

Intent

At Oriel Academy, our vision for the Science curriculum is focused on all students broadening their knowledge and developing a deeper understanding of the world around them. This involves having exciting, practical, hands-on experiences which encourages children's curiosity towards a variety of Science topics within the curriculum. This will be done by: exploring, discussing, testing and developing ideas about everyday phenomena and relationships between living things and environments. Children are provided with an environment where they can work using a range of investigative styles and can communicate their findings in a variety of ways. Every student will be encouraged to ask questions about content covered and be given the opportunity to conduct practical experiments while being encouraged to make predictions about how things will behave. Through our No Limits curriculum, the children will be given the opportunity to apply their scientific skills and understanding enabling them to obtain a deeper understanding of Biology, Chemistry and Physics.

Implementation

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;

- Science will be taught in planned and arranged topic blocks by the class teacher. This is a strategy to enable the achievement of a greater depth of knowledge.
- Through our planning, we involve problem solving opportunities that allow children to find out for themselves. Children are encouraged to ask their own questions and be 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, often involving high-quality resources to aid 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, so that all children keep up.
- We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- Scientific 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. This is developed through the years, in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment, and various scientific 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.

Impact

The successful approach at Oriel Academy results in a fun, engaging, high-quality science education, that provides children with the foundations 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. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this. 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 reference made to national agencies such as the STEM association. Pupil voice is used to further develop the Science curriculum, through questioning of pupil's views and attitudes to Science to support the children's enjoyment of science and to motivate learners.