

Science



I will show you my faith by my work. James 2:18

At Sunningwell CE Primary we want our children to do good, to reach out into the world, to explore and learn and then use their learning to serve their communities and the wider world through voluntary and ultimately paid work. Science will enable children to learn about both the visible and invisible world, about climate, forces, light, electricity, space, nature, and our impact on the earth.

Intent

At Sunningwell, we intend for children to become confident scientists who enjoy exploring and discovering the world around them. Our science curriculum provides children with practical hands-on experiences to foster their curiosity and develop their scientific enquiry skills. We recognise that primary school is a crucial time where children form opinions about science: we aim to ensure that children have a high level of science capital, with meaningful experiences which promote positive attitudes. We strive to inspire life-long interest and engagement with the subject, where children leave Sunningwell with an understanding of the uses and implications of science, today and for the future.

Implementation

Through the disciplines of Biology, Chemistry and Physics, children develop and build on their scientific knowledge and conceptual understanding over time. The curriculum is founded on the National Curriculum objectives, with areas revisited at least every two years. The sequence of units has been carefully considered to maximise learning opportunities. For example, teaching about plants during the growing season. Lessons provide distinct opportunities for children to make links, ask questions, think critically, and acquire scientific vocabulary. Assessment for learning ensures that misconceptions are highlighted and addressed. Each lesson includes time for children to recall prior learning and embed knowledge and time for children to think and talk about science in a broader context. Science skills and knowledge are reinforced through and linked to other areas of the curriculum including English texts, maths, geography, history and Spanish.

Working scientifically is integrated into each unit through five key strands:

- observation,
- pattern seeking,
- researching,
- identification and classification
- comparative and fair testing.

Children are taught and encouraged to work collaboratively.

The progression of scientific enquiry is carefully planned so that children become more

independent and skilled in each of the stages of an investigation as they move through the school. The stages are as follows: making predictions and planning, making observations and measurements, recording, and presenting data, concluding, and evaluating their investigations and making links with scientific ideas, evidence, and research. Children are supported to identify and manage risks and to keep safe when experimenting.

To develop children's science capital, we recognise the importance of how science is represented, by valuing what all children bring with them and connecting science with children's identities, experiences, and what matters to them. We are careful to make conscious choices when selecting scientists to study and discuss. A broad range of science non-fiction books and stories are available for children to enjoy. Enrichment experiences are designed to inspire the children, providing them 'awe and wonder' but also with opportunities for children to engage with 'real life' scientists and role models in the community. Links to the science curriculum are made in other areas of the curriculum, for example, in the identification of flora and fauna during local walks and exploration in 'the Spinney' (a small, wooded area adjacent to the school). At Sunningwell, we value our unique rural location and our collective responsibility to care for the environment is highlighted in our school vision.

[EYFS](#)

The Early Years Foundation Stage Curriculum supports children's understanding of science through the planning and teaching of 'Understanding the World'. It is introduced indirectly through activities that encourage every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. A range of scientific concepts are also introduced more directly: there is a weekly science experiment for children to take part in and some of the provision activities follow on from whole class teaching. Nature poems are shared regularly, children are encouraged to notice the changing of the seasons and they have opportunities to grow plants, which leads into their learning in KS1.

[Impact](#)

Planning and books evidence children's progress in their knowledge, skills, and use of scientific vocabulary: short-term from the start to the end of a unit and long-term as they move through the school from EYFS to Year 6. Statutory data for pupils' achievement in science is submitted at the end of Year 6 and we aim for children to achieve or exceed age-related expectations. Learning walks and pupil interviews show positive attitudes, with children confidently engaging in discussions about their learning, retaining prior learning and making connections between key concepts. They also show that children understand how to work scientifically and what it means to be a scientist.