



Cooper Perry Primary School

Science Statement of Practice

Vision

At Cooper Perry Primary School, we want our pupils to explore the world around them and engage with new concepts through practical learning and exciting, hands-on experiences. We aim to develop independent thinkers who are confident in questioning and investigating the world they live in.

We support our pupils in building strong scientific knowledge and a clear conceptual understanding across all areas of science through discussion, practical activities, research and written work. Our curriculum equips pupils with the scientific understanding they need to appreciate the uses and implications of science today and in the future.

At Cooper Perry, we want pupils to confidently explain the fascinating ideas and phenomena they encounter in the world. We encourage problem-solving and independence through the use of enquiry types and enquiry skills, enabling pupils to investigate meaningful scientific questions. As they move through the key stages, their investigations become increasingly independent and child-led. Pupils develop their practical skills, learn as scientists through experience, and gradually become more confident and independent in communicating their ideas.

Intent

At Cooper Perry, we want our children to develop a genuine enthusiasm for science and the confidence to ask thoughtful questions and explore ways to answer them. We aim to provide a science curriculum that equips every child with the motivation and self-belief to continue building their scientific skills as they move into the next stages of their education and life experiences.

In our science lessons, we value both substantive knowledge (the scientific facts and concepts) and disciplinary knowledge (the skills of working scientifically). To keep learning engaging, we make full use of opportunities for practical investigations and hands-on activities. This approach supports pupils in securing new knowledge, deepening their understanding, and developing scientific vocabulary.

We have carefully mapped our investigations to ensure that all five key enquiry types are covered: observing over time, pattern seeking, identifying, grouping and classifying, comparative/fair testing, and researching. These approaches enable children to explore scientific ideas through meaningful practical experiences, helping them to understand and apply the scientific process.

Implementation

Curriculum

At Cooper Perry, we use Developing Experts to drive our science curriculum, ensuring it is rich in knowledge while also strengthening pupils' working scientifically skills. Developing Experts enhances learning through high-quality images, film clips, songs and a wide range of engaging resources, making each lesson exciting and inspiring for our pupils.

In Science, we have introduced 'big questions' across our topics to help pupils make meaningful connections in their learning. At the start of each unit, pupils are presented with the 'big question', and as the topic progresses, they build their understanding by adding key facts and ideas to the working wall. At the end of the unit, pupils reflect on the knowledge and skills they have gained and use these to respond confidently to the 'big question'.

For example –

- How are different materials suited to different purposes? (Use of Everyday Materials – Year 2)
- Where does our food go? (Animals including Humans – Year 4)

Practical work is a central feature of our science curriculum and is grounded in pupils' understanding of enquiry skills and enquiry types. Throughout science lessons, we encourage pupils to think independently by engaging them in key reasoning questions introduced at the start of each topic. Important scientific vocabulary is continually reinforced and expanded as learners progress through the school. Pupils investigate new concepts and processes through child-led enquiries, giving them opportunities to question the world around them and

Teachers provide a wide range of practical activities, including investigations and experiments that enable children to observe, identify patterns, group and classify, compare, and explain. Pupils use planning boards to help them design investigations more independently, with their understanding of fair testing becoming more secure and sophisticated as they move through the year groups. We believe that hands-on learning allows pupils to develop a deeper grasp of new concepts and processes.

In EYFS, we ignite children's natural curiosity by encouraging them to explore the world around them and ask questions. We believe it is vital to nurture scientific thinking from the moment they start school, helping them begin their journey as young scientists. Through developing early scientific knowledge and vocabulary, children learn to talk confidently about the world and the phenomena they observe, enabling them to form and express their own scientific questions.

At Cooper Perry, we believe that strong foundations in science begin with strong foundations across the curriculum. Secure word reading enables pupils to access scientific vocabulary with confidence, while early maths skills support their ability to measure, compare and interpret data. High standards in handwriting and spelling ensure pupils can record their observations clearly and accurately. High-quality interactions between staff and pupils further strengthen understanding, allowing misconceptions to be addressed quickly and scientific thinking to be modelled effectively. Together, these foundations equip pupils with the essential skills they need to thrive as young scientists

Knowledge Organisers

Knowledge organisers are an essential resource in every science unit. They outline what pupils should already understand, the key learning objectives for the topic, the core scientific vocabulary, and the enquiry skills to be developed. In Key Stage 1, organisers are stored in floor books and revisited at the beginning of lessons; in Key Stage 2, they are placed in individual science books. Teachers draw on knowledge organisers frequently during lessons, particularly in the 'Connect' phase, using them to help pupils build links across topics and year groups while continually reinforcing fundamental scientific knowledge.

Scientific vocabulary

Scientific vocabulary is essential for helping pupils understand, discuss and apply key scientific concepts with accuracy and confidence. Through Developing Experts' Rocket Words, pupils are introduced to ambitious, topic-specific terminology in a clear and engaging way. These words are revisited regularly across lessons to strengthen retention and deepen understanding. By repeatedly encountering vocabulary in different contexts—such as investigations, discussions and written explanations—pupils learn to use scientific language independently and accurately. This consistent exposure supports long-term memory, enables pupils to communicate their ideas effectively and empowers them to think and behave like real scientists.

Retrieval Strategies

Retrieval practice is a key feature of every lesson, supporting long-term memory and the retention of substantive knowledge. During 'Connect' activities from Developing Experts, pupils revisit learning from previous units and year groups, helping them see how their knowledge develops over time. Teachers use these opportunities to address misconceptions, reinforce understanding, and highlight areas needing further attention. In addition, monthly retrieval lessons provide structured opportunities to revisit important content, consolidate learning, and strengthen pupils' recall, ensuring that knowledge is securely embedded and easily applied in new contexts.

Inclusion

At Cooper Perry, we ensure science is accessible and inclusive for all pupils. Lessons are carefully scaffolded, providing clear steps and support to help every child engage with the content. Tools such as word mats and worked examples support understanding and enable pupils to use scientific vocabulary confidently. Paired work and verbal discussions allow learners to share ideas, deepen understanding, and develop reasoning skills collaboratively. By providing a range of strategies and opportunities for active participation, we ensure that every pupil can access the curriculum, build scientific knowledge, and develop the confidence to think and communicate like a scientist.

Impact

At Cooper Perry, pupils build a progressively deeper understanding of scientific concepts as they move through the year groups, supported by the careful development of scientific vocabulary that extends and secures their learning. As they progress, children strengthen both their scientific knowledge and their ability to work scientifically. They develop increasing independence in planning and carrying out fair and comparative tests, using these skills to answer a wide range of scientific questions. Throughout this journey, activities are appropriately differentiated to ensure all pupils receive the right balance of support and challenge. Pupils grow in confidence when discussing scientific ideas, evaluating their own work and identifying their strengths and areas for development. Scientific enquiry skills remain a central focus within lessons, ensuring methods and processes are understood at an age-appropriate level.

Assessment of Learning

Formative assessment is central to effective science teaching. Teachers use retrieval tasks, enquiry questions and structured discussions to continually check pupils' understanding and identify where support is needed. Pupils regularly respond to key enquiry questions, using accurate scientific vocabulary, relevant knowledge, diagrams, practical work and research to demonstrate their thinking. Dedicated retrieval days help teachers assess long-term retention, revealing misconceptions and gaps that may not surface in everyday lessons. This ongoing cycle of checking, reflecting and adapting enables teachers to plan targeted teaching, ensure secure scientific foundations and support pupils in building deeper, more connected understanding over time.

Marking and Feedback

Feedback is given in real time whenever possible, allowing pupils to respond immediately and refine their understanding during the lesson. Whole-class discussions help pupils explore different interpretations and develop the mindset of a true scientist. High standards of handwriting, spelling, and presentation are consistently upheld across all subjects, including Science.

Appendix 1

Vocabulary

Key Substantive Knowledge – The established factual knowledge pupils are expected to learn. These statements are set out in the progression document and knowledge organisers.

Disciplinary Knowledge – The knowledge of how to work scientifically. These are the enquiry skills pupils develop as they move through the school.

Within the Primary Science Curriculum, there are five recognised types of scientific investigation.

1. **Observing Over Time:**
Tracking how something changes over a period, such as monitoring plant growth or observing changes over time.
2. **Pattern Seeking:**
Identifying relationships or trends in data, for example investigating whether taller plants produce larger seeds.
3. **Identifying, Classifying and Grouping:**
Sorting and categorising objects based on observable features, such as grouping objects by what material it is made from.
4. **Comparative Testing:**
Carrying out controlled tests to explore how different variables affect a particular outcome.
5. **Researching:**
Using secondary sources—such as books or the internet—to find information that may be difficult to investigate directly in class.