and change the world around us. Therefore, science skills are referred to during pupils' PYP inquiries, where appropriate. Throughout the transdisciplinary themes of the IB framework, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently. They will continue to ask questions and be curious about their surroundings. We believe that every child can access our science curriculum and we want our children to leave us as open-minded, reflective thinkers, whose skills prepare them for a successful transition to their secondary setting as well-informed, globally aware young people.

Implementation

Through the six transdisciplinary themes, 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;

- Through our teaching we promote a positive attitude to science by encouraging pupils to solve problems, show creativity and resourcefulness, and participate actively in their local communities and within the academy. Children are encouraged to ask their own questions and are 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 within the six transdisciplinary themes, where possible, aided by high-quality resources to secure understanding of conceptual knowledge. 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 as they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their ability to draw 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 and new vocabulary and challenging concepts are introduced through direct teaching.
- 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 and workshops with experts.
- It is our aim to offer a wide range of extra-curricular activities, visits and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class.
- Our goal is to provide events, such as Science Weeks, to give all pupils a broader provision and the acquisition and application of knowledge and skills.

Impact

At Dartford Primary Academy we aim to use teachers' expert assessment, diagnostic assessments and effective real time feedback to provide the opportunity for every pupil, regardless of need or background, to reach their full potential.

Through thorough curriculum coverage review and pupils' skill development we will ensure the breadth and depth of science knowledge is embedded for all pupils to develop knowledge and the skills needed to be successful in life. Positive engagement in science cultural capital activities and seeing a vibrant global community within the academy will show the depth of impact of our scientific curriculum intent and effective implementation.

This successful approach results in a fun, engaging, 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. Children will gain the understanding that science has changed our lives and that it is vital to the world's future prosperity.

Science



Science Curriculum Map



Science Curriculum Map - Autumn Term						
Term	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1 Who we are	Animals including Humans	Animals including humans	Animals including Humans	Animals Including Humans	Forces	Evolution and Inheritance
Autumn 2 Where we are in time and place	Everyday Materials	Everyday Materials	Rocks	Electricity	Earth and Space	
Science Curriculum Map - Spring Term						
Spring 1 How the world works			Forces and Magnets	States of Matter	Properties and changes to materials	Electricity
Spring 2 How we organise ourselves	Animals	Animals including humans		Living things and their Habitats		Animals including Humans
Science Curriculum Map - Summer Term						
Summer 1 Sharing the planet	Plants	Living things and their habitats Plants	Plants		Living things and their habitats	Living things and their habitats
Summer 2 How we express ourselves	Everyday Materials	Plants Uses of everyday materials	Light	Sound	Animals including Humans	Light

DETERMINED PERSISTENT ACHIEVERS
Learning to Change the World