



Mathematics Policy

Date: September 2021

Review date: September 2022



Policy Changes

Date	Actions
September 2020	Policy implementation

Subject Leader

Date	Subject Leader
September 2020	Laura Behan



Mission Statement

At Masefield we believe that all our children can achieve, becoming successful future citizens that contribute positively to a society in which all members are equally valued.

High aspirations, high motivation and high outcomes for all, ensure that achievement gaps wherever they exist are narrowed in order to improve pupils' life choices and future prospects.

We strive for all of our children to be safe, feel valued, develop resilience and continually learn within our nurturing and supportive community.

At Masefield, our children BELIEVE, ACHIEVE and SUCCEED!

Curriculum

The curriculum, in its widest sense, firmly underpins the school's Mission Statement, Aims and school motto 'Believe, Achieve, Succeed'. At Masefield, the curriculum is rooted in the needs and context of our community and learners. We provide an enriching and exciting curriculum the foundations of which are rooted in quality first hand experiences, designed to develop vocabulary and cultural capital whilst ensuring that knowledge is durable and transferrable allowing pupils to make connections, develop and apply skills and reason.

Our school curriculum design focuses on the knowledge, skills and understanding of our pupils and their needs in order that all children achieve well. Our school curriculum provides for academic achievement but places the role of developing spiritual, moral, cultural and social development at the heart of all we do with the ultimate aim of ensuring all pupils leave Masefield with the confidence, knowledge and skills to become successful and independent lifelong learners who can make a positive contribution to our diverse and democratic society.

Curriculum Intent for Maths

At Masefield, we recognise the fascination and excitement that the subject of Mathematics has to offer. We believe that Mathematics is a subject to practically experience, not simply learn, and we engage children in the subject by linking mathematical concepts with their own daily life experiences. We aim to develop a passion for Mathematics, so that pupils are motivated to use their knowledge to make changes to the world and society they live in.

We believe that all pupils can achieve excellence in mathematics and so we deliver the requirements of the National Curriculum through our teaching for mastery approach. This way of teaching mathematics means that our teachers design lessons in a coherent and well organised way to make the learning inclusive and accessible to all. Time is valued and so fewer topics are taught in greater depth. Every child is individual and has their own creative way of thinking. We value and encourage reasoning and justification as mathematical structures are discovered, allowing pupils the chance to practice use of precise vocabulary to explain their thoughts. We help our pupils see the mathematical structures using a concrete, pictorial and abstract approach. As children develop in confidence, we encourage pupils to think flexibly to develop new and innovative ways to solve problems, drawing on



their experiences from not just the Mathematics curriculum, but from personal and wider cross-curricular experiences.

At Masefield, we value quick recall of basic facts so as not to overload the working memory. Time is dedicated to learning key facts, meaning pupils can work more efficiently when working on challenging activities that deepen understanding. The language of mathematics is international and its importance is universally recognised. In our schools, our pupils learn technical vocabulary early as we value a common language when engaging in discussion and reflection of mathematics concepts.

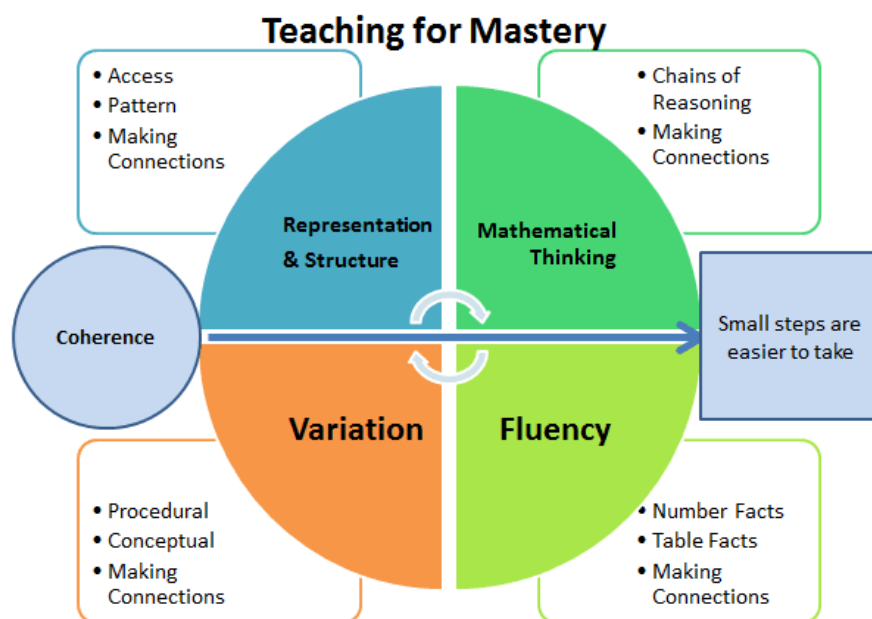
The school's long term plan for Maths sets out the content of teaching within in each year group. This is supported by the White Rose Hub calculation policy which provides an overview of the different models and images that can support the teaching of different concepts. Short term planning details how this content is developed over a series of lessons within the unit of work. The organisation of the Maths curriculum provides structured opportunities for pupils to:

- Develop an ability to recall basic skills, including number bonds and times tables, and apply knowledge rapidly and accurately.
- Develop an ability to explain and justify thinking when solving problems and facing mathematical challenges.
- Develop their use of correct technical mathematical vocabulary and recognise its importance as a language for communication and thinking.
- Experience an excitement of discovery through teaching and learning of mathematical concepts, leading to a fascination of the subject
- Develop resilience alongside a positive and reflective attitude towards Maths
- Develop the ability to be competent, confident and flexible in using mathematical knowledge, concepts and skills.

The school calculation policy and Maths procedure document are used in conjunction with this policy.

Teaching and Learning Maths

In addition to the conscious structure and design of the Maths curriculum, great consideration has been paid to the design of the implementation of the curriculum in the classroom. Teaching delivery will vary according to the activities being undertaken, but will follow the principles set out in the Teaching, Learning and Implementation policy and will include class, group and individual instruction and guidance, exposition and demonstration, and the use of questioning and discussion. A teaching for mastery approach is adopted across all year groups in order to ensure effective delivery of the intended curriculum.



NCETM

Underpinning Masefield's Teaching for Mastery approach is a belief that all pupils **can achieve** in Maths. The approach rejects the idea that a large proportion of people 'just can't do maths'. All pupils are encouraged by the belief that by working hard at maths they can succeed. If pupils fail to grasp a concept or procedure, this is quickly identified and early intervention ensures the pupil is ready to move forward with the whole class in the next lesson.

When lessons are designed, the new mathematics to be taught, the key points, the difficult points and a carefully sequenced journey through the lesson is planned for. Key facts such as multiplication tables and addition facts within 10 are learnt to automaticity to avoid cognitive overload in the working memory and thus enables pupils to focus on new concepts.

The National Centre of Excellence in Teaching of Mathematics (NCETM) has developed Five Big Ideas of Mastery. They are as follows:

Coherence

Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Representation and Structure

Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation.

Mathematical Thinking

If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: 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

Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a



lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

Videos and further information can be found at: [Teaching for Mastery | NCETM](#)

Assessment

Progress and attainment in Maths is tracked using the school's own assessment system which is based upon test results at the end of each term. Pupils complete two end of term assessments - arithmetic and reasoning. A scaled score is calculated and results are recorded on our pupil progress tracker. The Maths tracker provides a cohesive picture of maths attainment for each cohort and clearly identifies pupils requiring additional support. The information provided is valuable for class teachers in supporting their pupils but also to the subject leader and senior leaders about the strengths and weaknesses in Maths across cohorts, groups and the whole school.

Other termly assessments include updating the KS1 Number Bonds tracker and Y2-Y6 multiplication tracker. These assessments are used to identify those who need intervention to develop basic recall of facts.

Maths is taught in blocks which vary from one to five weeks. At the end of each block, pupils are tested on the content of the block they have completed. The results are marked by the class teacher and an overall score is recorded on the assessment grid at the back of the pupil workbook. Answers are worked through with pupils so they can learn from mistakes or share their methods and reasoning.

Resources

The organisation and deployment of resources is the responsibility of the subject leader. Management, equipment and resources for maths are organised to promote effective use by pupils. Each class has a toolkit of manipulatives for the teacher and pupils to use to explore mathematical structure. Additional resources can be found in the maths resource areas in school. The Maths Lead is responsible for ensuring the resources stay up to date.

Continuing Professional Development

In order to ensure the highest quality teaching and learning in Maths, the school is committed to the continuing professional development of both teachers and teaching assistants. The focus of this is determined by the Maths subject leader who has the responsibility for coordinating, delivering or sourcing the relevant development opportunities for staff.

Subject Leadership

The role of the subject leader and supporting documentation is detailed in the school's Subject Leader Handbook. The provision of allocated subject leadership time ensures that teachers have the dedicated time to fulfil their roles and responsibilities which include:

- supporting and guide the practice of teachers and support staff;
- ensuring coverage, continuity and progression in planning;
- monitoring and evaluate the effectiveness of Maths teaching and learning;
- updating documentation where necessary;
- producing action plans for the School Development Plan, preparing bids and manage the Maths budget effectively;
- liaising and consulting with outside agencies where appropriate;
- preparing and leading INSET;
- attending relevant INSET training;
- reviewing regularly the contribution made by Maths to a meaningful curriculum;



- reporting to senior leaders, local governors and external reviewers about the position and development of maths across the school

Spiritual, Moral, Social and Cultural Development

The awe and wonder of Maths is shared with our pupils and helps to explain the world around them. We want children to experience maths in the world around them by their own discoveries, for example, noticing the symmetrical properties of snowflakes. We use 'hooks' at the beginning of our lessons that help pupils make connections between the mathematical concept and their daily experiences. There are many opportunities for pupils to collaborate with others and each pupil's reasoning and mathematical thinking is valued when shared with the group.

Equal Opportunity and Inclusion

At Masefield, we endeavour to provide all children with an equal opportunity to maximise their individual potential; this is regardless of ability, gender, cultural background, race, religion, or disability. Activities both within and outside the classroom are planned in a way that encourages full and active participation by all children, matched to their knowledge, understanding and previous experience. Our teaching attitudes, published materials used in instruction with pupils and this policy are guided by these respective policies. Equal emphasis will be given to the roles of both men and women in society, without reinforcing gender, religious or cultural stereotypes. In the planning stage, teachers ensure there is appropriate differentiation for all abilities –including gifted and talented, SEN and EAL. All children are challenged at an appropriate level for the individual.

We have carefully considered and analysed the impact of this policy on equality and the possible implications for pupils with protected characteristics, as part of our commitment to meet the Public Sector Equality Duty (PSED) requirement to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations.

Review

This policy is monitored through:

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

This policy is reviewed by staff and governors annually.