Science

“The whole and wholesome development of each child in a happy, caring and stimulating learning environment”

Together we grow and learn

May Bank Infants School S Curriculum Intent Statement

Intent

The science curriculum at May Bank provides every child with the right to access a broad, balanced and enhanced curriculum which supports the culture, climate and values of the school. Our curriculum is accessible to all children within school. At May Bank, our aim is to nurture children's natural curiosity and promote scientific thinking through an engaging and practical science curriculum. Our curriculum starts with the child and everything surrounding them (their home, family, friends, and school). We learn about things associated with our bodies and our surroundings, which is then extended to encompass the wider world around us. Our intent is to give all of our children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them think scientifically. We want our children to be naturally curious so we have developed our curriculum to ensure full coverage of the National Curriculum whilst fostering a sense of wonder and awe of the world.

The role of science at May Bank is to equip children with the skills to think logically and practically through high quality teaching and learning. As we are living in an increasingly scientific and technological age, a robust and broad understanding of science prepares children for the future. Children develop scientific knowledge through the practical learning of observation, prediction, investigation, communication, questioning and hypothesising, and measurement and collection of data. We aim to develop questioning and enquiring minds through a range of interesting and engaging scientific experiences. Children are encouraged to think for themselves to make well-reasoned predictions and observations when working scientifically. We strive to provide children with the skills and opportunity to achieve scientific excellence by fostering a positive and enquiring attitude towards the world and by building on their enthusiasm and natural sense of wonder about the world.

Implementation

Our science curriculum is progressive throughout the whole school. The yearly overview for each year group and medium term planning for curriculum content (concepts, knowledge, vocabulary and skills) indicate what we expect children to know and be able to do throughout their time at school. It is structured in a way which builds and reinforces content both throughout the year (for example seasonal change) and the subsequent year groups.

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As children move into Key Stage One, assessment is used to gain an understanding of children's prior knowledge together with classroom observation and discussions with the children, which shapes the starting point and direction of learning. Child voice is important and children share what they know and equally what they would like to find out. Science is taught through half termly topics, and teachers in Years 1 and 2 use yearly curriculum overviews, medium term planning and progression grids to ensure full coverage of content for science as set out by the national curriculum requirements. The 'working scientifically' strand overarches each half termly topic and is embedded into every lesson to ensure that these concepts are developed throughout the school. Where possible cross-curricular links are made with other subjects which enables our learners to apply their scientific learning across a range of contexts, hence cementing their knowledge and skills. Learning outside the classroom is also essential to our science teaching and learning as it is essential for the children to observe and immerse themselves in our local environment in order to apply their learning practically to real life situations. We also enrich the children's experiences through enrichment days, STEM activities, visits and visitors.

Scientific vocabulary is modelled and explained by teachers and children are encouraged to use correct vocabulary within lessons to support children's learning and understanding of a concept. Teachers use precise questioning in class to test conceptual knowledge and ensure understanding, as well as to correct misconceptions in learning. The use of a variety of approaches in the teaching of science provides a stimulating and engaging high-quality science education for all children.

A series of lessons builds conceptual understanding, knowledge and skills over time. We want our children to enquire, reason, solve problems and evaluate their learning to become creative thinkers who make connections. Ongoing assessment (formative or summative) feeds into the next phase of learning.

Curriculum monitoring takes place throughout the year to ensure curriculum coverage, progression, assessment and improvements. Baseline assessments are used at the start of each academic year and each topic to gain an understanding of children's prior knowledge and understanding. The marking and assessment of pupils' learning in lessons is used to plan future learning and ensure progress. Teachers ensure progression across the Key Stage by referring to progression grids devised by the school for science.

In EYFS, observations and assessments are recorded by using 'The Learning Book' digital learning journey and examples of work are also kept in 'independent learning folders'.

In Key Stage One, work is recorded in topic folders and whole class 'floor books', with photographs, records of class discussion and example pieces of learning from children. Children are assessed as working towards age related expectations, working at age related expectations or exceeding age related expectations. These are recorded onto class tracking grids on a termly basis. These are used to track progress throughout the year and are analysed at regular intervals to ensure that children are making expected progress in science.

Impact

May Bank Infants School provides an engaging, high-quality science education that ensures that children understand the world around them and are equipped with the scientific knowledge and skills to enable them to be ready for the curriculum at Key Stage Two. We nurture and maintain the scientific curiosity of the children in our school and aim to ignite a life-long passion for science in their lives.

Through practical learning, high expectations and highly motivated teaching staff, we produce independent learners who are curious and motivated to learn more. As a consequence of explicitly and progressively teaching the working scientifically strand of the Science National Curriculum our children are able to plan and carry out simple investigations and experiments with a high degree of independence, making plausible predictions, carrying out their investigations and then drawing simple conclusions from the results they collect. Our well planned curriculum which revisits and builds on previous learning means that the children know more, remember more and understand more about science. Through the curriculum and experiences we provide, our children have gained a rich body of scientific knowledge and a wide range of transferable skills which they apply in other subjects and contexts.

As a result of our well-planned and progressive curriculum our children make good progress with their scientific learning and the vast majority of children leave the school attaining age-related expectations.

The exciting and engaging tasks which are provided for the children mean that they enjoy their science activities and continue to develop an ongoing love of science which they will hopefully take forwards into their future lives.

'Equipped with his five senses, man explores the universe around him and calls his adventure science.'
Edwin Powell Hubble

'Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less.'
Marie Curie

'The scientist is not the person who gives the right answers, they are the ones who ask the right questions'
Claude Levi-Strauss