Science Curriculum Intent (Primary)

At Cusgarne school our science curriculum aims to develop curious, confident and knowledgeable young scientists who are equipped with the skills and understanding to explore and understand the world around them.

Our curriculum is based on the National Curriculum Science programme of study. We provide a carefully sequenced and knowledge-rich programme that ensures clear progression in both scientific knowledge and skills from EYFS to Year 6.

Our aims

Our science curriculum is designed to:

- Foster curiosity, awe and wonder about the natural and physical world
- Develop pupils' scientific knowledge in line with the National Curriculum
- Equip pupils with the skills to work scientifically, including questioning, predicting, observing, testing, recording and analysing
- Build scientific vocabulary and communication so pupils can explain ideas confidently
- Promote resilience, independence and critical thinking through enquiry and investigation
- Help pupils understand the relevance of science in everyday life and future careers

Knowledge and progression

Our planning supports us to deliver the National Curriculum programme of study through a sequenced and coherent curriculum where knowledge builds cumulatively over time. Key scientific concepts are revisited and deepened through a spiral approach, enabling pupils to make meaningful links between prior and new learning.

We prioritise:

- Clear progression of substantive knowledge (scientific facts and concepts)
- Explicit teaching of disciplinary knowledge (how scientists work)

- Retrieval and revisiting of prior learning to strengthen long-term memory
- Development of precise scientific vocabulary from Early Years onwards

Working scientifically

Practical enquiry sits at the heart of our science teaching and reflects the National Curriculum expectation that pupils learn to work scientifically. Pupils learn to think and behave like scientists through regular opportunities to:

- Ask and refine questions
- Plan and carry out fair tests and comparative enquiries
- Observe changes over time
- Identify, classify and group
- Gather, record and interpret data
- Draw conclusions and evaluate findings

These skills are carefully mapped to ensure progression and increasing independence.

Inclusion and aspiration

Our science curriculum is inclusive and ambitious for all learners. We ensure:

- High expectations for every pupil
- Support and scaffolding where needed
- Opportunities for challenge and deeper thinking
- Representation of diverse scientists and careers to raise aspirations

Real-world relevance

We aim to make science meaningful by linking learning to real-life contexts, environmental awareness and future possibilities. We want pupils to leave Cusgarne school with a strong foundation for secondary science and a lifelong interest in the subject.

Implementation

Science is taught weekly as a discrete subject, which ensures full coverage of the National Curriculum and clear progression of knowledge and skills across the school.

Teaching approach

Our teaching follows a consistent structure to support pupils in building knowledge over time:

1. Retrieval and prior learning

Lessons begin by revisiting prior knowledge to strengthen long-term memory and make links with new learning.

2. Explicit teaching of new knowledge

Teachers introduce key scientific concepts using clear explanations, modelling and high-quality resources. Scientific vocabulary is explicitly taught and revisited regularly.

3. Enquiry and practical investigation

Pupils regularly take part in practical activities that allow them to apply knowledge and develop working scientifically skills. These include fair tests, observations over time, classification and research.

4. Recording and communication

Children record their learning in a range of ways, including diagrams, tables, graphs, written explanations and discussions. Emphasis is placed on using accurate scientific vocabulary.

5. Reflection and consolidation

Learning is reviewed through discussion, questioning and low-stakes assessment to identify misconceptions and secure understanding.

Progression and sequencing

- Units are sequenced to build knowledge cumulatively across year groups.
- Key concepts are revisited to deepen understanding.
- Working scientifically skills are progressively developed, moving from supported enquiry in EYFS/KS1 to increasing independence in KS2.

Assessment

Assessment is ongoing and used to inform teaching. Teachers use:

- Questioning and discussion
- Observation of practical work
- Pupil outcomes and recorded work
- End-of-unit assessments and retrieval activities

This allows teachers to identify gaps, address misconceptions and adapt teaching accordingly.

Inclusion and support

We ensure all pupils can access the science curriculum through:

- Adaptive teaching and scaffolding
- Pre-teaching and vocabulary support where needed
- Opportunities for challenge and deeper thinking
- Practical, visual and discussion-based learning approaches

Enrichment and wider opportunities

Science is enriched through:

- Outdoor learning opportunities
- Links to environmental awareness and sustainability
- STEM links and exposure to scientific careers
- Cross-curricular connections where appropriate

Science Curriculum Impact

The impact of our science curriculum is that pupils:

Knowledge and understanding

• Develop secure and progressive scientific knowledge in line with the National Curriculum

• Retain key concepts and make links between areas of learning

• Use accurate scientific vocabulary confidently

Working scientifically

• Demonstrate the ability to ask questions, plan investigations and interpret results

• Show increasing independence and confidence in practical work

• Think critically and evaluate evidence

Attitudes and engagement

• Show curiosity and enthusiasm for science

• Recognise the relevance of science in the real world

• Are prepared for the next stage of their scientific education

How impact is measured

We evaluate the effectiveness of science teaching through:

• Pupil voice and engagement

• Work scrutiny and monitoring

• Assessment outcomes and progress over time

• Lesson observations and professional dialogue

By the end of Year 6, pupils leave Cusgarne school with a strong foundation in scientific knowledge, enquiry skills and a positive attitude towards science, preparing them well for Key Stage 3 and beyond.