

Maths at Much Marcle C of E Primary School

Maths

Maths plays a central role within the curriculum at Much Marcle and is fundamental to our wider mission of creating an aspirational, knowledge-rich curriculum for our pupils. We aim to provide a high-quality mathematics education which will provide a foundation for understanding the world, to develop an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject. Maths at Briar Hill is underpinned by methodical, coherent, curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual understanding and procedural knowledge. The curriculum design enables children to build on their previous learning in each new step in their learning journey. As a result of the of the accumulation of essential knowledge and skills our pupils will leave our school as confident, resilient mathematicians, demonstrating conceptual and procedural fluency, with the ability to reason mathematically and efficiently solve problems.

We use a Teaching for Mastery approach to support learning of mathematics. Mastery in mathematics is underpinned by the following key principles: it is achievable for all; learning is deep and sustainable; learning builds on something that has already been sufficiently mastered; reasoning about concepts and making connections; developing conceptual and procedural fluency.

At the end of the Foundation Stage at Much Marcle

Children count confidently and have a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

Children will have developed their spatial reasoning skills across all areas of mathematics including shape, space and measures and will have positive attitudes and interests in mathematics

At the end of Key Stage 1 at Much Marcle

Pupils have developed their confidence and fluency with whole numbers, counting and place value.

Pupils work fluently with number facts to 20 and have explored all four operations. Pupils describe properties of shapes, and also compare and describe different quantities such as length, mass as well as time and money.

At the end of Key Stage 2 at Much Marcle

Pupils have extended their knowledge of the number system and place value to larger integers.

Pupils make connections between fractions, decimals, percentages and ratio. Pupils use efficient written and mental methods for calculation when solving problems.

Pupils also use mathematical vocabulary correctly, when articulating and explaining how they solved the problem.

Pedagogy: How the Curriculum is Taught

Within our Maths curriculum we have the following elements:

- Lessons are structured with carefully sequenced **small steps** of learning. These small steps are developed through explicit teacher modelling, worked examples, guided practice, partner work and independent practice. Practice tasks incorporate procedural variation to ensure intelligent (not mechanical) practice.
- Pupils are provided with carefully chosen concrete or pictorial **representations to support development of conceptual understanding which will lead to procedural fluency**; this supports moving towards working in the abstract.
- Whole class teaching is in **mixed attainment classes** and in **mixed attainment learning partners**.
- We work with the assumption that all pupils can achieve a high standard in mathematics. **Pupil work is not differentiated by task**. Instead, children who require more support are provided with additional structures to enable them to access the learning (such as working with concrete resources for longer or being provided with focused pre-teaching or same day intervention) Pupils

who grasp concepts quickly will be challenged to think about particular aspects more deeply and to work on more complex problems within the same curriculum content.

- There is a big focus on developing children's **mathematical vocabulary and language**. Teachers use whole class chorusing, stem sentences and repetition of key words and sentences to ensure pupils develop fluency with using mathematical vocabulary and develop precise explanations.
- Fluency has dedicated teaching time, where the focus is on developing **automaticity with number facts**, and applying number facts to mental arithmetic strategies as well as formal arithmetic procedures. The focus of fluency lessons is on efficiency, accuracy and flexibility. Pupils are encouraged to notice the numbers before beginning a calculation, and to identify patterns, relationships or structures which may lead to an efficient calculation strategy.
- Pedagogy is underpinned by Rosenshine's Principles

Assessment

We use a multi-faceted approach to assessment within maths, including:

- End of unit assessment quizzes
- Regular retrieval practice
- Assessment for learning within each lesson through skilful use of questioning and live feedback
- Mid-year and end of year assessments
- Regular low-stakes times tables tests

Continuing Professional Development

We develop strong subject knowledge amongst all staff which is achieved through: comprehensive middle leadership development, a focus on developing all teachers' subject knowledge and Maths pedagogy and a comprehensive support programme available through our SHAW Maths Hub.

CPD activities include:

- Bespoke support for teachers through working with maths lead
- Coaching and mentoring programmes
- Team-teach and model lessons
- Subject knowledge development sessions
- Collaboration with other SHAW Maths Hub Schools