



Science Curriculum Statement

Intent

The 2014 National Curriculum for Science aims to ensure that all children:

- 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 Jeavons Wood, we encourage children to be inquisitive throughout their time at the school and beyond. 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. We also liaise with the Head of Science at the local Secondary School to ensure the smooth transition of knowledge, concepts and skills going into KS3 and beyond, ensuring that the children are Scientists for the whole of their education and into their wider lives.

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/year group teacher, to have a project-based approach, using agreed resources to provide a purpose for the learning taking place. 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. This is clearly set out in Knowledge Organisers for each unit, that are used by the teachers. With pre and post unit mini assessments these allow the teachers to have a good knowledge of the children's abilities and the progress being made and allow for planning to be adapted to meet the needs of all children. 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 topics. We ask that at least two full investigations are written up over the course of an academic year to embed the importance of, and understanding of, the whole process. In other lessons the children may be concentrating on a

selective part of the investigation process (i.e. considering fairness and identification of variables as the element they will record) but may have used a system such as 'Sticky notes' to have planned out the process they intend to follow in their investigation. Opportunities to learn and practise specific working scientifically skills and the opportunities for the whole process pieces, needs to be carefully planned across the whole year's units for each year group.

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 also accessing outdoor learning.

Children are offered a 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.

Regular events, such as Science Day, National Science Week and Forest School, allow all pupils to come off-timetable, to provide broader provision and the acquisition and application of knowledge and skills.

Impact

The successful approach at Jeavons Wood 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 outside the classroom is embedded throughout the science curriculum. Through various workshops, trips and interactions with experts we ensure the children have access to positive role models within the field of science from the immediate and wider local community, including the local Secondary School. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at Jeavons Wood overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.