



Stanley Crook Primary School

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OUR MISSION: TO TRY OUR BEST, TO TELL THE TRUTH, TO LOOK AFTER EACH OTHER AND THE COMMUNITY

"Pupils' personal development, behaviour and welfare is OUTSTANDING" (Ofsted, 2019)

Science Policy

Completed by: Mrs R. Wilkinson

Date Implemented: September 2025

Review date: September 2026

Stanley Crook Primary School is committed to improving outcomes for all pupils



SCHOOL
MEMBER



Stanley Crook Primary School

Science Policy

Intent

At Stanley Crook Primary School, we believe science is fundamental to understanding the world around us. It shapes every aspect of daily life and has driven human progress throughout history. As a core subject within our curriculum, science is given the prominence it deserves, inspiring curiosity, critical thinking and a lifelong love of learning.

Our science curriculum is designed to deepen pupils' knowledge of the natural and physical world while nurturing the skills of scientific enquiry. Through hands-on investigation and meaningful exploration, children learn to ask questions, test ideas and draw conclusions—developing both independence and collaborative thinking.

We are committed to fostering a sense of wonder and respect for living things and the environment. Our approach ensures that every child, regardless of background or ability, feels empowered to explore, discover and care for the world they inhabit.

By promoting scientific literacy, we equip pupils to interpret information, evaluate evidence, and make informed decisions about health, technology and sustainability. Science at Stanley Crook is not just a subject—it's a gateway to understanding, responsibility and future innovation.

Science Lessons

Scientific enquiry begins in the Early Years Foundation Stage through play-based exploration. Children observe, question, and investigate using their senses and simple tools, laying the foundations for curiosity and discovery. In Key Stage 1, pupils build on these experiences by asking comparative questions, sorting and classifying, and recording their findings through drawings, pictograms, and simple charts. As they progress into Key Stage 2, pupils plan fair tests, take precise measurements, interpret data using graphs and tables, and draw conclusions based on evidence. Throughout, teachers scaffold learning with accessible vocabulary, appropriate equipment, and differentiated recording formats to ensure all pupils can confidently engage with the Working Scientifically strands.

Across all phases, children take part in a wide range of pupil-led investigations that reflect the five types of scientific enquiry:

- Observing over time
- Pattern seeking
- Identifying and classifying
- Comparative and fair testing
- Researching using secondary sources

These approaches are embedded across year groups and tailored to suit pupils' developmental stages. Children are encouraged to ask their own questions, select appropriate methods, and reflect on which type of enquiry best suits their investigation. This fosters independence, critical thinking, and a deeper understanding of how science works in real-world contexts.

Guided by the Science National Curriculum, our lessons provide opportunities for pupils to:

- Build scientific knowledge and conceptual understanding across Physics, Chemistry, and Biology
- Formulate their own questions about the natural world
- Develop resilience and confidence when making predictions and exploring new ideas
- Understand the value of collaboration and teamwork in scientific enquiry
- Investigate practically using a range of enquiry methods
- Strengthen skills in planning, measuring, analysing, and evaluating scientific investigations
- Gather data using ICT, drawings, diagrams, videos, and photographs
- Present findings using tables, bar charts, line graphs, pictograms, and pie charts
- Record and reflect in age-appropriate formats that demonstrate their understanding of the scientific method
- Prioritise safety by recognising and mitigating risks associated with materials and equipment
- Cultivate a lasting enthusiasm for scientific learning and discovery

Continuous Professional Development and Collaborative Practice

At Stanley Crook Primary School, we embrace a continuous learning model of CPD that blends peer-led collaboration, external expertise and self-directed study. This approach empowers teachers to remain confident, current, and creative in their science teaching.

Staff regularly engage in:

- Collaborative discussions during science-focused staff meetings
- Book scrutiny and learning walks with constructive feedback
- Access to high-quality CPD videos covering all areas of the Science Curriculum
- STEM workshops and external training opportunities
- Reflective practice and independent goal-setting
- Termly analysis of pupil progress using bespoke Arbor trackers tailored to our mixed-age structure

Teachers are encouraged to co-plan investigations, share resources and adapt materials to meet the diverse needs of their pupils. Joint planning sessions, resource swaps and differentiation strategies support inclusive, accessible science learning across all year groups. This collaborative culture fosters consistency in vocabulary, progression and enquiry skills, while building a shared bank of practical, pupil-led investigations.

By investing in professional development and teamwork, we ensure that every teacher is equipped to deliver engaging, inclusive science experiences that inspire curiosity and deepen understanding.

Science Subject Lead Role

Stanley Crook Primary School has appointed a dedicated Science Subject Lead to champion the development, delivery, and strategic oversight of science across the school. This role ensures that science remains a vibrant, well-resourced, and inclusive part of our curriculum.

Key responsibilities include:

- Driving continuous improvement in all aspects of science teaching and learning

- Managing the science budget to support high-quality provision
- Conducting annual audits of science resources and maintaining accurate records
- Procuring resources that align with the principles outlined in our Science Lessons framework
- Monitoring the effectiveness of the White Rose scheme through pupil progress tracking via Arbor
- Enhancing their own practical and technical expertise in science
- Leading annual reviews of science provision, informed by pupil and staff feedback
- Communicating regularly with teaching staff to support planning and delivery
- Reporting key developments and outcomes to the Senior Leadership Team

The annual review process includes structured opportunities to gather pupil voice and staff insight. Pupils contribute through surveys and discussions—sharing their experiences, interests and ideas to shape future curriculum planning and enrichment. Staff offer reflections on resource impact, lesson engagement and progression clarity, ensuring that science provision remains responsive, inclusive and grounded in classroom practice.

Science Curriculum Delivery – Stanley Crook Primary School

At Stanley Crook Primary School, children engage in weekly science lessons that build knowledge, curiosity, and enquiry skills across all phases. In Key Stage 1, lessons are timetabled for 1.5 hours per week, while Key Stage 2 pupils receive 2 hours of dedicated science teaching. In the Early Years, science is delivered through focused adult-led activities and continuous provision, encouraging exploration through play and real-world experiences.

We use the White Rose Science scheme to support high-quality, progressive teaching and assessment. Rooted in mastery principles and aligned with the National Curriculum, White Rose offers small-step learning sequences from EYFS to Year 6. Each unit includes:

- Clear learning objectives and essential content
- Key vocabulary and common misconceptions
- Embedded Working Scientifically strands for skill development
- Suggested teaching approaches, including practical activities and guided explanations
- Adaptive slides and accessible worksheets to support inclusive delivery and scientific oracy
- Summative assessments to evaluate understanding and inform future planning

This structured approach ensures coherence, consistency and accessibility across year groups, while allowing teachers to tailor delivery to the needs of their pupils.

Our aim is to provide a science curriculum that empowers children with the confidence, curiosity, and motivation to continue developing their scientific understanding as they move into the next stage of education and life beyond school.

Implementation

At Stanley Crook Primary School, teachers foster a positive attitude towards science and uphold high expectations for all learners. Science is taught in line with National Curriculum requirements, enabling pupils to build secure knowledge and revisit key concepts over time. Lessons are designed to be both practical and conceptually rich, combining hands-on enquiry with direct instruction to deepen understanding.

Pupils are encouraged to ask questions, explore ideas, and use appropriate equipment to investigate and draw conclusions. Teachers model scientific thinking and guide children in planning investigations, interpreting results, and evaluating outcomes. Working Scientifically skills are explicitly taught and embedded across all year groups, including:

- Observing over time
- Pattern seeking
- Identifying and classifying
- Comparative and fair testing
- Researching using secondary sources

As pupils progress, they become more confident in selecting enquiry methods, applying scientific vocabulary and transferring their understanding to new contexts.

Key vocabulary is introduced through direct teaching and reinforced via science working walls and displays. This supports pupils in expressing their ideas clearly—whether through writing, mathematical representations or verbal explanations.

Science lessons are inclusive and accessible for all learners, including those with SEND. Teachers use a range of scaffolds such as sentence starters, visual prompts and structured recording formats to support understanding and communication. Investigations are adapted with simplified equipment, enlarged resources or tactile materials to ensure meaningful participation. Peer collaboration is encouraged through paired and group work, helping pupils share ideas, build confidence and develop teamwork skills. Teachers work closely with support staff to tailor activities and ensure every child can engage with scientific enquiry at their own level.

To enrich learning and inspire future pathways, pupils take part in workshops, trips and interactions with STEM professionals. They explore careers such as environmental scientist, biomedical engineer, vet, nurse, and aerospace engineer—woven into lessons and enrichment activities to show how science connects to real-world roles. Engagement with national initiatives such as British Science Week and the STEM Association helps pupils see themselves as future contributors to scientific progress, regardless of background or ability.

As part of our commitment to inclusion and inspiration, pupils learn about influential scientists from diverse backgrounds, cultures, and time periods. These include Mae Jemison, Rosalind Franklin, George Washington Carver, Katherine Johnson, and Stephen Hawking. By exploring their contributions and life stories, pupils gain a broader understanding of who can be a scientist and how science shapes society—challenging stereotypes and encouraging every child to see themselves as a potential innovator and changemaker.

Parental Engagement in Science

At Stanley Crook Primary School, we value the role of families in supporting children's scientific learning. Parents are invited to engage through science-themed homework challenges, newsletters celebrating pupil investigations, inviting parents with science based jobs to give talks and occasional enrichment events such as workshops or science fairs. These opportunities help build a shared enthusiasm for science, reinforce learning beyond the classroom and showcase how science connects to everyday life. By involving families, we strengthen pupils' confidence, curiosity and motivation to explore the world around them.

Cross-Curricular Links

Science learning is enriched through purposeful links with other subjects across the curriculum. Pupils apply mathematical skills when measuring, recording data and interpreting graphs, while literacy is developed through scientific explanations, report writing,

and vocabulary work. Geography and history provide real-world contexts for environmental studies and scientific discoveries and art and design support observational drawing and model-making. These connections help pupils see science as part of a broader, interconnected understanding of the world, deepening engagement and supporting transferable skills.

Local Links and Community Engagement

At Stanley Crook Primary School, we enrich science learning through meaningful connections with our local community, for example pupils explore renewable energy by investigating wind turbines with support from OASES, deepening their understanding of sustainability and environmental science. During British Science Week, children collaborate with the local radio club to design and build simple communication devices—bringing physics and engineering to life through hands-on exploration. These partnerships provide real-world context, inspire curiosity and show pupils how science is woven into the fabric of their everyday lives.

Science Assessment and Curriculum Tracking

Assessment in science is continuous, purposeful, and designed to support pupil progress. Formative assessment is embedded throughout lessons, enabling teachers to identify misconceptions and respond swiftly. Strategies include questioning, observation, pupil discussions and low-stakes tasks that provide real-time insight into understanding. These informal checks guide immediate feedback and allow teaching to be adapted responsively.

At the end of each unit, summative assessments—such as White Rose end-of-unit tests—are used to evaluate overall understanding. Outcomes inform future planning and help identify gaps in learning. These are addressed through targeted support, pre-teaching or revisiting key concepts, ensuring all pupils are supported to make sustained progress.

Pupil achievement in science is tracked using the Arbor Curriculum Tracker, which reflects our mixed-age structure and supports clear monitoring across year groups. As a core subject, science requires assessment for all pupils. Teacher judgements are recorded as either:

- **'Having Met Standard'**
- **'Having Not Met Standard'**

There is no 'greater depth' judgement in science, ensuring consistency and clarity in assessment across the school.

Impact

At Stanley Crook Primary School, our successful approach to science ensures a fun, engaging, and high-quality education that lays the foundations for understanding the natural world. Through regular outdoor learning and active engagement with the local environment, pupils gain first-hand experiences that spark curiosity and deepen scientific thinking. Investigating their immediate surroundings helps children connect classroom learning to real-world contexts in meaningful ways.

By the time pupils transition to secondary education, they will have developed the scientific knowledge, enquiry skills and positive attitudes needed to confidently access the Key Stage 3 curriculum and build upon their prior learning.

Pupil voice plays a central role in shaping our science curriculum. Through surveys, classroom discussions, and reflection activities, children share their views and attitudes toward science—helping us refine our provision, celebrate what inspires them and motivate learners across all year groups.

We are committed to fostering an inclusive vision of science. Children learn that anyone can be a scientist or pursue a STEM career, regardless of ethnic origin, gender, class, aptitude or disability. This message is woven throughout our curriculum, enrichment activities and classroom culture—empowering every child to see themselves as a future contributor to scientific progress.