Purleigh Primary School

Science Policy

"Achievement for all within a community that cares"

Date adopted: Autumn 2023

Date of review: Autumn 2026

Curriculum Statement

Intent

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 Purleigh, we recognise the importance of science in every aspect of daily life. As one of the core subjects, we give the teaching and learning of science the prominence it requires. We encourage children to be inquisitive throughout their time at Purleigh and aim to equip pupils with knowledge, skills and understanding. We endeavour to ensure that the science curriculum we provide will give children the confidence and motivation to continue to develop their skills further into the next stage of education and adulthood.

The science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. 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. We encourage pupils to ask questions and be curious about the world around them.

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 is planned and taught in arranged topics by the class teacher. 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 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.
- Our teaching and learning at Purleigh supports our curriculum by ensuring that lessons 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 and using scientific equipment and collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence.
- The '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.

Impact

The successful approach at Purleigh 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. Progressive learning outside the classroom is embedded throughout the science curriculum. Through quality planning, children at Purleigh enjoy science and this results in motivated learners with sound scientific understanding.

Aims

Through high-quality science teaching, we aim to help our pupils understand how major scientific ideas have played a vital role in society. Moreover, we aim to prepare our pupils for life in an increasingly scientific and technological world.

Our specific scientific aims are to help our pupils:

- To ask questions about scientific phenomena.
- To carry out fair and safe investigations.
- To develop practical skills and the ability to make accurate and appropriate measurements.
- To use appropriate scientific vocabulary and ideas when describing scientific processes and phenomena.
- To increase scientific knowledge and make links with other subjects, such as maths.
- To be aware of how the lives and work of famous scientists and inventors have impacted on our lives and the lives of others.

By the end of EYFS pupils will have been given many opportunities to explore the world around them through first hand experiences and observations. They will have begun their skills of asking questions while becoming more inquisitive. They will have done a lot of this learning in our outdoor school environment, benefiting from these outdoor learning experiences. They will have started to talk about what they can see and what they have done.

By the end of KS1 pupils will have continued to develop skills in observing – looking even more closely at the world around them. Their curiosity will be encouraged and they will develop their ability to ask questions about the world around them. They will have made observations over time and will have started to identify patterns. Their observations will lead to them being able to classify and find things out using simple tests. They will have developed their language when talking about what they have found out. They will have begun to use secondary sources to aid their learning including books, pictures and photos. They will have started their learning of scientific vocabulary.

By the end of KS2 pupils will have broadened their scientific view of the world around them. They will be more confident in developing the scientific investigation process, developing skills in observing, questioning, predicting and testing. Throughout KS2 they will continue to make more decisions regarding what kind of test will be best for the purpose. They will continue their development of observing changes over time, noticing patterns, grouping, classifying and fair testing. They will be able to draw conclusions.
By the end of Y6 the children will have had experience and developed understanding of planning and carrying out investigative processes. Hypothesising, using and controlling

variables, recording data and findings and drawing conclusions based on observations and findings will be embedded throughout the investigation process. The children at this stage will efficiently use secondary sources to help with their scientific knowledge, understanding and investigation processes. They will have a sound use of the vocabulary pertinent to each topic area.

Assessment

Children's progress is continually monitored throughout their time at Purleigh Primary School and is used to inform future teaching and learning.
Children receive effective feedback through teacher assessment, both orally and through written feedback in line with the success criteria. Assessment for learning is continuous throughout the planning, teaching and learning cycle.

In EYFS, we assess the children's Understanding of the World according to the Development Matters statements.
In Key Stage 1 and Key Stage 2 we formally assess the children at the end of each unit, alongside our on-going teacher judgements. This then informs our final termly judgement of each pupil's level.

We ensure progression through the use of Knowledge Organisers and our skills progression documents which are in line with National Curriculum expectations. Knowledge Organisers prioritise the required learning for each year group in each topic strand and therefore planning lesson content and assessment opportunities stem from these documents. Each lesson in a sequence begins with a 'knowledge check-up', which provides opportunity for pupils to self-assess and recall the key knowledge from the previous lessons in that unit.

Equal Opportunities

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

Inclusion

Teachers use a range of inclusion strategies, including paired work, open questions and direct, differentiated questioning and the activation of prior knowledge and contextual learning. Supporting adults are also deployed effectively to ensure focused support where this is necessary. This supports the inclusion and motivation of all learners ensuring that optimum progress is made throughout each part of the lesson.

Role of the Subject Leader

It is the responsibility of the subject leader to monitor the standards of children's work. The subject leader is also responsible for supporting colleagues in their teaching, for being informed about current developments in the subject, and for providing a strategic lead and direction for science in the school.

Parents (Including Homework)

Parental input is highly valued to support children when they receive science homework based on their current topic.