



Benhall St Mary's C of E Primary School

Be the best you can be.

Let your light shine before others; that they may see your good works and glorify your Father who is in heaven.' - Matthew 5:16

Maths Policy

2025-2027

Intent

Mathematics has shaped the course of human history. Just as words are the building blocks of literature, numbers are the language of scientists, architects, engineers and software developers. Without mathematics there would no Internet, skyscrapers, modern medicine or aeroplanes. Moreover, the economies of the world are driven by the complex mathematics of finance and business. Mathematics can be seen everywhere—from the arrangement of flower petals and the navigation systems of the bees that seek them, to the strategies of how to respond to a pandemic! A secure knowledge of mathematics is not only essential for people seeking employment, it is also key to being financially secure and to be able to engage with a modern, data-driven, technical world.

Aims

- To develop a growth mindset and positive attitude towards mathematics.
- To become confident and proficient with number, including fluency with mental calculation and look for connections between numbers.
- To become problem solvers, who can reason, think logically, work systematically and apply their knowledge of mathematics.
- To develop their use of mathematical language.
- To become independent learners and to work co-operatively with others.
- To appreciate real life contexts to learning in mathematics.

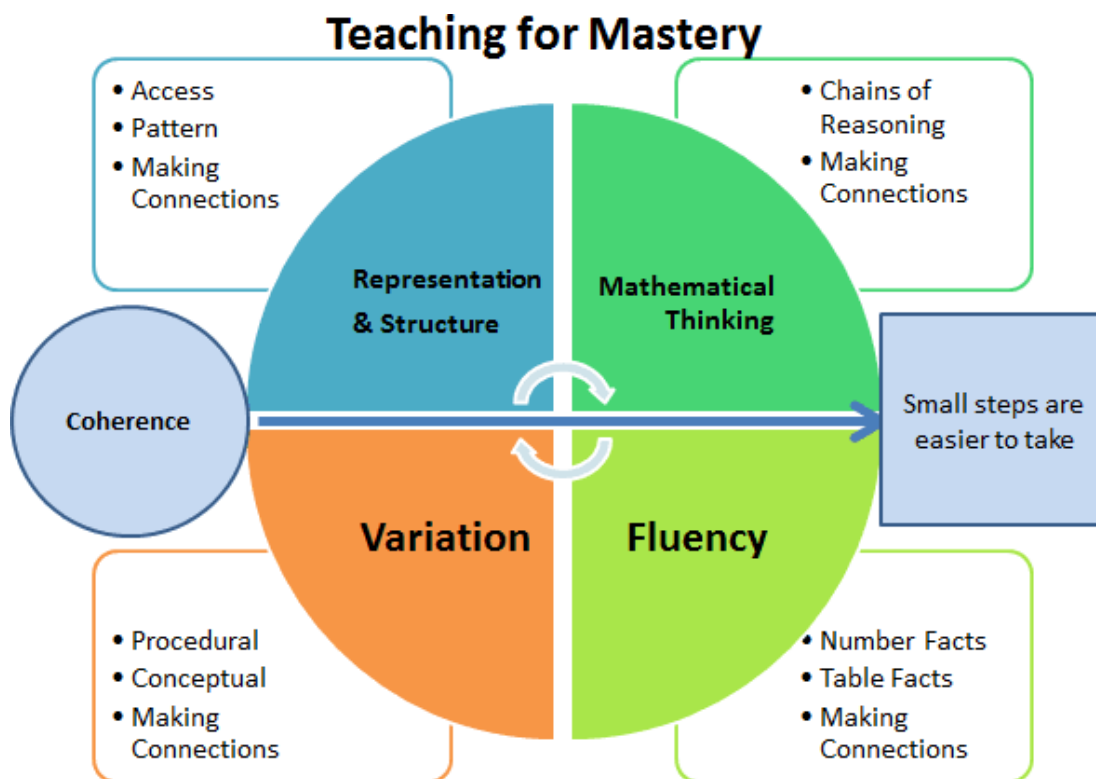
Implementation

Mathematics links to a vast variety of subjects across the curriculum: History, Art and Geography. The close link between mathematics and science enables children to develop understanding of the real world using both their knowledge of science and mathematics, strengthening their understanding across a variety of areas. Each key concept is studied throughout the year using small steps to ensure pupils look at the area in depth. All learning objectives are taught and revisited throughout the year, enabling children to develop their skills and confidence to ensure a positive attitude of the subject, so real world connections can be established. Maths Meetings and Can You Stills provide children with opportunities to recap previously taught areas, whilst arithmetic tests ensure pupils are confident with a range of methods. Within each of the aforementioned concepts, children will develop their skills in fluency and calculation; reasoning; and problem solving. In all these areas, children will be encouraged to represent the mathematics visually so they can move through these three areas (concrete, pictorial and abstract) to ensure confidence and positive attitudes towards mathematics. In EYFS, we place a significant emphasis on developing a strong grounding in number as this will allow them to excel in the subject as they navigate through school.

Curriculum design and planning

- Staff use White Rose Maths Schemes of Learning in order to develop a coherent and comprehensive conceptual pathway through the mathematics. The focus is on the whole class progressing together.
- Learning is broken down into small, connected steps, building from what pupils already know.
- Difficult points and potential misconceptions are identified in advance and strategies to address them planned.
- Key questions are planned, to challenge thinking and develop learning for all pupils.
- Contexts and representations are carefully chosen to develop reasoning skills and to help pupils link concrete ideas to abstract mathematical concepts.
- The use of high quality materials and tasks to support learning and provide access to the mathematics, is integrated into lessons.
- White Rose Maths is supported by the use of weekly tests (Can You Stills), daily maths meetings and weekly arithmetic lessons.

5 Big Ideas of Mastery



Teaching for Mastery Principles

- It is achievable for all - we have high expectations and encourage a positive 'can do' mindset towards mathematics in all pupils, creating learning experiences which develop children's resilience in the face of a challenge and carefully scaffolding learning so everyone can make progress.
- Deep and sustainable learning - lessons are designed with careful small steps, questions and tasks in place to ensure the learning is not superficial.
- The ability to build on something that has already been sufficiently mastered - pupils' learning of concepts is seen a continuum across the school.
- The ability to reason about a concept and make connections - pupils are encouraged to make connections and spot patterns between different concepts (E.g. the link between ratio, division and fractions) and use precise mathematical language, which frees up working memory and deepens conceptual understanding.
- Conceptual and procedural fluency - teachers move mathematics from one context to another (using objects, pictorial representations, equations and word problems). There are high expectations for pupils to learn times tables, key number facts (so they are automatic) and have a true sense of number.
- Problem solving is central - this develops pupils' understanding of why something works so that they truly have an appreciation of what they are doing rather than just learning to repeat routines without grasping what is happening.
- Challenge through greater depth - rather than accelerated content, (moving onto next year's concepts) teachers set tasks to deepen knowledge and improve reasoning skills within the objectives of their year group.

White Rose Mathematics

At Benhall, our children typically study mathematics daily, and we use the White Rose Maths Scheme to a high degree of fidelity. We have chosen this approach for the following reasons:

- The programme aligns with our mastery principles.
- White Rose Maths provides a coherent structure and supports teacher subject knowledge.
- The workbooks provide rigour through a consistency of pedagogy, expectations, and vocabulary across the school.
- Leaders can be confident children are regularly exposed to the models, images, and representations consistent with the mastery approach, including procedural and conceptual variations and regular opportunities for mathematical reasoning.
- The programme significantly reduces staff workload and pupil 'admin time,' allowing teachers and learners to focus on mathematical concepts and quickly address misconceptions.

Benhall Blueprint

Organisation

Classes should aim to include at least 4 maths lessons per week. Pupils are taught in their specific year groups, even in mixed-age classes, although if learning objectives align, they may be taught together. Teachers should plan lessons to ensure that each year group receives appropriate content and challenge according to their year group objectives.

Use a Variety of Approaches:

- Maths should incorporate a variety of methods, such as hands-on activities with manipulatives, visual representations, and abstract problem-solving. Teachers should plan and document the use of these resources to ensure that all children develop a secure understanding of key concepts.
- Manipulatives and visual images provide effective support in teaching mathematics by helping model and explain underlying principles. These are widely used in school, by learners of all ages and abilities, often progressing through all three stages within a session. At Benhall, we commonly use Numicon, Multilink, Dienes blocks, place value counters, number lines and number frames. Once understanding is deepened through these models, children confidently move to abstract approaches such as algorithms.

Explore Mathematical Vocabulary:

- Ensure students understand the key mathematical terms used in the lesson. Regularly introduce and explain/define new vocabulary, and check for understanding by asking students to explain terms in their own words.

Encourage Active Participation:

- Engage all students by encouraging them to participate in discussions, share strategies, and explain their thinking. Use paired talk or small group discussions to allow children to reason together and compare methods or answers.
- Provide opportunities for pupils to justify their reasoning and challenge others' ideas in a supportive environment.

Practise Retrieval:

- Use precise closed questions to consolidate basic number facts and calculation skills, ensuring regular practice of retrieval techniques such as quick recall, number bonds, and multiplication tables.

- In order to be fluent mathematicians, children need to recall a range of key mathematical facts appropriate to their age. These range from number bonds to 10 in Year 1 to all multiplication tables up to 12 in Year 4 and decimal equivalents of fractions in Year 6.

Develop Problem-Solving and Reasoning Skills:

- Focus on developing skills like identifying patterns, making predictions, reasoning, and justifying solutions. Use Concrete-Pictorial-Abstract (CPA), to build deeper understanding of mathematical concepts.
- Encourage children to explain their thinking using sentence stems such as "I know this because..." or "This works because..."

Model Problem-Solving Techniques:

- Regularly model problem-solving strategies, such as drawing diagrams, using bar models, and breaking problems into smaller steps. Show how to approach multi-step problems and encourage students to check their work.

Make Connections to Prior Learning:

- Relate new mathematical concepts to prior learning, ensuring students understand how today's lesson builds on previous lessons. Where possible, link maths to real-world examples or other subjects in the curriculum to show relevance and application.

Use of Manipulatives and Visuals:

- Provide access to manipulatives to support understanding of abstract concepts. Use pictorial representations like number lines and bar models, to represent mathematical problems in different ways.

Adaptations and Scaffolding:

- Adapt tasks or support pupils based on students' abilities. Scaffold more challenging tasks by providing structured steps or extra guidance. Where necessary, provide additional practice for students needing to reinforce fundamental skills.

Additional Guidance for Reception/Early Years:

At Benhall, we understand the importance of early mathematical encounters, and our staff provide a range of both adult- and child-initiated activities to build strong foundations in pattern-seeking and the concept of number. Counting is particularly important in the EYFS, helping children understand quantity. Concrete manipulatives are a key resource for scaffolding learning in Reception.

- Use hands-on, practical experiences to build foundational skills such as counting, sorting, and shape recognition.

- Encourage children to use manipulatives (e.g., counters, beads) to explore number sense and simple addition or subtraction.
- Use games and play-based activities to develop understanding of early maths concepts, such as pattern recognition, matching, and comparing quantities.
- Foster curiosity by asking open-ended questions like, "How many ways can you make 5?" or "What happens if we add one more?".

The two key Early Learning Goals for mathematics are:

- Number: Number composition, subitising, recall of bonds to 5 and 10, and doubling.
- Numerical Pattern: Verbally counting beyond 20, comparing quantities, and exploring patterns.

Further Mathematics

White Rose Maths is taught in blocks, helping children develop a deep understanding of the concepts. To ensure ongoing familiarity with mathematical concepts, we use Maths Meetings, Can You Stills, Reasoning Tests and Arithmetic Lessons.

Maths Meetings/ Flashback 5

Maths meetings/ Flashback 5 occur at least four times a week for approximately 10 minutes across the school. These sessions:

- Recap important mathematical knowledge, revise key vocabulary, and practice mental/written skills to develop fluency.
- Revisit areas such as measures, geometry, and statistics, which are unlikely to be covered more than once a term or once a year.
- Build a classroom culture where knowing and remembering key mathematical concepts is valued.

Can You Stills

Pupils from Year 1 to Year 6 complete Can You Stills on a weekly basis. These sessions:

- Recap important mathematical knowledge, revise key vocabulary, and practice mental/written skills to develop fluency.
- Revisit areas such as measures, geometry, and statistics, which are unlikely to be covered more than once a term or once a year.

- Build a classroom culture where knowing and remembering key mathematical concepts is valued.

Weekly Arithmetic

Arithmetic lessons occur weekly across KS1 and KS2. These sessions:

- Develop essential number sense and mental math skills, forming a solid foundation for more complex mathematical concepts in later years.
- Enhances children's ability to tackle mathematical problems efficiently, improving their confidence and fluency in handling everyday math challenges.
- Reinforces learning and aids long-term retention, ensuring pupils are able to recall basic calculations quickly and accurately.

Weekly Reasoning Tests

Pupils in Key Stage 2 complete weekly reasoning tests.

- Encourage pupils to apply logical thinking and problem-solving strategies, improving their ability to think critically about mathematical problems.
- Require students to explain their thinking and justify solutions, fostering a deeper understanding of mathematical concepts beyond simple calculation skills.

Further Provision

Time-Limited Precision Interventions

While we prefer a 'keep up' approach to support less confident mathematicians, there are times when time-limited precision interventions are necessary to address significant gaps in learning. For pupils showing slow progress, we use screening software such as Dynamo Maths to investigate dyscalculia. Bespoke support is provided for pupils with diagnosed needs based on specialist advice.

Help for Parents

We organise annual workshops for parents to help them understand the school's approaches to teaching maths.

Marking

Marking of mathematics books should be completed in line with the marking policy. Next steps are not necessary as the next lesson is normally the next step in learning. However, it is essential that all marking picks up and addresses any misconceptions/mistakes and thorough questioning ensures children have clarified their thinking clearly.

Home/School Link

At Benhall we encourage parents to be involved in the mathematics curriculum by:

- Providing parents with guides outlining what mastery teaching involves in EYFS and KS1 & KS2 and how they can support at home.
- Running teaching for mastery curriculum evenings and workshops.
- Inviting parents in twice a year for parents evening to discuss their child's progress.
- Reporting on mathematical progress in their child's report.
- Using our mathematics page on the school website to provide information about how we teach the four calculations as pupils move through the school.
- Pupils are provided with mathematics home-learning on a weekly basis.

Early Years Foundation Stage (EYFS)

Children in EYFS explore mathematical concepts through active exploration and their everyday play-based learning. Children are taught key concepts and develop number sense using a hands-on practical approach. EYFS practitioners provide opportunities for children to manipulate a variety of objects which supports their understanding of quantity and number. Pupils explore the 'story' of numbers to twenty and the development of models and images for numbers as a solid foundation for further progress. The CPA approach is used when teaching children key mathematical skills. Practitioners allow children time for exploration and the use of concrete objects helps to support children's mathematical understanding. Mathematics in the early years provides children with a solid foundation that will enable them to develop skills as they progress through their schooling and ensures children are ready for the National Curriculum.

Impact

Teachers check for understanding in each session and quickly identify those children in need of additional teaching. We find that the most powerful feedback is given to children verbally during the lesson so that children can correct their work at the time. Self and peer assessment are also used when appropriate, although teachers will oversee this and acknowledge the work. If necessary, teachers will adapt their planning if particular misconceptions need to be addressed or if children are over performing.

We use a range of low stakes testing approaches (Can You Still's and weekly arithmetic lessons) both to help children remember key information and to identify those in need of additional help and support. Some of these such as Timetables Rock Stars and Maths.co.uk are very pupil centred and give children instant feedback on their performance.

We assess children summatively at the end of each term. We use a combination of NFER tests and past SATs papers for this purpose. Data is entered into our online database Arbor and used to inform target setting and for reporting to parents. Our data is also collated at Trust level which enables benchmarking to take place between schools.

Role of the Subject Leader

- Ensures teachers understand the requirements of the National Curriculum and supports them to plan lessons. Leads by example by setting high standards in their own teaching.
- Leads continuing professional development; facilitates joint professional development - especially Lesson Study; provides coaching and feedback for teachers to improve pupil learning.
- Leads the whole-school monitoring and evaluation of teaching and learning in mathematics by observing teaching and learning in mathematics regularly; analysing assessment data in order to plan whole school improvement in mathematics; conducting work scrutiny to inform evaluation of progress; conducting pupil interviews.
- Takes responsibility for managing own professional development by participating in external training; independent private study; engaging in educational research and scholarly reading and keeping up-to-date with Teaching for Mastery developments.
- Keeps parents informed about mathematics issues.
- Ensures that senior leaders and governors are kept informed about the quality of teaching and learning in mathematics.
- Works in close partnership with senior leaders to ensure the learning needs of all pupils in mathematics are met effectively.
- Keeps the school's policy for mathematics under regular review.

Subject Monitoring

We monitor the quality and impact of our mathematics curriculum through learning walks, subject leader interviews, teacher interviews, book looks, and pupil perception meetings. Moderation meetings across Trust schools ensure consistency in learning outcomes.

Evaluation:

This policy will be reviewed every two years.