Ormiston Herman Academy

Science Policy

Science Statement

Intent

The 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 science enquiries that help them to answer scientific questions about the world around them
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

At Ormiston Herman, we encourage children to be inquisitive. They are given opportunities to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them. We want them to become independent learners in exploring possible answers for their scientific based questions. 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. Therefore, children will build upon their prior knowledge, which increases their enthusiasm for the topics whilst embedding this procedural knowledge into the long-term memory. We ensure that the Working Scientifically skills are built-on and developed so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently. This model allows specialist vocabulary for topics to be taught and revisited, and effective questioning to communicate ideas is encouraged.

Implementation:

As part of the delivery of the Science curriculum, the planning process includes the following:

- A knowledge organiser which outlines knowledge (including vocabulary) all children must master;

- We build upon the learning and skill development of the previous years and provide a cycle of lessons for each subject, which carefully plans for progression and depth;

- Challenge questions and problem solving opportunities for pupils to apply their learning in an open manner;

- A low stakes assessment (quiz) which is tested regularly to support learners' ability to 'block' learning and 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.

- Trips, accessing outdoor learning and visits from experts who will enhance the learning experience;

- Regular events, such as Science Week (linked to British Science Week) or project days, such as WOW Days / workshops, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

- Working Scientifically 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.

- Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding.

- Half termly assessments are in place for KS2 and results are tracked and monitored. Strengths and weaknesses are identified by class teachers and addressed through future planning.

Impact:

Our Science Curriculum is high quality, well thought out and is planned to demonstrate progression. In addition, we measure the impact of our curriculum through the following methods:

- A reflection on standards achieved against the planned outcomes;
- Tracking of knowledge in lessons at the beginning to address misconceptions, reinforce prior learning and at the end of a lesson through questioning and open discussion;
- Post learning assessments take place half termly;
- Pupil discussions about their learning;

This approach at Ormiston Herman results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world. We want our children at Ormiston Herman to enjoy science and create motivated learners with sound scientific understanding.