



Amberley Primary School **Science Teaching and Learning Profile**



Curriculum Intent

As detailed in our overall curriculum, the teaching of Science at Amberley embraces all three of our core values: nurturing, innovation and aspiration. By focussing on these three key priorities at the heart of our curriculum we believe our children will be ready to successfully meet the challenges of the next stages of their education.

The 2014 National Curriculum for Science aims to ensure that all children:

- 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 Amberley Primary School, we understand that children are naturally curious, and we encourage this inquisitive nature throughout their time with us and beyond. Science fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Through the programmes of study in the National Curriculum science document, children will acquire and develop these skills throughout their Primary years. We ensure that the Working Scientifically skills are built-on and developed throughout pupils' school career so that they can use equipment, conduct experiments, build arguments and explain concepts confidently and continue to ask questions and be curious about their surroundings.

Curriculum Implementation

To ensure high standards of teaching and learning in Science, we implement a curriculum that is progressive throughout the whole school. We plan to ensure full coverage of, 'The National Curriculum programmes of study for Science 2014' and, 'Understanding of the World' in the Early Years Foundation Stage. Science teaching at Amberley Primary School involves adapting and extending the curriculum to match all pupils' needs. Where possible, Science is linked to class topics (for example, 'Rocks' and 'The Stone Age' in Year 3).

We ensure that all children are provided with rich learning experiences that aim to:

- Prepare our children for life in an increasingly scientific and technological world today and in the future.
- Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas.
- Help develop and extend our children's scientific concept of their world.
- Build on our children's natural curiosity and developing a scientific approach to problems.
- Encouraging open-mindedness, self-assessment, perseverance and developing the skills of investigations – including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating.
- Develop the use of scientific language, recording and techniques.
- Develop the use of computing in investigating and recording.
- Make links between science and other subjects.

Science is taught consistently, once a week for two hours. At Amberley Primary School we aspire to promote children's independence and for all children to take responsibility in their own learning, therefore we use science knowledge organisers and scientific glossaries to encourage independent science learning. Science leaders at Amberley Primary School are involved with the Primary Science Teaching Trust and our shared vision is to see excellent teaching of science in primary classrooms. We work alongside other leaders of primary science in North Tyneside and the sharing of good practice enables us to raise the profile of science here at Amberley Primary School. Science leaders also work alongside teachers across the North East of England on a partnership scheme with the Great North Museum in Newcastle.

We also enrich the science curriculum at Amberley Primary School by offering various opportunities, such as after school clubs, science based trips and opportunities to explore STEM centred careers. Science is celebrated around the school through classroom displays, use of our outdoor areas and opportunities for children to engage in STEM activities in our Invention Shed. We also hold an annual, whole-school

celebration of everything STEM. Each year, the theme changes but the foundation of the week centres on celebrating and fostering the love of science, technology, engineering and mathematics. We invite a range of visitors and parents, who are involved in the STEM industry to come in to school and deliver a range of workshops to broaden the children's Science Capital.

Curriculum Impact

The successful approach to the teaching of Science at Amberley Primary School results in a fun, engaging, high-quality science education, that provides children with the foundations 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. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this, especially in EYFS and Key Stage one, where the use of their outdoor area and school garden is frequently utilised. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. We want children to enjoy science and believe that this ultimately results in motivated and passionate learners.

Children at Amberley give positive feedback about their science learning and demonstrate an enthusiastic attitude to science lessons. Parents and people in the community are widely involved in our various STEM initiatives which results in a shared love of science being promoted through the school's social media.

Amberley Primary school was awarded the Primary Science Quality Mark from the University of Hertfordshire in September 2019. This award focuses on developing effective, confident science leadership for whole school impact on science teaching and learning. As well as our PSQM award, for the past five years, Amberley Primary School has been involved in the delivery of science support to trainee teachers who are undertaking the SCITT initial teacher training course. The science good practice day has involved trainee teachers from North Tyneside observing science lessons across school and taking part in sessions about current initiatives in science teaching and learning.

Teaching staff use a wide range of formative assessment tools during lessons to judge the impact that the teaching of science is having on the children's learning. The science leads use regular and robust monitoring including learning walks, data analysis, book looks and pupil voice to gauge the impact of our science curriculum and review the curriculum to ensure that it meet the needs of all learners. High quality CPD is also delivered when necessary to all staff.