



HARROWBARROW SCHOOL

Science Curriculum Intent

Intent

The 2014 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 scientific enquiries that help them to answer questions about the world around them at the same time as predicting what has happened and what will happen next.
- Understand that science has changed our lives and is vital to the world's future prosperity.

At Harrowbarrow, we understand the importance to prepare children for life in an increasingly scientific and technological world. We aim for science lessons to promote children to be inquisitive about the world around them, thus encouraging children to foster concern about the local and global environment. We ensure that the working scientifically skills are at the forefront of our science curriculum and developed throughout children's time at the school so that they can apply their knowledge of science in a variety of situations, not just in the classroom. Throughout the programmes of study across the school, 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.

Implementation

Teachers are expected to create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

- Medium term planning will outline the areas of science that will be taught during the term to ensure coverage of our whole school skills progression document.
- Within short term planning, clear success criteria for each learning objective taught should be based on our skills progression document, therefore allowing accurate planning that ensures progression, not only in an individual lesson, but also in a series of lessons.
- Where children are working significantly above or below the objective, objectives should be adapted in order to meet the individual's needs, including providing scaffolding to allow children to achieve objectives or by allowing children to research

challenging key questions or enquiries independently to allow them to develop mastery of the objective.

- Class teachers should regularly plan for opportunities for children to apply their scientific skills to different areas within science lessons and across the curriculum. This will also allow children to revisit, practice and consolidate different areas of science and apply them within different contexts.
- Planning should involve real life contexts for science, where children are investigating scientific questions with a real purpose in mind, appropriately linked to the creative curriculum topic. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills to challenge misconceptions.
- Enquiry-based learning should permeate the scientific knowledge and understanding being developed by the teacher, as it gives life and sustenance to learning new knowledge and developing understanding in every area of the primary science curriculum. It should be the driving force of scientific learning, teaching and assessment, enabling children to be far more independent and scientific in their thinking and approach to science.
- 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.
- 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.
- Children are given opportunities to use ICT (video, digital camera, data logger) to record their work, thus adding to the engagement and accessibility of the task.

Impact

The impact of implementing Science in this way will mean that Harrowbarrow School provides fun, engaging, high-quality science education that develops pupils' enjoyment and interest in science, at the same time as developing their appreciation of its contribution to all aspects of everyday life. Our engagement with the local environment in lessons 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 have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science, as a result of our community links and connection with national agencies such as the STEM association and learn from and work with professionals, ensuring that children have access to positive role models within the field of science from the immediate and wider local community. From this exposure to a range of different scientists from various backgrounds, all children feel that they are scientists and capable of achieving. Children at Harrowbarrow will overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.