



Science at Harrow Gate Primary Academy

INTENT:

Science is a core subject in the Primary curriculum. This policy outlines the teaching, organisation and management of Science teaching and learning at Harrow Gate Primary Academy.

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 science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this.

At Harrow Gate, our key aim in teaching Science is to develop children's curiosity. Science at Harrow Gate places great emphasis on scientific enquiry and finding out the answers to questions the children have asked. They should be encouraged to become independent learners, carry out their own investigations and discover things for themselves. The Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, 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. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

IMPLEMENTATION

Teachers 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;

- Science will be taught in planned and arranged unit blocks by the class teacher.
- Each unit starts with the sharing of either a Knowledge Organiser or Graphic Organiser, which outlines the key information the children will learn through that particular unit. This is then used as a reference point for children and teachers to continually return to and reflect on throughout the unit.
- Through our planning, we involve problem-solving opportunities that allow children to apply their knowledge, and find out answers 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 pupils regularly to identify those children with gaps in learning, so that all pupils keep up.
- We build upon the knowledge 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.
- 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. This is developed through the years, in keeping with the units.
- 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.

- Regular events, such as Science Week or project days, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills. These events often involve families and the wider community.

IMPACT

The successful approach at Harrow Gate Primary Academy results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge 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. Frequent, continuous and progressive learning is embedded throughout the science curriculum. Through various experiences 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 STEM, as a result of our community links and connections 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 they are scientists and capable of achieving. Children at Harrow Gate Primary Academy overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.