Newnham St Peter's C of E Primary School Science Curriculum

School Vision

Cherish Everyone ~ Flourish Together ~ Serve Others

Newnham St Peter's School Intent Statement

We aim to work in partnership with parents, governors, the Church and the community to provide a broad and balanced curriculum that enables all our children to develop into well-rounded individuals and lifelong learners. As a church school our curriculum is built upon a strong Christian foundation, with our core values of hope, perseverance, respect, friendship, forgiveness and thankfulness at the heart of all we do.

Curiosity underpins lifelong learning, from pre-school up our curriculum is based upon asking questions and exploring. Reading is the gateway to sustainable learning. We have a structured approach to reading to ensure children develop skills that are applied across the curriculum. Vocabulary is a key focus and our curriculum is designed to ensure children develop both rich creative and subject specific vocabulary.

To ensure knowledge is retained and learning 'sticks', our curriculum is carefully mapped out across all phases, providing continuity, supporting transition and revisiting / building on key concepts.

Our curriculum takes inspiration from our Forest of Dean setting next to the River Severn whilst also ensuring that pupils are outward looking with planned opportunities to gain experience of the wider world.

We aim for children to leave our school not only achieving their full academic potential, but with the skills to keep themselves physically, mentally and spiritually fit. The confidence to push themselves outside of their comfort zone and the moral compass and drive to be active global citizens.

Intent – What we want for the children

At Newnham St Peter's C of E Primary School we recognise that Science is a subject that encourages children to develop their curiosity and sense of discovery about the world around them. We value Science as a core subject and want our pupils to develop a secure understanding of key scientific vocabulary and knowledge, as well as the skills linked to scientific working which support children's learning across the curriculum. Science enables children to expand their cultural capital by working together, asking questions, listening to others and debating ideas, as well as exploring rich and sustained opportunities in the local area and beyond. Practical investigations help children to develop valuable skills including independent thinking, questioning, resilience and self-belief, and give the opportunity to talk about what happened and find solutions to solve a problem. We want our children to develop an enthusiasm and enjoyment of scientific learning and discovery so that they have the drive to pursue Science at secondary school. Through Science, we also aim to raise aspirations for children who lack confidence by demonstrating the opportunities that it presents in the wider world.

Our curriculum in Science ensures that our children are exposed to the richest and most varied opportunities that we can provide. Our aim is to enrich every child's school experience by creating an environment where they are encouraged to succeed and be the best they can be. The curriculum is well-structured with clear progression of knowledge, vocabulary and skills across all year groups. We ensure that units are sequential and thoughtfully planned in relation to the whole school

curriculum and the accessibility to outdoor resources, allowing children to make links across their learning and enhance the teaching of Science. Furthermore, children have the opportunity to revisit prior knowledge and use this to build upon their understanding in a unit through a spiral curriculum. All units are supported by knowledge organisers that ensure children's knowledge is underpinned by specific scientific vocabulary. We ensure that the 'Working Scientifically' skills are built-on and developed throughout each year group so that they can apply their knowledge of science when using equipment, conducting experiments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

See also: Science Long Term Plan

Science Progression of skills map

Implementation – How it will be delivered

In EYFS (pre-school and reception) children practise scientific skills and develop their scientific knowledge across the 7 areas of learning, primarily through 'Understanding the World'. Teaching and learning will cover focus objectives in both adult-led activities and continuous provision, however children will also learn about scientific concepts and practise working scientifically through in-the-moment planning based on children's interests and through quality conversations. The children have weekly Forest School sessions where they develop their scientific understanding through independent exploration and carefully planned opportunities.

For Years 1 – 6, Science is taught weekly in termly units. This is a strategy to enable the achievement of a greater depth of knowledge and frequent revisiting of vocabulary.

Planning involves teachers creating engaging lessons, 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. Children learn from our curiosity questions in science, helping them to make links to prior learning and build new knowledge as they progress through each year.

Impact - What we want the outcomes to be

Our children will:

- Be able to retain knowledge that is pertinent to Science with a real life context.
- Be able to question ideas and reflect on knowledge.
- Work collaboratively and practically to investigate and experiment.
- Be able to articulate their understanding of scientific concepts and be able to reason scientifically, using rich language linked to science.
- Demonstrate a high love of mathematical skills through their work, organising, recording and interpreting results.
- Achieve age related expectations in Science at the end of their cohort year.
- Be ready for their next phase of education in science learning at secondary school by the time they leave Newnham St Peter's C of E Primary School.

Impact is measured through formative assessment of children's understanding through conversations, questioning, observations, class activities, and through end of unit tasks.