

Be Happy and Shine

Science

Policy

Science Rationale

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. The scientific process and pupils' problem-solving activities will be used to deepen their understanding of the concepts involved. Through science pupils at Percy Main Primary School will continue to deepen their respect, care and appreciation for the natural world and all its phenomena.

Intent

We aim to enable our children to:

- Develop their enjoyment and interest in science and an appreciation of its contribution to all aspects of everyday life.
- Build on the children's curiosity and sense of awe of the natural world.
- Encourage them to make real life connections to the world around them through a cross curricular approach.
- Use a planned range of investigations and practical activities to give them a greater understanding of the concepts and knowledge of science.
- Introduce them to the language and vocabulary of science and ensure they are supported in using the correct vocabulary.
- Develop their basic practical skills and their ability to make accurate and appropriate measurements.
- Extend the learning environment for our pupils via our local area and the local community.
- Increase their ability to ask and answer their own questions.

Implementation

Following the 2014 national curriculum for science teachers aim to ensure that they 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 planned in arranged topic blocks by subject leader, and in collaboration with the class teacher, to ensure a topic-based and cross curricular approach. This is a strategy to enable the achievement of a greater depth of knowledge and progression of knowledge and skills.
- 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. 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 topics.
- Children will be offered a wide range of 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 will provide broader provision and the acquisition and application of knowledge and skills.

Assessment and Recording

Children's progress is continually monitored 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 matters, skills and processes specified in the relevant programme of study as set out in the National Curriculum. Science is assessed alongside the core subjects time frame and at the end of each unit of work. A knowledge harvest is completed at the beginning of each unit and revisited at the end of the topic. Data is recorded termly on O'track.

In EYFS, we assess the children's Understanding of the World according to the Development Matters statements and some aspects of Expressive Arts Design are also science based.

Impact

Evidence of impact on the children include:

- Children learn through fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world.
- Children engage with the local environment which ensures that children learn through varied and first hand experiences of the world around them.
- Children are aware of through various workshops, trips and interactions with experts that science has changed our lives and that it is vital to the world's future prosperity.
- Children feel they are scientists and capable of achieving.
- Children enjoy science and this results in motivated learners with sound scientific understanding.
- Children know how to develop their ideas;
- Children know how to plan and prepare for working scientifically.
- Children understand how to reflect upon impact their immediate environment and the wider world.
- Children can respond to the constructive criticism of others.
- Teachers are confident in their teaching and assessment of scientific skills.

