

# Marsh Green Primary School



## Mathematics Policy

Achieve, Believe & Celebrate

## Intent

Our maths curriculum is designed to provide our children with the opportunities that will enable them to become enthusiastic, confident, and independent mathematicians. We aim to remove any barriers to learning so all children are able to make their own progress within a secure and caring environment. Our children will become effective communicators through opportunities for 'mathematical talk', use of stem sentences and an immersion into a mathematical language-rich environment that enables pupils to retain necessary knowledge. The Marsh Green maths curriculum instils into our pupils that mistakes are magic, raising self-esteem and creating resilient mathematicians who are able to persevere with any challenge.

## Implementation

Our maths curriculum provides many learning experiences that are relevant to real-life, within a language-rich environment that promotes mathematical thinking, reasoning and problem-solving skills. A whole class mastery approach is used to not only meet the needs of the National Curriculum, but also to develop confident mathematicians and a life-long love of maths. A cross-curricular approach allows skills to be transferred as well as ensuring coverage of the whole maths curriculum, through White Rose Maths, which is carefully planned to ensure progression through knowledge, skills and concepts. To ensure equity, we tailor the curriculum according to individual needs, to remove barriers using adaptive teaching. Children are aware that support can be offered not only from staff but from their peers and the use of steps to success. This is done through the CPA approach. Daily fluency practice is paramount to ensure children have the very best foundations which will allow them to retain subject content. Children are encouraged to show perseverance and resilience, having the growth mind-set to learn through their mistakes and achieve to be the best that they can be.

## Impact

The impact of our maths curriculum can be seen through the children's love of learning, the pride they take within their work and their motivation to succeed. We strive for all our children to be resilient and achieve their maximum potential by having high expectations, an interesting, broad, balanced, and progressive maths curriculum that incorporates both fluency, reasoning and problem solving and helps children to retain their learning, deepen their knowledge and achieve their maximum potential. Our pupils feel safe to make mistakes and understand that they can learn from this, bounce

back and keep trying. A broad range of formative assessment strategies are used to inform the next steps for teaching and learning; verbal feedback, daily 'fix-its' and live marking. Summative assessments are in-line with White Rose Maths and the Ready to Progress criteria is used to review, practice and consolidate learning from the previous year.

## Our Maths Approach

Marsh Green Primary School believes in a mastery approach when teaching mathematics. We are working hard to embed this approach throughout the school; we have made great inroads and are proud of our progress. This rationale of teaching mathematics is supported by the NCETM and the 2014 National Curriculum. It aims to ensure:

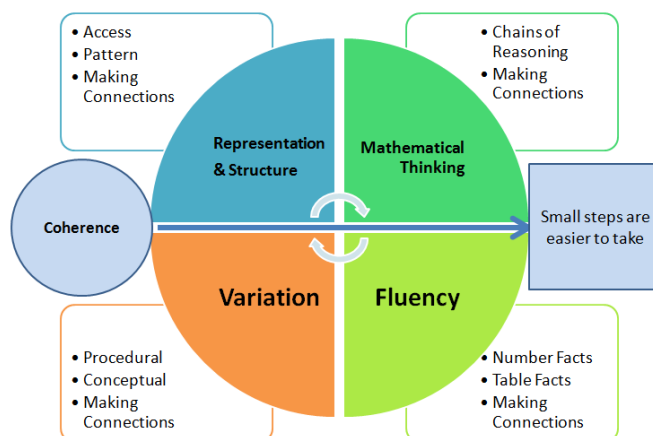
- Most pupils will move through the curriculum at the same pace.
- Pupils who grasp new concepts should be challenged through the use of problem solving and reasoning to provide breadth and depth of the curriculum before any acceleration of new content.
- Children who are not sufficiently fluent in a given concept should be given opportunities to consolidate their learning through in the moment interventions and additional practise, before moving on.

The three key aims of the National Curriculum should be addressed in each sequence of learning.

## FLUENCY - REASONING - PROBLEM SOLVING

### Teaching for Mastery

Our mathematics curriculum is underpinned by 'The 5 Big Ideas of Mastery'.



The 5 Big Ideas of Mastery are defined as follows:

**Coherence-** mathematical concepts are broken down into small steps that gradually allow children to an understanding of a given concept. This is then applied to a range of different concepts.

**Representation and Structure-** a variety of models and images are used to support the understanding of the concept, the aim that the children will eventually be able to visualise the concept in order to support them when using the concept.

**Mathematical Thinking-** in order for taught ideas to be understood deeply, they need to be: thought about, reasoned with and discussed with others.

**Fluency-** Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

**Variation-** Firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to the main aspects, and to develop a deep understanding. An example would be exploring a concept using multiple representations in order to deepen the children's understanding and underpin mathematical idea. Secondly, it is also about the children practising the concept, paying attention to what remains the same and what changes. This also allows children to develop an understanding of mathematical relationships and structure.

## Teaching and Learning

- Lessons are planned using the White Rose medium term plans, which is broken down into topics by teaching in blocked units. The units consist of a sequence of small steps which feed into short term planning. White Rose addresses the aims of the 2014 National Curriculum of fluency, problem solving and reasoning.
- Learning is broken down into small connected steps and should build on what the pupils already know.
- Collaborative planning between year groups is encouraged to ensure consistency.
- Key questions should be incorporated into short term planning to challenge thinking and develop learning for all pupils.
- Lessons should include the use of concrete resources where necessary to allow pupils to explore the mathematical concepts practically and to help children to link the ideas to abstract mathematical concepts.
- Lessons should be taught through the use of mixed ability groups. However, children working below age related expectations should access a range of interventions, for example, 'in the moment' interventions, 'keep up catch up' sessions or should access a pre-teach before new concepts are taught.
- Fluency, problem solving, and reasoning should be interlinked and taught side by side, as well as being taught discretely.
- The use of high quality materials to support teaching and learning, is integrated into lessons. These may include White Rose Schemes of Learning and Assessment Materials, classroom secrets, WRH premium resources, visual images, and a range of concrete materials.
- Flashback 4 is taught daily and adapted to meet the needs of each individual cohort. Teachers will identify gaps in learning and then use this information to address the gaps.

- In **Reception**, mastering number is taught daily in addition to daily maths lessons.
- In **year 1** mastering number is taught 15 minutes daily to secure firm foundations in the development of good number sense.
- In **year 2**, mastering number is used as an intervention for children working at pre-key stage standards.
- In **years 3-5**, children working 2 or more years below age related expectations access mastering number as an intervention and FB4 is tailored to their specific gaps.

## Marking

Where possible marking should take place 'in the moment' to allow opportunities for rapid interventions to address misconceptions. Marking should be completed in line with the school marking policy. Marking should also include time for corrections to be completed before the following the lesson and where possible, within the lesson itself.

## SEND and Inclusion

All pupils should have access to a broad and balanced curriculum, one which ensures that high expectations are set for all pupils, whatever their prior attainment. Teachers will plan for children with EHCPs in line with their next steps to ensure their curriculum is ambitious and designed to meet their needs. High quality teaching is essential for children working significantly below age related expectations. In addition to this, SEND provision should also include additional maths intervention and support. This may consist of the following:

- Pre- teaching
- 'In the moment' or rapid intervention
- Mastering number intervention

It is important all children should be given the opportunity to work independently, even if it is only for a few minutes at a time.

## Early Years Foundation Stage

Early Years Foundation Stage use White Rose Maths to teach our Maths curriculum alongside daily sessions of Mastering Number to support fluency in number. In early years we have a heavy emphasis on enabling children have an in-depth knowledge of the composition of numbers to 10, as well as counting beyond 20. Following the scheme allows children to explore and deepen their understanding and knowledge of value and maths links with everyday life. The focus for Maths in Early Years is embedded within daily planned adult led lessons, with the emphasis on Number and Numerical Patterns.

The 5 counting principles are an important part of ensuring children are confident in understanding the value of a number. We use concrete and familiar resources that the children can touch and move around. Through planning short whole class inputs, group time and opportunities in continuous provision we strive to ensure our children are confident in counting and understanding value and meaning of a number, this is done by following the 5 counting principles. We strive for our children to understand 'the one-to-one principle' this is where children say one number name for each object

being counted, 'the stable order principle' ensures children know that numbers must be counted in a certain order. 'The cardinal principle' children understand that the last number counted represents how many objects there are altogether. 'The abstract principle' we know anything can be counted, claps, sounds, movements, objects. 'The order irrelevance principle' children know it doesn't matter which way you count an amount of objects, the total always remains the same. Children will become confident mathematicians with their in-depth knowledge of numbers to 10 plus the ability to count beyond 20, in preparation for their transition to KS1.

## Role of Subject Leader

- Ensures teachers understand the requirements of the National Curriculum and supports lesson planning.
- Lead continuing professional development; ensures all staff have received necessary training through relevant course, in-house staff training or providing coaching for individual teachers.
- Lead whole school monitoring and evaluation of teaching and learning in Mathematics by observing teaching and learning, carrying out learning walks, analysing assessment data in order to plan for whole school improvement, conducting work scrutiny to inform evaluation of progress and conducting pupil interviews to highlight pupils voice in regard to the teaching and learning within mathematics.
- Ensure that the school's senior leadership team and governors are kept informed about the quality of teaching and learning in Mathematics.
- Work alongside the school's senior leadership team to ensure the learning needs of all pupils are met effectively.
- Review the Mathematics Policy regularly to ensure it is kept up to date.

Mathematics Leads:

Miss A Bootle- Whole School Lead

Mrs Ryan- EYFS

Mrs R Gittins- Key Stage 2

Signed:

*A. Bootle*

*R. Gittins*

*G. Ryan*

Date agreed: April 2023

Review date: April 2024