



## Science Policy

### Intent statement

At Poplar Farm Primary School, we believe that science should inspire children, encouraging them to be inquisitive about the world, nurture their curiosity and enable them to develop a range of skills that are useful across their learning. Our pupils will be equipped to make informed decisions about new technologies, their health and the scientific opportunities around them. Our science curriculum offers a broad range of experiences designed to provide pupils with a progression of scientific understanding, skills and knowledge. Importance is placed on first hand experiences with an expectation that teachers will access the wide range of resources available as well as regular use of outdoor spaces across the school grounds and local area.

### National Curriculum Aims

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.

### 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;

- 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. In our learning

question-based teaching approach, we use cross-curricular links to science wherever relevant. Science relates particularly well to curriculum subjects such as literacy, mathematics, ICT and design and technology.

- We build upon the knowledge and skill development from 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 topics.
- 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. The children take a leading role in developing their outdoor learning area, including planting trees and developing the sensory garden.
- Children are offered a wide 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 Week or project days, such as 'The Great Science Share', 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 Poplar Farm 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 the community, 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 our community links and connection with national agencies such as the STEM association. Children at Poplar Farm overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.

## Curriculum Planning

There are 5 topics areas (4 topics for Year 2) that will be covered throughout the year. The curriculum will be planned in small steps of progression, building knowledge and skills throughout each year group with increasing complexity.

These topics will be covered for each year group					
<b>Year 1</b>	Materials Seasons (introduction)	Animals	Humans	Seasonal Change	Plants
<b>Year 2</b>	Living things and their habitat	Animals including humans		Uses of everyday materials	Plants
<b>Year 3</b>	Forces and magnets	Animals including humans	Rocks	Light	Plants
<b>Year 4</b>	Living things and their habitats	Animals including humans	Sound	States of matter	Electricity
<b>Year 5</b>	Living things and their habitats	Animals including humans	Earth and space	Properties and changes of materials	Forces
<b>Year 6</b>	Living things and their habitats	Animals including humans	Evolution and inheritance	Light	Electricity

Planning is a process in which all teachers are involved. Planning should be done with parallel teachers. All teachers should keep a copy of the termly and weekly planning on the school shared drive. Teachers are regularly informed of relevant resources that they can use to support with planning and teaching in the classroom.

## Assessment

Children's progress is continually monitored throughout their time at Poplar Farm and is used to inform future teaching and learning. By the end of each key stage, pupils are expected to know, apply and understand the knowledge, skills and processes specified in the relevant programme of study as set out in the National Curriculum. These are set out as statutory requirements. We also draw on the non-statutory requirements to extend our children and provide an appropriate level of challenge.

Children receive effective feedback through teacher assessment, both orally and through written feedback in line with the success criteria. Children are guided towards achievement of the main objective through the use of process based 'success criteria', provided by and explained by the teacher. Children will have these to refer to in the lesson, where they will be evident in their books and used to identify areas of difficulty by children and teachers when reviewing and assessing work. Assessment for learning is continuous throughout the planning, teaching and learning cycle this is through:

- Observing children at work, individually, in pairs, in a group, and in classes.

- Questioning, talking and listening to children.
- Considering work / materials / investigations produced by children together with discussion about this with them.

### Equal opportunities

At Poplar Farm, we are committed to providing all children with an equal entitlement to scientific activities and opportunities regardless of race, gender, culture or class.

### Inclusion

In school, we aim to meet the needs of all our children by differentiation in our science planning and in providing a variety of approaches and tasks appropriate to ability levels. This involves providing opportunities for SEND children to complete their own investigations, with support, to develop speech and language skills, as well as scientific skills and knowledge. This will enable children with learning and/or physical difficulties to take an active part in scientific learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities. Teachers will use the school's inclusion planning key to ensure that a range of strategies are used which include and motivate all learners, ensuring that optimum progress is made throughout each part of the lesson.

This policy was adopted on:	<b>March 2021</b>
Review Cycle:	<b>Two Yearly</b>
This policy was subsequently reviewed:	