Curriculum Intent Statement

Callowell Primary School Science 2022-2023

"There is much evidence showing that children's interest in science is shaped before they leave primary school. So there is a very pressing need to ensure that primary-aged children do not lose that latent interest and enthusiasm for the world around them, and the science that underpins this."– Primary Science Teaching Trust, 2020.

Intent

At Callowell, our curriculum is designed to develop independence and resilience in our learners whilst improving their oracy skills. We provide our learners with a wide range of experiences and activities to broaden their cultural development beyond their own community and promote inclusion.

At Callowell Primary School, we give our children the opportunity to develop the knowledge, skills and attitudes that will prepare them for adult and working life. Our children have access to an inspiring and explorative science curriculum from the age of 2 through to the age of 11. We deliver a science curriculum that provides the appropriate scientific knowledge and conceptual understanding across all areas of science (biology, chemistry and physics). We also help develop children's understanding of the nature, processes and methods of science through different types of scientific enquiry. These enquiries encourage children to ask questions and highlight the specific skills needed to 'work scientifically' which children will eventually be able to apply independently. Through their science knowledge, understanding and skills, children are highly aware of the uses and implications that science can have in the wider world, today and in the future.

Implementation

We implement our Science curriculum intent by following a clear and consistent approach across the school and covering objectives from the National Curriculum. This is achieved in mixed year groups and stand-alone year groups through rolling programmes. Science is taught one afternoon every week. Topics covered include: Plants, Animals including humans, Everyday Materials, Seasonal Changes, Habitats, Rocks, Light, Forces and Magnets, States of Matter, Sound, Electricity, Earth and Space and Evolution. Teachers use a mixture of their own resources and resources from the Hamilton Trust to deliver science lessons. The 'Working Scientifically' skills underpin each science lesson and children are given the opportunity to discover the knowledge through investigation, but also develop these skills using a variety of investigative and recording methods at an age-appropriate level, promoting inclusion for all. Pre-school and EYFS children also cover the science curriculum through the 'Development Matters' curriculum. It comes under 'Understanding the World' and

there is a heavy focus on developing the 'Working Scientifically' skills through hands-on exploration and discussion whilst touching on some of the more specific topics listed above e.g. plants and forces. This discussion is crucial in helping to develop children's oracy by explaining their thoughts whilst also diving deeper into why things happen.

Beyond the curriculum, science skills are also developed and nurtured in a range of cross-curricular contexts. This aids children in perfecting fluency in these skills whilst also aiding the embedment of knowledge and understanding on a more frequent basis. In addition, Callowell children have access to our fantastic Early Years/KS1 outdoor area and courtyard which contain a variety of scientific equipment and resources as well as its own dedicated “Discovery Zone” for hands-on exploration. All children also have access to our extensive outdoor spaces. Callowell offers an Eco club and a Gardening club for KS2 children.

Fostering enjoyment and inspiring curiosity in science is also done through a range of different methods such as visitors, trips and experiences. Children at Callowell have access to all of these throughout their journey through primary education. Our children enjoy participating in British Science Week each year, experiencing exciting visitors and interesting investigations. Staff at Callowell work together to ensure that children's learning from one year to the next builds on prior knowledge to ensure a progression of knowledge and skills.

We recognise the fact that we have children of differing ability in all our classes, and so we provide suitable opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this in Science through a range of strategies including practical tasks, group work and adult support where necessary. Pupil Premium children are also supported and challenged through quality first teaching and targeted monitoring.

Impact

The science journey that children take as they move through Callowell allows them to reach the expected standards of the National Curriculum for science, including the skills in ‘Working Scientifically’. The Teacher Assessment Framework allows teachers to accurately assess whether or not children have achieved this. Moreover, its spiral structure allows for the re-visitation to a variety of topics and this allows children to better consolidate and embed their science learning so that they can apply it from primary education through to adulthood.

Science is monitored closely and with the support of our pupil assessment system (Insight), the progress of our children is tracked during their school journey. Other methods such as pupil interviews, experiencing taught lessons and book looks are handy tools for going beyond the data and getting a richer feel for children and staff's attitudes towards science.