

Science Curriculum Overview

INTENT

At Nanstallon, science sits within our STEM strand. Our curriculum is built on joy, curiosity and purpose, and is designed so that every child secures strong foundational knowledge before applying it with increasing independence.

Science is underpinned by three BIG IDEAS that run through every unit:

1. Observation
2. Investigation
3. Explanation

Through science, pupils build secure knowledge in biology, chemistry and physics, alongside the “working scientifically” methods and habits that help them make sense of the world.

We want pupils to:

- Ask questions and pursue answers through practical enquiry
- Observe carefully, measure accurately and record appropriately
- Explain patterns and relationships using scientific vocabulary and evidence
- Develop resilience, curiosity and perseverance when investigations are challenging

IMPLEMENTATION

Science is carefully sequenced so that knowledge and vocabulary build over time, with explicit teaching, modelling, guided practice, regular retrieval and deliberate revisiting.

Pupils are supported to apply knowledge through reasoning, investigations and structured problem-solving tasks.

Curriculum structure and sequence

All units are taught through the BIG IDEAS and the National Curriculum content, with “working scientifically” embedded through biology, chemistry and physics rather than taught separately.

Key Stage 1 topics are mapped alongside humanities to support coherence and retrieval across the year. Topics are typically taught in blocks and then revisited through wider curriculum links. Plants and seasonal changes are strengthened year-round through continuous provision, outdoor learning and responsive opportunities.

KS1 mixed age cycles

Cycle A

Term 3 Materials

Term 6 Animals, including humans

Cycle B

Term 3 Living things and their habitats

Term 5 Animals, including humans

Lower KS2 mixed age cycles

Cycle A

Term 1 Animals inc Humans

Term 3 States of Matter

Term 4 Light

Term 5 Forces and Magnets

Term 6 Sound

Cycle B
Term 2 Rocks
Term 3 All Living things
Term 4 Electricity
Term 5 Plants

Upper KS2 mixed age cycles

Cycle A
Term 2 Properties and Changes of Materials
Term 3 Animals inc Humans
Term 4 Light
Term 6 Living things and habitats

Cycle B
Term 1 Electricity
Term 3 Earth & Space
Term 4 Evolution
Term 5 Forces

Simplified progression of skills and knowledge

Across both key stages, pupils progress in three linked areas

1. **Investigation**
KS1 Perform simple tests, begin to understand fairness, use simple predictions
KS2 Plan different enquiry types, recognise and control variables where needed, use results to make predictions and refine tests
2. **Observation**
KS1 Observe closely using simple equipment, identify and classify, record simple data
KS2 Take accurate measurements, use a wider range of equipment, record and present data using tables, diagrams and graphs
3. **Explanation**
KS1 Use observations and ideas to suggest answers and begin to explain evidence
KS2 Report findings with conclusions and explanations, evaluate trust in results, use evidence to support or refute ideas

Inclusion and accessibility

All pupils are supported to succeed through:

- Practical, hands-on science with clear routines and safety expectations
- Pre-teaching and revisiting key vocabulary, with visuals, models and concrete examples
- Scaffolded enquiry such as sentence stems for conclusions, structured recording templates, and guided group investigation
- Alternative ways to record learning, including talk, photos, diagrams, tables and labelled drawings

Assessment

Assessment is primarily formative and focuses on pupils' ability to:

- Recall and use key scientific knowledge and vocabulary
- Apply working scientifically skills appropriately within the unit
- Explain findings using evidence, not guesswork

IMPACT

By the end of Key Stage 2, pupils leave Nanstallon able to use a range of scientific enquiry types, take accurate measurements, record and present data appropriately, and communicate explanations that are grounded in evidence.

They are increasingly confident to:

- Ask questions, form hypotheses and test ideas safely
- Work collaboratively during practical investigations
- Persist and adapt when results are unexpected
- Explain scientific findings in different ways, using appropriate vocabulary

Impact is evaluated through:

- Pupils' growing independence in planning, carrying out and evaluating investigations
- Quality of scientific explanations and use of evidence over time
- Secure retention and application of key vocabulary and concepts across units and year groups