

Ormiston Cliff Park Primary Academy

CURRICULUM AREA: Science

Staff members: A Humphrey

Quality of Education

Intent

At Ormiston Cliff Park Junior and Infant Academies, we recognize the importance of Science in every aspect of daily life. As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires.

Science has changed our lives and is vital to the world's future prosperity and all pupils in our academies should be taught essential aspects of the knowledge, vocabulary, methods, processes and uses of Science. Our curriculum will develop the natural curiosity of the child, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. We are committed to ensuring that children understand the value and importance of Science in the wider community and are able to use their scientific skills knowledge and experiences to involve themselves in a variety of different contexts.

At Ormiston Cliff Park Junior and Infant Academies, in conjunction with the aims of the National Curriculum, our Science teaching offers opportunities for children to:

- 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 science enquiries that help them to answer scientific questions about the world around them;
- be equipped with the scientific knowledge required to understand the uses and implications of Science, today and for the future.
- develop the essential scientific enquiry skills to deepen their scientific knowledge.
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- Develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.

In Early years, science is taught through the children learning about the world around them in their learning through play and through learning about different factors that support their overall health and wellbeing. The pupils are encouraged to talk about what they see and learn to ask and answer scientific questions. These early skills and knowledge are built upon throughout their time at the academy. Children have weekly lessons in Science throughout Key Stage 1 and 2, using various programmes of study and resources. Additional opportunities are provided in Science, such as special Science Days for children, Scientific Assemblies to enrich the curriculum (workshops from 'Mad Science' and educational visits linked to the science curriculum, such as visits to Carlton Marshes.

We endeavor to ensure that the Science curriculum we provide will give children the confidence and motivation to continue to further develop their skills into the next stage of their education and life experiences. We aim to build in opportunities to see how their learning is related to different career opportunities in science.

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 this subject. Science will be taught in planned and arranged topic blocks by the class teacher. Topics are arranged under the main themes of Living Things and their habitats, Plants, Animals including Humans, Health, Forces, Materials and Sound, Light, Earth and Space. We build upon the learning and skill development of the previous years. 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 are given opportunities to use their scientific skills and research to discover the answers. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use assessment effectively to check understanding and inform planning. The learning presented to pupils is enjoyable, focused and offers challenge and high expectations.

Working Scientifically skills are embedded into lessons. 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.

The science curriculum is rooted in equipping children with a rich scientific vocabulary which fosters the acquisition of knowledge. New vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in-keeping with the topics. Assessment and embedding of learning takes place through regular low stakes testing, quizzing etc of the knowledge and skills being acquired. Vocabulary is clearly displayed to support children as they attempt to use it in their discussions and written work.

Impact

We are confident that the Science curriculum is having a positive impact on the quality of learning. We know this because observations, learning walks, pupil's work and outcomes demonstrate that:

- Engagement of pupils in lessons is evident.
- Pupils are acquiring specific scientific knowledge.
- Pupils are exposed to scientific (Tier 2 and Tier 3) vocabulary and are increasingly using it in their discussions and in their written work.
- Teaching is drawing on prior learning and learners are being supported to make links in knowledge acquired.
- Reading of suitable texts immerses the children in subject specific language, enabling them to learn and use new scientific vocabulary.