

Bonneygrove and Millbrook Primary Federation

Mathematics Subject Guidance

INTENT

At Bonneygrove and Millbrook Primary Federation, we believe that Mathematics is a fundamental life skill that enables pupils to think logically, reason mathematically and solve problems with confidence. Our Mathematics curriculum is designed to ensure that all pupils develop secure number sense, fluency, reasoning and problem-solving skills.

Our intent is firmly rooted in the **National Curriculum for Mathematics (2014)** and shaped by the shared values and ethos of both schools. Through Mathematics, pupils develop:

- Secure understanding of number and place value
- Fluency in calculation and mathematical procedures
- The ability to reason mathematically and explain thinking
- Confidence to solve problems and apply mathematics in real-life contexts

In line with the **Ofsted Inspection Framework (November 2025)**, our Mathematics curriculum is ambitious, inclusive and carefully sequenced from EYFS to Year Six so that pupils **know more, remember more and can apply mathematical knowledge with increasing accuracy and confidence over time.**

WHY WE TEACH MATHEMATICS THE WAY WE DO

We teach Mathematics through a **mastery approach**, using the **White Rose Mathematics scheme** as the core structure for sequencing and progression. This approach ensures that pupils develop **deep conceptual understanding**, rather than superficial procedural knowledge.

Mathematics teaching for mastery is underpinned by the belief that all pupils can learn and enjoy mathematics. Lessons build carefully on prior learning so that every pupil can access new concepts with confidence. Learning is broken down into clearly sequenced, manageable small steps, enabling pupils to secure understanding before moving on.

Examples, representations and mathematical models are deliberately selected and used consistently to expose the underlying structure of mathematical concepts. This supports pupils in making connections within and across areas of mathematics, developing deep, connected and enduring understanding.

Our approach emphasises:

- Small-step progression
- Depth before acceleration
- Mathematical talk and reasoning
- Representation and structure

We follow the **Concrete–Pictorial–Abstract (CPA)** approach so pupils can see, represent and then symbolise mathematical concepts. This ensures learning is accessible for all pupils, including those with SEND and EAL.

EYFS

Children develop early number sense through play, counting, comparison and exploration. Mathematical language is modelled and reinforced through everyday routines and structured activities. Our Early Years Mathematics curriculum aims to develop curiosity, confidence and a love of learning in mathematics.

Key Stage One

Pupils build fluency in number, place value and calculation using practical resources and visual representations. Reasoning and explanation are introduced from the earliest stages. Pupils are encouraged to notice patterns, think logically and make connections.

Key Stage Two

Pupils deepen understanding across number, fractions, decimals, geometry, measures and statistics. They apply learning to increasingly complex problems and explain their thinking using precise mathematical language.

Through Mathematics, pupils develop resilience, confidence and a positive attitude towards challenge.

ROLE OF THE MATHEMATICS SUBJECT LEADER

The Mathematics Subject Leader at Bonneygrove and Millbrook Primary Federation plays a key role in ensuring that the Mathematics curriculum is ambitious, coherently sequenced and effectively implemented, in line with the **National Curriculum for Mathematics (2014)** and the **Ofsted Inspection Framework (November 2025)**.

The Subject Leader:

- Provides strategic direction for Mathematics across the Federation

- Ensures progression in mathematical knowledge, vocabulary and skills from EYFS to Year Six
- Leads the implementation of the **White Rose Mathematics scheme** to ensure consistency and coherence
- Monitors the quality of teaching and learning through lesson visits, book looks and pupil voice
- Supports teachers' subject knowledge and pedagogy in line with the **Teachers' Standards**
- Ensures SEND and EAL provision is embedded within Mathematics teaching
- Oversees assessment, intervention and challenge to ensure all pupils make progress
- Manages and develops mathematical resources and manipulatives

Through effective leadership, the Mathematics Subject Leader ensures pupils leave the Federation as confident, capable mathematicians.

SEND INCLUSION

SEND inclusion is integral to the design and delivery of the Mathematics curriculum. Guided by the **nasen Teacher SEND Handbook (January 2024)**, we follow the graduated approach of:

Assess → Plan → Do → Review

All pupils receive **Quality First Teaching**, with reasonable adjustments made so that pupils with SEND are not disadvantaged and can access the same ambitious Mathematics curriculum as their peers.

SUPPORTING PUPILS WITH SEND IN MATHEMATICS

Pupils with SEND are supported through:

- Concrete manipulatives such as counters, number lines and place value equipment
- Visual representations including bar models and pictorial methods
- Small-step instruction and repetition
- Pre-teaching and revisiting of key concepts and vocabulary
- Alternative recording methods and scaffolded tasks
- Adult support and guided practice

These strategies reduce barriers to learning and support confidence, understanding and progress.

EAL SUPPORT

Pupils with English as an Additional Language are supported through:

- Visual representations and dual coding
- Explicit teaching and rehearsal of mathematical vocabulary
- Modelling of sentence structures for reasoning and explanation
- Structured talk opportunities and partner discussion

Mathematics provides meaningful contexts for language development through reasoning, explanation and problem-solving.

IMPLEMENTATION

The Mathematics curriculum is carefully planned, coherently sequenced and knowledge rich. The **White Rose Mathematics scheme** provides a clear progression of learning, ensuring concepts are introduced systematically and revisited regularly.

Across the Federation, pupils revisit:

- Number and place value
- Calculation strategies
- Fractions, decimals and percentages
- Geometry, measures and statistics
- Mathematical reasoning and problem-solving

Teaching is underpinned by:

- Small-step lesson design
- Use of manipulatives and representations
- Explicit modelling and worked examples
- Regular retrieval and practice
- Opportunities for reasoning and discussion

Intervention and challenge are used flexibly to ensure all pupils achieve depth and fluency.

EXAMPLES OF WHAT WE TEACH IN MATHEMATICS

EYFS

- Counting, comparing and composing numbers
- Exploring shape, space and measures
- Using mathematical language through play

Key Stage One

- Number and place value
- Addition and subtraction
- Shape, measures and simple problem-solving

Key Stage Two

- Number, fractions, decimals and percentages
- Multiplication and division
- Geometry, measures and statistics
- Multi-step reasoning and problem-solving

IMPACT

The impact of the Mathematics curriculum is seen in pupils who:

- Enjoy Mathematics and show confidence in tackling challenges
- Demonstrate fluency, accuracy and efficiency
- Explain reasoning clearly using mathematical vocabulary
- Apply mathematical knowledge to solve problems

By the end of Key Stage Two, pupils can:

- Reason mathematically and justify answers
- Solve increasingly complex problems
- Apply mathematics confidently across the curriculum

Pupils leave the Federation with a secure foundation for secondary Mathematics and lifelong numeracy skills.

OUTCOMES – NATIONAL CURRICULUM 2014

By the end of the Federation, pupils meet the expectations of the **National Curriculum for Mathematics (2014)**, demonstrating fluency, reasoning and problem-solving.

DESIRED OUTCOMES – BONNEYGROVE AND MILLBROOK PRIMARY FEDERATION

By the time pupils leave Bonneygrove and Millbrook Primary Federation, we want them to be confident, resilient mathematicians who:

- Enjoy challenge and persevere when learning is difficult
- Think logically and reason clearly
- Apply mathematics to real-life situations
- Communicate ideas using accurate mathematical language
- Are curious, resilient, honest, ambitious, creative, kind and inclusive learners

PUPIL VOICE:

EYFS

'We count lots and play with counters'

Key Stage One

'Maths is hard when we don't know. There is some we know but lots we don't know until we practise but then it's good when we learn it.'

'I like column addition and subtraction and find using counters helpful.'

Key Stage Two

'I felt proud because the teacher helped me with the bead string and then I did it myself.'

'The equipment is there and we get to choose when we want to use it, sometimes we all use it but sometimes I want to work in my head.'

SEND

'I love Maths, sometimes it is challenging but sometimes it is just good. I like that there is a right or wrong answer and if you get it wrong it is ok because then you can learn more.'

EAL

'I like Maths because I enjoy working out calculations.'

Mathematics – applying skills through real contexts

Mathematics is carefully woven into topic-based learning so that pupils regularly apply their skills in purposeful and practical ways. Links are explicitly made with science investigations, geographical data, historical timelines and design technology projects. During immersion days and themed problem-solving events, pupils use maths to measure, calculate, analyse and justify decisions linked to their wider learning. This approach helps pupils understand why mathematical skills matter and how they can be used beyond the lesson. Children gain confidence, resilience and independence as mathematicians, remembering learning more effectively because they apply concepts repeatedly in meaningful contexts.

Why Intent is STRONG

Mathematics is prioritised because leaders recognise that mathematical understanding underpins problem-solving, logical reasoning and everyday life skills, and is essential for pupils' future learning and life chances. Leaders have deliberately designed a coherent and ambitious Mathematics curriculum that reflects the needs of the Bonneygrove and Millbrook community, ensuring that all pupils develop strong foundations in number, calculation and mathematical thinking.

Leaders have identified that securing key concepts early is critical to long-term success in mathematics. As a result, the curriculum places strong emphasis on depth of understanding, fluency and reasoning, ensuring pupils build knowledge cumulatively from EYFS through to Year Six. This intent ensures equity, ambition and inclusion for all pupils, regardless of starting point.

Why Implementation is STRONG

Teaching is consistent, structured and carefully sequenced using the **White Rose Mathematics** scheme to support a mastery approach. Learning is broken down into small, logical steps, allowing pupils to secure understanding before moving on. Leaders ensure fidelity to this approach through training, coaching and regular monitoring of teaching and learning.

Assessment information is used carefully to identify pupils working below age-related expectations. These pupils are supported through targeted intervention, pre-teaching,

additional guided practice and the use of concrete and pictorial representations. Pupils working at ARE consolidate learning through practice, application and reasoning activities.

Pupils working at GDS are challenged through complex problem-solving, reasoning tasks and opportunities to apply mathematical knowledge in unfamiliar and real-life contexts. SEND pupils access the same ambitious curriculum through adapted resources, manipulatives, scaffolded tasks and adult support. EAL pupils benefit from visual representations, modelling, structured sentence stems and explicit teaching of mathematical vocabulary to ensure language does not become a barrier to success.

Why Impact is STRONG

As a result, pupils develop confidence, fluency and accuracy in mathematics and are able to reason mathematically and solve problems effectively. Pupils who begin below ARE make sustained progress through targeted support and structured teaching. Pupils at ARE demonstrate secure understanding and can apply knowledge confidently, while pupils at GDS show depth, flexibility and independence in mathematical thinking.

Pupils leave the Federation well prepared for secondary mathematics, with a positive attitude towards challenge, a secure grasp of key concepts and the ability to apply mathematics confidently in a range of contexts.

Mathematics

- Times Tables Rock Stars competitions
- Real-life problem-solving activities
- Applied maths in science investigations
- Data handling in geography
- DT measuring and scaling activities
- Practical use of money and time
- Maths games and puzzles
- Reasoning challenges
- Times Tables clubs
- White Rose investigations

Mathematics

Mathematics is taught through a mastery approach using White Rose to ensure depth, fluency and reasoning. This approach suits our pupils by allowing concepts to be secured before moving on. Cultural capital is built through real-life problem solving and application across subjects. SEND pupils access concrete resources, small steps and pre-teaching. EAL pupils benefit from visual representations, structured sentence stems and modelling.