

Science Intent, Implementation and Impact Statement



'The Science of today is the technology of tomorrow' – Elbert Teller

Intent

At Woolenwick Infant and Nursery School, we aim to deliver a high-quality science curriculum which provides foundations for understanding the world. Science has changed our lives and is vital to the world's future prosperity, and all children will be taught the essential aspects of the knowledge, methods, processes, and uses of science. Children are encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Our science curriculum develops children's natural curiosity, awe and wonder, as they develop respect and formulate theories of the world around them through scientific enquiry. We nurture inquisitive minds; 'What if?' and 'Let's find out'.

Implementation

The curriculum content has been carefully planned, reflecting expectations in the National Curriculum programmes of study and the Early Years Foundation Stage (EYFS) framework. Scientific themes engage children's interests and enable children to logically develop the knowledge and skills that they will need now, and for the next steps in their learning journey. Learning is sequenced, so that the intended curriculum for each year group builds upon what has been taught before, and children work towards clear end points. Educators make meaningful links between subjects wherever possible. This allows children to connect new knowledge to help them remember it. Each new study of learning begins by revisiting the previous related knowledge, allowing children to retrieve what they have already learned in the earlier sequence of study, and ensures new knowledge is taught to build on prior learning. Children acquire knowledge and skills in a coherent and progressive way. This ensures the knowledge and skills become embedded in their long-term memory, and can be applied in the other areas of learning. Educators are learning partners who develop children's deeper thinking skills, theories, and ideas through skilful open-ended questioning. Opportunities to test theories and apply scientific knowledge allow children to formulate new ideas, explain concepts confidently, as they become familiar with scientific terminology and continue to be curious.

We are committed to improving vocabulary by incorporating subject specific words using word aware vocabulary tiers.

Both outdoor and indoor learning environments are habitats for curiosity. Our allotment, outdoor spaces, the meadow, and woodland allow children to study seasonal changes overtime. Each classroom has a STEAM area, a provocation table, and an investigation area for children to explore independently. These spaces are regularly enhanced and adapted to suit the current project and children's big ideas and interests. Provocations provide a hands-on learning invitation to explore and investigate concepts and ideas related to our science learning. Children's views are listened to and valued through shared thinking and collaborative discussion. Interactions are meaningful; through careful documentation, Educators plan and facilitate enquiry-based themes.

Educators plan and deliver meaningful, practical science investigations where children are encouraged to think scientifically, developing their research skills, questioning, hypotheses, conclusions, and vocabulary through interactions. Children are encouraged to observe closely, look for changes over a period of time, notice patterns, make predications using what they already know, make links, as well as grouping and classifying items.

Extra-curricular activities, visits, trips, workshops, and visitors complement and broaden the curriculum. These are purposeful and link with the knowledge being taught. Regular events, such as Science Week, enrich the curriculum. These events often involve families and the wider community.

We aim to provide for all children, so that they achieve as highly as they can in science according to their individual abilities. We will identify which children or groups of children are under-achieving and implement strategies to improve their attainment. For example, our highly successful Science through Stories workshop. Children working at greater depth will be identified and suitable learning challenges provided. In addition, we work in partnership with The University of Hertfordshire to ensure high-quality science teaching and learning across the school and have delivered science CPD to other Educators.

Impact

The successful approach at Woolenwick results in engaging, high-quality science education that provides children with the foundation 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. Through various workshops, trips and interactions with experts and local charities, children understand that science has changed our lives, and is vital to the world's future prosperity. Children learn the possibilities for careers in science because of our community links and connection with national agencies, including the STEM association. They learn from, and work with professionals, ensuring access to positive role models within science from the immediate and broader local community. From this exposure to various scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at Woolenwick overwhelmingly enjoy science, resulting in motivated learners with sound scientific understanding. The school's science provision is recognised by the achievement of the nationally recognised PSQM Outreach Award.