Maths Policy

Adopted: Spring 2023
Review: Spring 2026

1. Vision Statement

The main rationale of mathematics mastery is 'everyone can'. At Meadgate Primary School, we embrace this mastery approach and adopt the principles of a 'growth mindset' by giving all children the structures and support required in order to succeed in their learning.

2. Intent

The intention of the maths curriculum at Meadgate is that children are taught to become competent mathematicians who can explain their reasoning and show their understanding using a variety of different representations whilst continually repeating key basic skills. We work in line with the 2014 National Curriculum for Maths which aims to ensure that all children:

- Become fluent in the fundamentals of mathematics;
- Are able to reason mathematically;
- Can solve problems by applying their mathematics.

At Meadgate, we strive to embed the skills and processes necessary to enable children to use and apply their maths learning in a variety of contexts. We aim to develop children's enjoyment of maths and provide opportunities for children to build a conceptual understanding of maths as well as apply their knowledge to everyday problems and challenges. Our approach to the teaching of mathematics develops children's ability to work both independently and collaboratively. Through mathematical talk and reasoning, children will develop the ability to articulate and discuss their thinking.

At Meadgate, skills are embedded within maths lessons and developed consistently over time through three levels of learning:

Shallow learning: surface, temporary, often lost
Deep learning: it sticks, can be recalled and used
Deepest learning: can be transferred and applied in different contexts.

At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time. By teaching maths through a mastery approach, we aim for children to achieve the deep and deepest levels or learning.

We are committed to ensuring that children are able to recognise the importance of maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. By the end of Key Stage Two, children will leave our school prepared for the next step in their mathematical education.

3. Implementation

At Meadgate we have implemented a blocked curriculum approach to the teaching of mathematics by following the White Rose Hub (WRH) scheme of learning. This supports the idea of a mastery approach by ensuring that children are able to focus for longer on each specific area of maths and concepts are truly embedded before learning moves on. We have found that moving at this slower pace deepens mathematical understanding and develops a more secure understanding over time. In turn this improves children's retention

and recall of learning.
Subsequent blocks continue to consolidate previous learning so that the children continually practise key skills and are able to recognise how different aspects of maths are linked. For example, when children have completed a block which has enabled them to master the multiplication of two-digit numbers, a subsequent block on area and shape might provide opportunities to use this understanding when calculating the area of shapes with 2 digit length and width dimensions. As topics are not explicitly revisited in this scheme, teachers reinforce number fluency throughout the year through mental or oral starters, mini maths games and isolated arithmetic lessons.

The WRH scheme supports the 'Concrete, Pictorial, Abstract' (CPA) approach driven by the mastery programme. This helps children to *show* and *talk about* their understanding of mathematical thinking in different ways. Practice and consolidation play a central role. Carefully designed variation through different models e.g. Dienes, bar model, number lines etc within this builds fluency and understanding of underlying mathematical concepts. This in turn empowers children to select the most appropriate method for solving a calculation or problem and one that they prefer.

Through careful planning we aim to ensure that the teaching of mathematics at Meadgate provides opportunities for:

- practical activities and mathematical games, including the use of ICT;
- individual, paired, group and whole class discussions, teaching and activities;
- mathematical talk and reasoning with an emphasis on understanding and using mathematical vocabulary;
- open and closed tasks; some of which will be problem solving and investigations;
- a range of methods of calculating e.g. mental strategies, jottings, formal written methods, use of practical equipment

WRH provides teachers with overviews for each term, a range of ideas linked to the National Curriculum statements, ideas linked to fluency, reasoning and problem solving and ideas for all students. The range of models and visuals helps to boost children's mathematical fluency and support understanding of abstract concepts and problems. Teachers supplement the resources provided by WRH with those from other mathematical schemes and platforms such as Abacus, ActiveLearn, Purple Mash and Classroom Secrets etc. This ensures children have a range of visuals, resources and activities to ensure the depth and breadth of learning that they might need to truly master a concept.

Implementing the WRH scheme of work ensures that there is whole-school consistency and progression in skills. Expectations and an appropriate order of children's learning are outlined in the form of small steps within their National Curriculum Primary Progression document. (Appendix A).

4. **EYFS**

At Meadgate, children in Reception have a short daily maths teaching session in line with the rest of the school. The content and progression of learning is also guided by the WRH scheme of learning. This is an appropriate scheme for our children for a number of reasons:

- It has a flexible play-based content that allows the teacher to be led by each

cohort's individual strengths, needs and interests.

- With children of varying abilities entering the school, the emphasis on truly mastering the five principles in counting ensures that all children have solid foundations to the application of number:
    1. One-one: assigning one number to each object counted
    2. Stable order: counting in the correct order
    3. Cardinal: the final number counted equates to the total
    4. Abstraction: anything can be counted
    5. Order-irrelevance: a group of objects can be counted in any order
- The slow pace allows children to master and explore concepts in meaningful and relevant contexts to deepen their understanding.
- It provides examples and guidance on physical resources, pictorial representations, songs, stories games and role-play.

The teacher in Reception works to secure a good balance between whole class learning, group teaching and individual practice. Throughout the week a child will work with an adult - either a teacher or a supporting adult - on a differentiated task. At Meadgate, we recognise the importance of play-based learning and therefore encourage children to develop their understanding during their play. Children in Reception have access to activities that link to the mathematics focus for the week both in the indoor and the outdoor learning environments. These are available for self-selection during child-initiated activities, known to the children as 'Explore Time'. These independent activities give children the opportunity to consolidate their whole-class learning and develop their mathematical skills in a comfortable and play-based setting in order to gain the most learning out of each experience.

Staff in this EYFS classroom question children according to their current learning and provide immediate feedback to challenge them to move on to their next steps. Children are observed and assessed in an ongoing and collaborative manner between all adults in the classroom to improve the accuracy of this. This also ensures that children in need of additional support and intervention are identified and supported immediately.

5. Inclusion & SEND

Teachers at Meadgate reinforce an expectation that all children are capable of achieving high standards in mathematics where the large majority of children progress through the curriculum content at the same pace. Differentiation is achieved through precise questioning, individual support and resourcing. Teachers challenge those who have grasped the content by 'going deeper' and encouraging children to further explore the ideas and concepts of the lesson rather than moving them through the curriculum faster. Through ongoing formative and summative assessments, teachers are able to identify gaps in understanding and plan for those requiring intervention as soon as possible.

Although the expectation is that the majority of children will move through the programmes of study at broadly the same pace, the 2014 National Curriculum states: 'Decisions about when to progress should always be based on the security of children's understanding and their readiness to progress to the next stage.' If a child's needs are best met by following an alternative plan, including coverage of the content from a previous year, this will be overseen

by the SENCo, in collaboration with the class teacher and with the knowledge of SMT. Specific arrangements for the provision of children with SEND will be communicated to parents and carers during SEND reviews.

Additional support is delivered by class teachers and learning support assistants (LSAs) in a range of contexts. Mediated support is delivered in the class environment to an individual or in small groups. It enables children to access differentiated curriculum content. Targeted support (intervention programmes or tailored learning plans) is usually delivered outside the classroom to minimise distraction.

6. Impact

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. Students can underperform in mathematics because they think they can't do it or are not naturally good at it. The WRH programme addresses these preconceptions by ensuring that all children experience challenge and success in mathematics by developing a growth mindset.

Assessment is seen as an integral part of the teaching process and we strive to make our assessment purposeful, allowing us to match the correct level of work to the needs of pupils, thus benefiting the pupils and ensuring progress.

Teachers carefully design and deliver maths lessons to ensure that children receive effective oral and written feedback. Children are given opportunities to practise concepts and skills in whole class, group and independent activities. The ongoing assessment that occurs during these activities, allows adults to question learning carefully, address misconceptions promptly and adjust learning accordingly.

Teachers monitor learning using a Class Record Sheet which links directly to the WRH small steps covered during each term. Teachers simply highlight or circle an objective to signify when a child has mastered it. This straightforward assessment tool is designed to be completed during lessons and when marking daily learning. It helps to inform the planning of lessons and interventions and help children move towards mastery.

At the beginning of the academic year, children in Years 1 to 6 complete a calculation assessment that considers the four main operations. Alongside information from the previous teacher, this acts as a baseline for children's learning. Questions relate to the previous year's learning and the skills that will be covered in the forthcoming year. Children repeat the same test in July, to demonstrate their learning and progression. Reception children's learning is also assessed at this point of the year using the same tool.

At the end of each block of work, children in Year 1 complete an assessment style question through a whole class activity that children explore and complete independently or in small groups. In Years 2 – 6, children complete a carefully aligned WRH 'End of Unit Assessment'. The outcomes of these feed into the Class Record Sheet to ensure that any identified gaps in understanding can be addressed before the next unit is taught. In Year 5, children's calculation skills are assessed at a progressive frequency across the academic year. This builds up towards weekly arithmetic tests in Year 6, to improve children's speed, recall and accuracy during test conditions. At the end of each term, teachers in all classes administer a

WRH ‘Arithmetic Progress Check’ and ‘Reasoning and Problem-Solving Progress Check’ which specifically link to the coverage for that term. The results of these papers are used to identify children’s ongoing target areas and provide diagnostics for future learning. Scores for each WRH test are input on a class spreadsheet that teachers annotate with contextual information and identified strengths or difficulties. Findings are communicated to the children, as well as to parents and carers at Parents Evening.

Together these assessment tools inform the whole school tracking of attainment and progress for each child in line with each ‘fundamental’ objective. They reliably inform assessments at Pupil Progress reviews by feeding into Target Tracker. This ensures that provision remains well-informed to enable optimum progress and achievement. End of year data is used to measure the extent to which attainment gaps for individuals and identified groups of learners are being closed. This data is used to inform whole school and subject development priorities for the next school year, including any CPD needs.

Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child. These factors ensure that we are able to maintain high standards, with achievement at the end of KS2 above the national average and a high proportion of children demonstrating greater depth.

7. Parents/Carers

Our school recognises that parents and carers have a valuable role to play in supporting their child’s mathematical learning. An overview of the maths curriculum is available on the school’s as well as guidance in the progression in calculation methods used by the school). Paper copies of these documents are also available on request.

Parents are informed of their child’s progress at Parents Evenings and this is also communicated in written school reports. Parents and carers are encouraged to speak to their child’s teacher at any point during the year, either informally or by making a specific appointment. Information about their child’s achievements and next steps are shared during parent/carer meetings, as well as ways that parents/carers may be able to assist with their child’s learning.

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