



BROOMHILL INFANT AND NURSERY SCHOOL

SCIENCE POLICY

Nursery to Year 2

From wonder and curiosity to confident scientific thinking

“The important thing is never to stop questioning.” Albert Einstein

EXPLORE IT • QUESTION IT • DISCOVER IT

Policy owner	Frances Cousins, Science Leader.
Responsible leader	Headteacher
Approved by	Curriculum and Standards Committee
Approval date	September 2026
Review date	September 2027, or sooner if national guidance changes
Read alongside	Curriculum, Teaching and Learning, EYFS, SEND and Inclusion, Assessment, Health and Safety and Educational Visits policies

1 Vision and rationale

At Broomhill Infant School, science begins with children's curiosity. We enable every child to observe, explore, question, test ideas and explain what they notice in the natural and humanly constructed world. First-hand experiences, purposeful talk, stories, outdoor learning and carefully chosen practical enquiries build secure knowledge, scientific vocabulary and a lasting sense of wonder.

Science is taught through planned lessons and is revisited every day through continuous provision from Nursery to Year 2. Our termly Tinkering Tuesdays make STEM visible and memorable: children collaborate on open-ended challenges that combine science, technology, engineering and mathematics, learning to plan, make, test, evaluate and improve.

2 Aims

- Develop curiosity, enjoyment and confidence in science.
- Build secure, progressive knowledge of plants, animals including humans, habitats, everyday materials and seasonal change.
- Teach children to work scientifically by asking questions, observing closely, using simple equipment, testing, identifying, classifying, gathering data and communicating findings.
- Develop precise scientific vocabulary and purposeful talk so every child can explain ideas and challenge misconceptions.
- Make meaningful links across STEM, mathematics, design and technology, computing, literacy, art, our Climate Action Plan & outdoor learning.
- Ensure that all children, including those with SEND and disadvantaged pupils, can participate, achieve and see themselves as scientists.
- Introduce children to diverse scientists, engineers and environmental thinkers, including contemporary and local role models.
- Build care for living things, respect for the environment and an age-appropriate understanding of sustainability.

3 Statutory curriculum and current position

This policy reflects the statutory Early Years Foundation Stage framework for group and school-based providers and the National Curriculum in England science programme of study. At the date of approval, the statutory KS1 science programme published in 2014 remains in force. The school will review this policy when any future revised national curriculum becomes statutory.

In the EYFS, science is principally developed through Understanding the World and is strengthened through Communication and Language, Physical Development and Mathematics. Children explore the natural world, describe what they see, hear and feel, recognise similarities and differences between environments, understand important processes and changes, and encounter vocabulary and ideas through stories, observation, talk and play.

In KS1, children experience and observe phenomena, look closely at the world around them, ask questions and use different types of enquiry. Working scientifically is embedded within substantive science content and is not taught as a separate unit.

4 Curriculum entitlement and progression

Phase	Main entitlement	Typical curriculum emphasis
Nursery	Understanding the World through play and routines	Hands-on exploration using the senses; noticing change; planting and caring for living things; talking about weather, materials and forces in everyday play; asking “I wonder” questions.
Reception	Understanding the World and preparation for KS1	Frequent observation of the natural world; seasons and changing states; contrasting environments; plants and animals; vocabulary, prediction, simple comparison and recording through talk, drawing, photographs and Tapestry.
Year 1	Plants; animals including humans; everyday materials; seasonal changes	Naming, describing and comparing; body parts and senses; identifying material properties; observing weather, seasons and day length over time.
Year 2	Living things and habitats; plants; animals including humans; uses of everyday materials	Living, dead and never alive; habitats, microhabitats and simple food chains; conditions for plant growth; survival, growth, exercise, food and hygiene; suitability and changing shapes of materials.

Teachers use the school science progression document to sequence substantive knowledge, working scientifically skills and vocabulary from Nursery to Year 2. Prior learning is checked and revisited so that new knowledge connects to what children already know. Key concepts are returned to in different contexts and seasons.

5 Working scientifically

Children are taught to use the following practical methods and processes through the science content and States of Being when they become Scientists:

- ask simple questions and recognise that questions can be answered in different ways;
- observe closely, using simple equipment;
- perform simple tests;
- identify and classify;
- use observations and ideas to suggest answers;
- gather and record data to help answer questions.

Across EYFS and KS1, children experience the five enquiry approaches: observing over time; pattern seeking; identifying, classifying and grouping; comparative testing; and finding out through secondary sources. Teachers model the cycle of asking, predicting, planning, doing, observing or measuring, recording, interpreting and reporting. Children learn that results may surprise us and that reviewing or improving an approach is part of scientific thinking.

6 Continuous provision as everyday science

Continuous provision is a central part of science at Broomhill, not an optional extra. Carefully planned indoor and outdoor environments allow children to return to ideas, practise skills independently, pursue fascinations and apply taught knowledge in new contexts. Provision is available from Nursery through Year 2, with increasing challenge and independence.

- Resources are accessible, well labelled and selected to invite purposeful exploration, including magnifiers, mirrors, torches, magnets, balance scales, timers, measuring tools, pipettes, construction materials and natural collections.
- Adults identify the intended science knowledge or enquiry skill within enhancements and use “I wonder...” prompts, model vocabulary and sustained shared thinking to extend learning.
- Provision may include planting and growing, minibeast and habitat studies, weather observations, water and ice investigations, ramps and forces, shadows and light, sound, floating and sinking, mixing and changing materials, sorting and classification, and large-scale construction.
- Outdoor areas, the garden and the local environment are used across the year so children notice seasonal and environmental change rather than meeting concepts only once.
- Children record in developmentally appropriate ways, including talk, drawing, photographs, labels, tallies, simple tables, floor books and Tapestry.
- Teachers review engagement and learning so that enhancements build on children’s interests without losing the planned curriculum intention.

7 Tinkering Tuesdays and STEM

Tinkering Tuesdays are planned STEM experiences held termly and shared with families. Children work collaboratively on inclusive, practical challenges that require them to apply science knowledge alongside technology, engineering, design and mathematical thinking.

A typical challenge follows a child-friendly design and enquiry process: explore the problem; ask questions; imagine and plan; choose materials and tools; make or investigate; observe and test; explain what happened; evaluate and improve. The emphasis is on purposeful thinking and iteration rather than producing identical finished products.

- Challenges have a clear scientific idea or enquiry focus and make curriculum links explicit.
- Adults model safe tool use and ask questions that help children justify choices and notice cause and effect.
- Children are encouraged to persevere, collaborate, change their ideas and learn from attempts that do not work as expected.
- Possible contexts include building stable structures, making waterproof shelters, designing bridges or ramps, exploring flight, creating moving mechanisms, investigating insulation, or solving seasonal and environmental problems.
- Family participation values shared exploration. Activities are designed so adults support children’s thinking rather than completing the task for them.
- Teachers capture pupil voice, vocabulary, photographs and examples of planning, testing and improvement as evidence of learning.

8 Teaching and learning

- Lessons begin from what children know and include clear explanations, modelling and purposeful questioning.
- Practical work is chosen because it develops knowledge or answers a question; it is not an activity without a learning purpose.
- High-quality fiction, non-fiction, images, video and age-appropriate digital resources introduce contexts, support research and expose misconceptions.
- Teachers explicitly teach and revisit scientific vocabulary. Children hear, say, read and, where developmentally appropriate, spell and write key terms.

- Talk partners, sentence stems, Chatta approaches, Makaton, Widgit symbols, objects and visual supports enable children to communicate scientific thinking.
- Mathematics is applied through counting, measuring, comparing, sorting, representing and interpreting simple data.
- Teachers present science as a collaborative human endeavour and select examples that challenge stereotypes about who can be a scientist or engineer.

9 Inclusion and adaptive teaching

All children receive an ambitious science curriculum. Teachers remove barriers without unnecessarily reducing the scientific goal. Adaptations may include pre-teaching vocabulary, concrete experiences, smaller steps, additional processing time, visual timetables, now-and-next prompts, sensory adjustments, alternative recording, communication aids, adapted equipment, adult modelling and carefully structured peer collaboration.

Staff use pupils' individual plans and EHCP provision where applicable. Children working at an earlier developmental stage access the same broad scientific ideas through meaningful sensory, cause-and-effect, interaction and communication experiences. Greater depth is promoted through explanation, independent question generation, choice of enquiry, comparison of evidence and application in unfamiliar contexts, rather than by accelerating into later key-stage content.

10 Assessment and evidence

Assessment is proportionate and informs teaching. Adults identify what children know, understand and can do through observation, discussion, questioning, practical work and review of recorded outcomes. In EYFS, relevant learning may be captured through Tapestry and floor books in line with the school's observation approach. In KS1, teachers use curriculum outcomes, floor books and children's work to make termly judgements recorded on INSIGHT.

- Assessment considers both substantive knowledge and the ability to work scientifically.
- Teachers probe misconceptions and revisit insecure knowledge.
- A range of evidence is used; a child's scientific understanding is not judged only through extended writing.
- The subject leader monitors curriculum coverage, progression, pupil voice, books and provision, and supports moderation and professional development.
- Assessment information is used to identify patterns for groups, including pupils with SEND and disadvantaged pupils, and to plan responsive support.

11 Learning environment and resources

At Broomhill, every child is a scientist. Classrooms and outdoor spaces communicate that questions are welcomed, evidence matters and ideas can be improved. Displays and working walls support current vocabulary and concepts without replacing direct teaching. Resources are organised for independence and checked regularly. Living things are treated with care and returned safely to suitable habitats after observation.

12 Health, safety and safeguarding

Teachers assess risk and follow the school Health and Safety Policy, relevant risk assessments and current practical science guidance. Children are explicitly taught safe routines, hygiene, respectful handling of living things and appropriate use of equipment and tools. Allergies, medical needs, sensory needs and individual risk assessments are considered when planning. Children are supervised appropriately during practical work, outdoor learning, cooking, visits and Tinkering Tuesdays. Hazardous substances are not used with children unless specifically risk assessed and authorised.

13 Roles and responsibilities

- The headteacher ensures that statutory curriculum requirements are met and that appropriate time, resources and professional development are available.

- The science subject leader maintains the progression and overview, supports colleagues, monitors implementation and impact, audits resources and leads development priorities.
- Teachers plan and teach the agreed curriculum, assess learning, provide appropriate adaptations and maintain safe practice.
- Learning support staff understand the learning intention, model vocabulary and promote pupil thinking and independence.
- Governors provide appropriate support and challenge through curriculum monitoring.

14 Partnership with parents and carers

Families are informed about science learning through termly curriculum information, Class Dojo, Tapestry, classroom updates and parent meetings. Parents and carers are invited to Tinkering Tuesdays and may be offered simple ideas for safe exploration at home. Home experiences and children's questions are valued and can enrich learning, while school ensures that every child receives the full curriculum regardless of access to resources outside school.

15 Monitoring and review

The science subject leader and senior leaders evaluate implementation through planning and curriculum reviews, learning walks, scrutiny of floor books and pupils' work, conversations with children and staff, assessment information, provision reviews and resource audits. Monitoring focuses on whether the intended curriculum is being learned, remembered and applied. Findings inform staff development and the school improvement cycle. This policy is reviewed annually and sooner if statutory guidance changes.

16 Key guidance

- **Department for Education:** National curriculum in England: science programmes of study
<https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study>
- **Department for Education:** Early years foundation stage statutory framework
<https://www.gov.uk/government/publications/early-years-foundation-stage-framework--2>
- **Department for Education:** Development Matters: non-statutory curriculum guidance for the EYFS
<https://www.gov.uk/government/publications/development-matters--2>
- **Health and Safety Executive:** Education: practical activities and school trips
<https://www.hse.gov.uk/education/>

17 Terminology and useful reference points

Term	Meaning within this policy
STEM	Science, technology, engineering and mathematics
Substantive knowledge	The scientific facts, concepts and vocabulary pupils learn
Working scientifically	The practical methods, processes and skills used to answer scientific questions
Continuous provision	The planned, accessible learning environment children can use and revisit independently
Tinkering Tuesday	A termly collaborative STEM experience involving planning, making, testing, explaining and improving

18 Annual implementation questions

Review prompt	RAG or note
Is the intended science curriculum taught and remembered from Nursery to Year 2?	
Does continuous provision revisit and deepen identified scientific knowledge and enquiry skills?	
Do Tinkering Tuesdays show purposeful STEM learning, collaboration, testing and improvement?	
Can children use age-appropriate scientific vocabulary to explain what they notice and find out?	
Can all groups, including pupils with SEND and disadvantaged pupils, participate and achieve?	

19 Review record

Review date	Reviewed by	Key amendments

EVERY CHILD BELONGS • Every child • Every day • Every opportunity