March 2025-2027

Bishop Monkton CE Primary School
Maths Policy

Introduction

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world. (National Curriculum 2014)

Aims

The 2014 National Curriculum aims to ensure that all pupils:

- become fluent in the fundamental of maths
- are able to reason mathematically
- can solve a range of problems by applying their mathematical knowledge.

Intent

Here at Bishop Monkton CE Primary School, we want all our pupils to be confident and competent mathematicians. Through a mastery approach, we aim to

- ensure children have a fluent knowledge of arithmetic;
- be able to work with numbers;
- apply their skills to problem solving;
- have the ability to reason;
- use known mathematical facts;
- use appropriate mathematical vocabulary to concisely explain their reasoning of a mathematical problem through rich and varied mathematical content;
- ensure that pupils do not see maths as an isolated subject but part of their everyday lives.

At the core of what we believe, is ensuring children are confident and positive about mathematics through fostering success. Building connected mathematical knowledge and retention are fundamental to our ethos at Bishop Monkton. In all, we aim to develop mathematicians that are resilient and courageous in their mathematical endeavours and will leave Key Stage 2 prepared for the next step in their mathematical education.

Implementation

Planning and Teaching

At Bishop Monkton CE Primary School, to ensure consistent coverage from EYFS to the end of Y6, our teachers follow the National Curriculum and the skills progression guidelines as set out within the White Rose Maths Scheme of Work. This scheme of work fully embraces our aims which are outlined in our intent. Alongside the WRM resources, we use a range of other high-quality materials (Primary Stars, Master the Curriculum, NCETM, Nrich, Planpanion, I See Reasoning, Twinkl Mastery, Classroom Secrets, CGP textbooks) to support, stretch and challenge all pupils within the classroom. In addition to this, the school's calculation policy is used to ensure a coherent and consistent approach to teaching the operations across our school. This policy is shared on our website to also support parents in understanding how Maths is taught in our classrooms.

The mastery approach embedded into our lessons, fosters the concrete, pictorial, abstract approach developed by Bruner. Lessons are structured around this approach with an emphasis on concrete manipulatives to promote understanding.

Part of our daily maths lessons are as follows:

- Retrieval practice – this incorporates interleaving to ensure spaced practice of fluency and problem solving.
- Focused diagnostic questioning to inform the teacher of misconceptions in order to adapt and respond accordingly (responsive teaching).
- Carefully planned, precise worked examples to develop conceptual and procedural knowledge; this incorporates principles of variation to ensure children see mathematics framed in different ways.
- Manipulatives and scaffolds to support learners' understanding, used appropriately by the teacher and withdrawn when appropriate.
- When appropriate knowledge has been secured, exposure to rich mathematical investigations and inquiry opportunities in order to broaden understanding of relationships.
- Teachers skilfully question, follow-up and respond to learners, in order to gather levels of understanding to adapt teaching.
- Children encouraged to verbalise their thought processes and explain using appropriate mathematical vocabulary
- Following the lesson, if children are unsure or show a lack of understanding that needs further input, interventions are planned.

<u>Planning and Teaching in EYFS</u>

We understand the importance of the Early Years for giving our children the best possible start in life and ensuring they get the support that enables them to fulfil their potential. Building the mathematical foundations in the Early Years has a major impact on their future life chances. Our educational programme ensures that our children:

- Have a secure grounding in number
- Develop a secure base of knowledge and vocabulary to describe relationships and connections they find in their learning
- Develop their spatial reasoning across all areas of mathematics
- Have positive attitudes towards mathematics, talk to adults about what they notice and are not afraid to make mistakes

In EYFS, White Rose schemes of learning are used to inform teachers' planning so that children are prepared with the appropriate mathematical knowledge required to access the Year 1 curriculum.

We relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG).

- ELG: Number

We provide children with opportunities to; develop their understanding of numbers to 10; including the composition of each number, subitise and automatically recall number bonds up to 5 and some number bonds to 10 including double facts.

- ELG: Numerical Patterns

We provide children with opportunities to; verbally count beyond 20, recognising the pattern of the counting system, compare quantities up to 10 in different contexts and explore and represent patterns within numbers up to 10.

- We provide all children with opportunities to engage in maths activities both inside and outside of the classroom. Easily accessible, quality mathematical resources are provided so that children can self-select and engage freely as well as engaging in planned activities.
- Whenever possible, children's interests are used to support delivering the mathematics curriculum.
- We continually observe and assess children against these areas using their age-related objectives, and plan the next steps in their mathematical development.

Additional teaching of fluency

In addition to a daily Maths lesson, there are other timetabled sessions within the school week where the children develop mental fluency, practice recall of number facts and specific procedures as part of arithmetic.

- Flashback Four

In order to ensure that children's understanding is secure, children access daily 'Flashback 4' which includes questions which have been covered in prior lessons. One question will be based on learning from last lesson, another from a week ago, one focussing on the last topic covered, and one from last year.

- TT Rockstars

'Times Tables Rock Stars' is a fully interactive online mathematics learning tool for children and is used regularly by teachers to support the teaching of times tables in mathematics learning both in class and at home. National competitions and regular 'battles' are set up on Times Tables Rock Stars to encourage participation. Knowledge of times tables are consolidated to the 12 times table by Year 4, who prepare for the MTC (Multiplication Table Check).

Learning Environment

Our curriculum is supported by a rich learning environment. Working walls support children's learning in every classroom for maths.

- Maths working walls are in constant use throughout individual lessons and built on across lessons focusing on a particular domain.
- Key vocabulary is displayed.
- Reasoning question stems are on show and used to model reasoning.
- Worked examples are modelled and displayed for reference (sometimes including pictorial and concrete representations).
- Mathematical manipulatives and resources are easily accessible for all children to support their learning. Additional measuring mathematical equipment and resources are stored centrally in the DT room.

Assessment

Our maths curriculum is of a high quality and ensures there is clear progression. In order to ensure we measure impact, we gather a variety of data and feedback to check whether learning has occurred. The information gathered through these methods directly impacts the future planning of teaching and learning opportunities, ensuring that we are responsive to the needs of our learners.

Formative assessment through daily retrieval practice (Flashback Four) we can check for children's retention of previously taught concepts. *Formative assessment* takes place on a daily basis and teachers adjust planning accordingly to meet the needs of their class. Teachers use formative assessment to evaluate the learning during a lesson. They may ask questions to check understanding, or scrutinise independent work in order to identify common misconceptions or share thinking. Such

assessment allows teachers the flexibility to intervene in a lesson to remind, redirect or reteach pupils as required.

Summative assessments include White Rose Unit tests once each unit of learning is complete (results will feed into retrieval practices during the next unit of learning). At the end of each term children complete Rising Stars PUMA assessment. Pupils in Year 6 complete the national tests (SATs) in May. Year 4 will complete a statutory Multiplication Tables Check in a three-week window in June. Children's progress and attainment is discussed with SLT and Standards & Curriculum Governors in termly pupil progress meetings.

Reporting to parents

In the Autumn and Spring terms, all parents receive a report giving their child's teacher-assessed attainment in maths, as well as an annual written report in the Summer term on which there is a summary of their child's efforts and progress in maths over the year.

At the end of EYFS, each child's individual level of development in relation to ELG in Number and ELG in Numerical Patterns is reported to parents as part of their annual written report. At the end of Key Stage 2, each pupil's level of achievement against national standards is included as part of their annual written report.

Parents are invited to parent/teacher consultations in the Autumn and Spring terms to discuss their child's progress.

Homework in maths

Teachers may set weekly homework using worksheets, CGP books or online. Children are expected to learn their times tables from Year 2. TTRS also supports the development of mathematical fluency both in and out of school.

Equal Opportunities and Inclusion of all Learners

At Bishop Monkton CE Primary School, we teach Maths to all children, whatever their ability. Maths forms part of the school curriculum policy to provide a broad and balanced education for all children. Teachers provide learning opportunities matched to the needs of children with barriers to learning and our higher-attaining pupils. Where there are cases when pupils are working significantly below their year group content, such pupils will be given a bespoke curriculum, based upon their needs (as identified on their learning plan or EHCP). Gender and cultural differences will be reflected positively in the teaching materials used.

Role of the Maths Subject Leader

- To lead and inspire in the development of maths throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To support the headteacher in raising standards across the school.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to maths within the confines of the budget and the School Improvement Plan
- To monitor and maintain high quality resources.
- To track progress of pupils
- To keep up to date with new developments in the area of mathematics

Monitoring & Review

This policy is monitored through:

- Regular scrutiny of children's work
- Evaluation and analysis of assessment data
- Lesson observations to monitor the quality of teaching and implementation of planning
- Pupil interviews and questionnaires
- Teacher feedback

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The Impact of our Maths policy:

- Pupils at Bishop Monkton will achieve high standards in mathematics in terms of their attainment and in making progress from their starting point
- Students have a positive attitude towards mathematics and an awareness of the relevance of mathematics in the real world
- Pupils are fluent in the fundamentals of mathematics
- Pupils are able to problem solve, to reason, to think logically and to work systematically and accurately
- Children have the initiative and motivation to work both independently and in cooperation with others
- There is a confident communication of maths where pupils ask and answer questions, openly share work and learn from mistakes

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