MATHEMATICS POLICY

Nursery to Year 2

"Maths is like ice-cream, with more flavours than you can imagine."

Denise Gaskins

NOTICE IT • TALK IT • TRY IT

Policy owner	Victoria Nicholls and Alison Evans – Mathematics Leaders
Responsible leader	Headteacher: Hayley Farthing
Approved by	Governing Body
Approval date	September 2026
Review date	September 2027, or sooner if national guidance changes

1 Purpose, vision and statutory context

A shared commitment to confident mathematicians who notice patterns, make connections and enjoy challenge.

Our vision

At Broomhill Infant School, we want every child to develop a positive and enthusiastic attitude towards mathematics and to think, talk and act like a mathematician. Nature, Nurture and Knowledge are at the heart of our approach. Children learn through practical, hands-on and meaningful experiences in direct teaching, Tinkering Tuesdays, continuous provision and carefully resourced indoor and outdoor environments.

We aim for children to develop secure and connected mathematical knowledge. Fluency, reasoning and problem-solving are planned deliberately so that children can recall what they know, explain their thinking, select useful representations and apply mathematics in familiar and unfamiliar situations.

Statutory context

This policy reflects the National Curriculum in England mathematics programmes of study for Key Stage 1 and the Early Years Foundation Stage statutory framework for group and school-based providers effective from September 2026. The National Curriculum requires pupils to develop fluency, mathematical reasoning and problem-solving. It also emphasises spoken language, rich connections between mathematical ideas and secure understanding before progression.

The Early Learning Goals support end-of-Reception assessment. They are not the Reception curriculum and must not narrow the rich mathematical experiences offered throughout the EYFS.

Aims for our pupils

- develop a growth mindset, curiosity and a positive attitude towards mathematics;
- become fluent with number and increasingly efficient in mental calculation;
- reason mathematically, notice patterns and connections, and justify ideas using precise vocabulary;
- solve routine and non-routine problems, selecting resources and persevering when solutions are not immediate;
- move flexibly between concrete, pictorial, symbolic and spoken representations;
- become independent learners who collaborate purposefully with others;
- apply mathematics in real-life, cross-curricular and outdoor contexts; and
- see themselves as mathematicians through our States of Being philosophy.

2 Curriculum principles and progression

Ambitious learning is carefully sequenced, connected and responsive to what children know.

Mastery for all

The majority of pupils move through the curriculum at broadly the same pace. Decisions about progression are based on the security of understanding and readiness for the next step. Children who grasp concepts rapidly meet rich and sophisticated problems that deepen thinking before acceleration. Children who need more time consolidate through additional modelling, representations, guided practice and purposeful rehearsal.

Curriculum design

- White Rose Maths Schemes of Learning provide a starting point for a coherent conceptual pathway and full curriculum coverage.
- The Broomhill Calculation Policy secures consistent language, representation and modelling across classes.
- The DfE ready-to-progress guidance and NCETM materials help staff identify core concepts and important connections.
- Learning is broken into small steps that build on prior knowledge. Difficult points and likely misconceptions are anticipated.
- Curriculum plans identify what children should know and remember, including essential vocabulary and representations.
- Teachers revisit important knowledge and provide varied practice so that learning becomes secure, flexible and usable.
- The year-by-year school curriculum is published online and reviewed for statutory coverage, balance and progression.

The three connected aims

Aim	What this means at Broomhill	Typical practice
Fluency	Secure conceptual understanding, accurate recall and flexible use of facts and procedures.	Varied practice, subitising, number sense, retrieval, stem sentences and efficient strategies.
Reasoning	Following a line of enquiry and explaining, comparing, proving and justifying with mathematical language.	Questions such as how do you know, what do you notice, always sometimes never, and convince me.
Problem-solving	Applying mathematics to routine and non-routine contexts and breaking problems into manageable steps.	Open-ended challenges, real-life contexts, outdoor learning, Tinkering and multiple possible solutions.

Mathematical talk

The quality and variety of language children hear and use are central to mathematical development. Adults explicitly teach vocabulary, model full sentences, use stem sentences where helpful, allow processing time and invite children to explain and compare methods. Discussion is used to reveal understanding and address misconceptions, not simply to obtain answers.

3 Mathematics in the Early Years

Frequent, varied and playful experiences build strong foundations in number, pattern, shape, space and measure.

Nursery

Core mathematical ideas are embedded through high-quality interactions, routines, songs, stories and a stimulating environment that invites open-ended problem-solving. Adults notice the mathematics in children's play, model appropriate vocabulary and extend thinking without taking over. Children encounter counting, comparison, composition, pattern, shape, position and measure through meaningful experiences indoors and outdoors.

Reception

Children take part in daily NCETM Mastering Number sessions. These establish secure number sense and introduce much of the Number and Numerical Patterns learning within the EYFS. White Rose materials support coverage of the wider mathematics curriculum. Children apply, consolidate and deepen learning through purposeful continuous provision, supported by skilled adults who connect play with clear curricular intentions.

Current EYFS mathematical priorities

- develop a deep understanding of numbers to 10, including the composition of each number;
- subitise quantities up to 5 and recognise familiar arrangements without counting;
- recall number bonds to 5, including subtraction facts, and some bonds to 10, including doubles;
- count confidently and verbally beyond 20, noticing the pattern of the counting system;
- compare quantities to 10 using greater than, less than and the same as;
- explore and represent patterns within numbers to 10, including odd and even numbers, doubles and equal sharing;
- develop spatial reasoning across mathematics, including shape, space and measure; and
- look for patterns and relationships, make connections, talk about what they notice, have a go and learn from mistakes.
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Assessment is based on practitioners' knowledge of the child gained through everyday teaching and interaction. Recorded, written or photographic evidence is not required for EYFS Profile judgements.

From EYFS into Year 1

Transition is planned so that Year 1 builds from children's prior experience of practical resources, talk and purposeful provision. Teachers use assessment and professional dialogue to maintain ambition while avoiding unnecessary repetition or an abrupt shift away from active mathematical learning.

4 Mathematics in Key Stage 1

Daily teaching secures number fluency while developing the full breadth of the statutory curriculum.

In Year 1 and Year 2, the principal focus is confidence and mental fluency with whole numbers, counting and place value. Children work with numerals, words, the four operations and practical resources. Teaching also develops measure, geometry, fractions and, in Year 2, statistics. Children read and spell mathematical vocabulary in line with their developing literacy.

Daily provision

- Children receive a mathematics input and an additional 10-15 minute NCETM Mastering Number session each day.
- Teaching moves between teacher modelling, guided practice, purposeful independent application and continuous provision.
- Adults work with small groups to assess in the moment, clarify misconceptions and provide immediate support or challenge.
- Resources and representations remain available so children can select and use them independently.
- Children revisit, retrieve and apply important knowledge frequently, including number facts and mathematical vocabulary.

Key Stage 1 entitlement

Area	Year 1 emphasis	Year 2 emphasis
Number and place value	Count, read, write and represent numbers to 100; one more and one less; count in 2s, 5s and 10s.	Place value in two-digit numbers; compare, order and represent to at least 100; count in 2s, 3s, 5s and 10s.
Calculation	Number bonds within 20; practical addition, subtraction, grouping, sharing and arrays.	Fluent facts to 20 and related facts to 100; mental and written methods; 2, 5 and 10 multiplication and division facts.
Fractions	Recognise and find halves and quarters.	Recognise, find, name and write thirds, quarters, two quarters and three quarters; recognise two quarters as one half.
Measure	Compare and begin to measure length, mass, capacity, time and money.	Use standard units; solve practical money and time problems; tell time to five minutes.
Geometry and statistics	Recognise shapes; describe position, direction and turns.	Describe and compare shape properties; position, direction and rotation; pictograms, tally charts, block diagrams and tables.

The detailed statutory programmes of study and school progression documents remain the authoritative source for year-group content.

5 Pedagogy, representation and the learning environment

Children understand mathematics more deeply when they can see it, handle it, say it and connect it.

Teaching sequence

1. Activate and review relevant prior knowledge.
2. Introduce the new idea in a small, carefully chosen step.
3. Model explicitly, thinking aloud and using accurate mathematical language.
4. Use concrete and pictorial representations to reveal structure, then connect these to symbols.
5. Check understanding through purposeful questions and responsive assessment.
6. Provide guided and independent practice with variation, reasoning and problem-solving.
7. Review what has been learned and plan timely support or further challenge.

Concrete Pictorial Abstract

New concepts are taught through a Concrete-Pictorial-Abstract approach. These are connected representations, not a rigid sequence or a ladder that children leave behind. Manipulatives, images, diagrams, number lines, equations and mathematical language help children notice structure and explain relationships. Resources are gradually reduced when understanding is secure, while remaining available when they support reasoning.

Classroom and outdoor expectations

- Key Stage 1 classrooms use a First, Next, Then, So That display: concrete, pictorial, abstract, then reasoning or problem-solving.
- Reception classrooms use a First, Next, Then display with representations and vocabulary that develop over an appropriate teaching sequence.
- Resources are well labelled, inclusive and accessible during explicit teaching and continuous provision.
- Outdoor provision includes purposeful opportunities through water, construction, role play, weather, mud kitchen, game invention, gardening and large-scale investigation.
- Ideas such as length, height, mass, capacity, volume, time, shape, geometry and statistics are taught outdoors when scale and context improve understanding.
- Adults use assessment questions that invite children to explain, represent, compare, generalise and justify.

Eight classroom norms

8. Everyone can learn mathematics to high levels.
9. If you cannot do it yet, you can learn how.
10. Mistakes are valuable and help us think.
11. Questions are important.
12. Mathematics involves creativity and problem-solving.
13. Mathematics involves connections and communicating our thinking.
14. Depth is more important than speed.
15. Mathematics lessons are about learning, not performing.

6 Inclusion and responsive support

Every child is entitled to ambitious mathematics and the support needed to participate and succeed.

High-quality adaptive teaching

Adults maintain high expectations while adapting access, pace, grouping, communication and resources. Teaching starts from careful assessment of the child's understanding rather than a label or diagnosis. Staff use modelling, worked examples, manipulatives, visuals, reduced language load, pre-teaching, overlearning and alternative ways for children to show what they know.

Responsive intervention

- Assessment identifies the precise gap or misconception rather than assigning a broad level.
- Children receive timely same-day or short-term support, including during Time to Connect where appropriate.
- Additional practice aligns with classroom teaching and uses familiar language and representations.
- Intervention has clear entry, review and exit points and does not unnecessarily remove children from rich curriculum experiences.
- Teachers retain responsibility for the learning and progress of every pupil, including pupils supported by additional adults.

Blossoms and children with complex needs

Children in Blossoms receive personalised mathematics teaching linked to their developmental starting points, year-group entitlement and EHCP outcomes. Learning may be sensory, play-based and connected to individual interests. Adults prioritise communication, engagement, anticipation, cause and effect, number sense, pattern, shape, position and measure, using repetition and meaningful everyday contexts.

Equity and participation

Leaders monitor the participation and progress of groups, including pupils with SEND, disadvantaged pupils, children learning English as an additional language and children with interrupted attendance. Reasonable adjustments and communication supports may include objects of reference, Widgit symbols, Makaton, assistive technology, alternative response modes and carefully selected peer or adult support.

Adaptation changes the route into the learning, not the ambition. Children who find mathematics difficult continue to encounter reasoning, pattern and problem-solving alongside the support needed to access them.

7 Assessment, leadership and monitoring

Assessment is purposeful, proportionate and used to improve teaching, curriculum and participation.

Assessment principles

- Teachers use questioning, observation, discussion, practical work and children's recorded work to identify what is secure and what needs further teaching.
- In-the-moment assessment informs modelling, feedback, grouping and the next small step.
- Periodic assessment checks whether children retain and can apply important knowledge over time.
- Reception assessment reflects the EYFS framework and professional knowledge of the child; the ELGs are used for the statutory end-point judgement, not as a checklist curriculum.
- Statutory Key Stage 1 requirements are implemented accurately, alongside the school's wider assessment approach.
- Leaders review attainment, progress and participation for individuals and groups and act where patterns indicate barriers.
- Assessment should improve learning; unnecessary evidence collection, marking and testing are avoided.
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Roles and responsibilities

Role	Responsibility
Governors	Approve the policy, monitor implementation and hold leaders to account for curriculum quality, outcomes and equality of access.
Headteacher and senior leaders	Set high expectations, protect curriculum time and resources, support professional development and evaluate impact.
Mathematics Subject Leader	Maintain progression and consistency, support and model practice, review planning and assessment, monitor impact and coordinate improvement.
Teachers and practitioners	Plan and teach the agreed curriculum, assess responsively, adapt access, address gaps and communicate with families.
Learning support staff	Use agreed approaches and representations, provide precise support and share useful observations with teachers.

Monitoring and review

Leaders evaluate mathematics through lesson visits, provision and environment reviews, scrutiny of planning and learning evidence, professional dialogue, pupil voice, assessment information, intervention review and discussion with families. Monitoring considers curriculum coverage and progression, the quality of mathematical talk, fluency, reasoning and problem-solving, inclusion, continuous provision and the impact of additional support.

8 Partnership with parents and carers

Positive partnerships help children see mathematics as useful, enjoyable and part of everyday life.

- Children starting Reception receive a set of Numicon and an activity leaflet to support number fluency at home.
- Termly problem-solving challenges are offered across year groups and contributions are celebrated through Class Dojo and certificates.
- Families are kept informed about progress and helpful next steps through parent meetings, Class Dojo and informal conversations.
- Staff signpost practical activities such as cooking, shopping, games, counting, construction and noticing shape, pattern and measure outdoors.
- Where a child needs additional support, school and family agree manageable, positive practice that uses familiar representations and language.
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The most important home message: talk about mathematics, notice it in everyday life, value mistakes and ask children how they know.

Related school documents

Calculation Policy; Curriculum Policy; Teaching and Learning Policy; Continuous Provision Policy; Early Years Policy; Oracy Policy; SEND and Inclusion Policy; Assessment Policy; Equality Policy; and Home Learning guidance.

9 Terminology and useful reference points

Term	Meaning
CPA	Concrete Pictorial Abstract
EYFS	Early Years Foundation Stage - Nursery and Reception
ELG	Early Learning Goal
KS1	Key Stage 1 - Year 1 and Year 2
NCETM	National Centre for Excellence in the Teaching of Mathematics
STEM	Science Technology Engineering and Mathematics

Current statutory and supporting guidance

- Department for Education: National Curriculum in England - mathematics programmes of study
- Department for Education: EYFS statutory framework for group and school-based providers, effective September 2026
- Department for Education: Teaching mathematics in primary schools and ready-to-progress guidance
- NCETM: Early Years materials, curriculum prioritisation and teaching for mastery materials
- White Rose Maths: primary schemes of learning
- Development Matters and Bristol Early Years guidance

10 Annual implementation review

A short annual reflection keeps the policy active, useful and connected to school improvement.

Review prompt	RAG or note
Is statutory coverage clear and coherently sequenced from Nursery to Year 2?	
Are children developing fluency, reasoning and problem-solving in connected ways?	
Do mathematical talk, vocabulary and stem sentences deepen understanding?	
Are representations used consistently and connected explicitly to mathematical structure?	
Does continuous provision enable children to apply and deepen current learning?	
Are misconceptions and gaps identified precisely and addressed quickly?	
Are children with SEND and other identified groups participating and progressing well?	
Does pupil voice show confidence, curiosity, belonging and willingness to make mistakes?	
Are families confident about how to support positive mathematics at home?	

Review record

Key strengths:

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Priority for development:

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Action, lead and timescale:

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