MATHEMATICS' POLICY

Introduction

Mathematics is a tool for everyday life. At Meadow Farm Community Primary School, we seek to prepare children with a variety of skills they need for everyday life. Our curriculum builds from within to meet requirements of the National Curriculum 2014 for the teaching and learning of mathematics and is designed to give pupils a consistent and smooth progression of learning in calculations across Meadow Farm School.

Intent

At Meadow Farm Community Primary School, through our maths' curriculum, we aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and capable in order to solve problems that will be an integral part of their future.

The National Curriculum for mathematics aims to ensure that all pupils:

• Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
• Can reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
• Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Implementation of the Policy

At Meadow Farm Community Primary School, we recognise that mathematical skills need to be taught and that every teacher is accountable for the progress in maths for the pupils in their class. We aim to:

- Provide children, within the Early Years, opportunities to explore mathematical concepts as part of our Continuous Provision offer
- Teach maths' lessons every day in Reception, KS1 and KS2
- Provide a language rich environment that promotes love of maths'

- Identify pupils who require additional support and intervene at an early stage

Planning

At Meadow Farm, lessons follow the mastery approach and topics are taught in consolidated blocks. The maths in the classroom is differentiated at the level of the task and not the child – i.e. all children will work on the same concept, but some children be expected to develop a deeper understanding while other children will need more directed scaffolding and support.

Working walls are used in the classroom to support and facilitate learning, which aids retention, encourages independence, and supports the development of vocabulary. Teachers are expected to use a variety of resources and representations to make math concepts accessible. Using mathematical language is crucial to developing mathematical thinking and deepening conceptual understanding. Our maths classrooms are language rich with emphasis is given to sharing key vocabulary, which is referred to throughout.

Maths will be taught every day in both KS1 (50 minutes) and KS2 (60 minutes). The teaching at Meadow Farm is episodic (ping pong questioning back and forth) which provides an opportunity for staff members to use deeper questioning and check pupils understanding as they go along. E.g. Can you explain? What did you notice? Can you compare? What is the same/different? How do you know? Can you prove it? What is the odd one out? True or false? This also supports rapid interventions of misconceptions.

The lessons are structured as follows:

- Objectives are grouped into 4 areas of maths: Number, Geometry, Measurement and Statistics.
- These areas of maths are then broken into separate blocks including: Number: Place Value, Addition and Subtraction, Multiplication and Division, Fractions, Decimals and Percentages, Algebra and Ratio. Measurement: Money, Length and Height, Time, Mass, Capacity and Temperature. Geometry: Properties of Shape, Position and Direction.
- Blocks are between 2 and 5 weeks long.
- Objectives in each block are broken down into small steps.

Long Term Planning - We follow the White Rose Hub Scheme of Learning Overview for the year.

Medium Term Planning - We follow the White Rose Hub Scheme of Learning Termly plan.

Short Term Planning – Lessons are broken down into 8 different sections, following the mastery approach.

Recap- How will our previous learning help us today?
Vocabulary- Recap over vocabulary learnt in previous years. Teacher to introduce

new vocabulary for topic.
Key Learning 1- Teacher model.
Practice Example 1- Pupils to complete similar task to teacher model.
Key Learning 2- Teacher model.
Practice Example 2- Pupils to complete similar task to teacher model.
Pupil Practice- Children to complete focused task involving both fluency and reasoning activities.
Plenary- Consolidation of learning.

Early Years Foundation Stage

In EYFS (Nursery and Reception) we follow the EYFS framework. Teachers ensure the children learn through a mixture of adult-led activities and child-initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach using material from NCETM Mastering Number and White Rose Maths. The children have a wide range of structured play resources available to them throughout the year - this is known as "continuous provision". The adults model the use of these resources and the appropriate mathematical language as they support the children in their play.

Our overarching aims are for children to:

- Make good progress towards the Early Learning Goals
- Be confident in communicating their ideas
- Develop a positive attitude towards maths and be willing to 'have a go'

Our mastering number sessions cover all of the number work that will support the children to meet the Early Learning Goals and the learning trajectories that build children's understanding and help them make connections between different mathematical concepts.

Maths in KS1 (Years 1 and 2)

In Years 1 and 2, the focus of Maths is to ensure the children develop confidence and mental fluency with whole numbers, counting and place value. This often involves working with numerals, words and the four operations (+ - x ÷). The children should be precise in using and understanding place value and know number bonds to 20. The children also develop their ability to recognise, describe, draw, compare and sort different shapes. The children will use a range of measures to describe and compare different quantities (such as length, mass, capacity/volume, time and money). Each class, in KS1, has a daily 'Mastering Number' session in addition to their Maths lesson. Over the year, the children will experience using a range of resources and representations, including a small abacus-like piece of equipment called a rekenrek.

Maths in our Lower Key Stage 2 (Years 3 and 4)

In Years 3 and 4, the focus is to ensure the children become increasingly fluent with whole numbers and the four operations (including number facts and place value). Pupils begin to develop efficient written and mental calculations with increasingly large whole numbers. They begin to develop their ability to solve a range of problems, including simple fractions and decimal place value. The children develop mathematical reasoning to help them analyse shapes and their properties and confidently describe their relationships. By the end of Year 4, children should have memorized their multiplication tables up to and including the 12 times table and be able to show precision and fluency in their work. Pupils in Year 4 are prepared for the Multiplication Tables Check (MTC).

Maths in our Upper Key Stage 2 (Years 5 and 6)

In Years 5 and 6, the focus of Maths is to ensure that children extend their understanding of the number system and place value to include larger integers. Pupils should be able to make connections between multiplication and division with fractions, decimals, percentages and ratio. Children should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems that demand the use of efficient written and mental methods of calculation. Children are introduced to algebra as a means for solving a variety of problems. The children's understanding and knowledge in geometry and measures consolidates and extends the knowledge they have developed in number; children should be able to classify shapes with increasingly complex geometric properties, using the vocabulary they need to describe them with accuracy and confidence.

Assessment

Assessment is an integral part of the maths curriculum and not an addition to it. Children's work in mathematics is assessed from two aspects:

1) Informal, formative assessments are made continually by questioning the children, observing and monitoring their work. These short term assessments are closely related to the learning objectives for the lesson and help inform next steps.

2) Summative assessment is less frequent - this is the use of tests or more formal assessments to find out what children have learnt. We use National Test-style (NTS) maths papers whilst confidently measuring termly performance against thousands of pupils nationally.

Statutory Assessment Tests (SATs) are used for children in Year 2 and 6, plus children in Year 4 are also required to take a multiplication tables check (MTC) in the Summer Term. The purpose of the check is to determine whether pupils can fluently recall their times tables up to 12, which is essential for future success in mathematics. A whole school tracking system (O-Track) is used to closely monitor children's progress throughout the school. Teacher assessments are entered half termly and are closely analysed to identify children working at greater depth or who are at risk, appropriate intervention is then put in place to close gaps.

Times Tables

At Meadow Farm Primary School, we believe that through a variety of interactive, visual and engaging techniques, all children can achieve the full multiplication tables knowledge by the time they leave Primary School. The new National Curriculum (2014) states that by the end of year 4, pupils should be able to recall multiplication and division facts for multiplication tables up to 12x12. Children in Year 4 are also required to take a multiplication tables check (MTC) in the Summer Term. The purpose of the check is to determine whether pupils can fluently recall their times tables up to 12, which is essential for future success in mathematics. This means it is important for the children to learn their multiplication tables facts and to be able to recall them quickly and accurately.

We teach times tables using the following progression:

Year 1 – Be able to count in multiples of twos, fives and tens

Year 2 - Be able to recall 2, 5 and 10 multiplication and division facts

Year 3 - Be able to recall 3, 4 and 8 multiplication and division facts

Year 4 - Be able to recall 6, 7 and 9 multiplication and division facts

Year 5/6 - application of multiplication and division facts to problem solving

Marking and Feedback

Verbal feedback is the first point of marking. This does not need evidencing in books but should be an active part of every teacher's practice on a daily basis and visible during lesson observations.

All work done by the children in their books (e.g. attempted methods for the anchor task; guided practice answers and working) must be ticked, checked for accuracy, and checked to see if the methods used are consistent with the key learning intention for the lesson.

Learning Environment

Maths working wall

In the classrooms there should be a maths' working wall display which has examples of strategies, pupil's work, questions, etc. Maths' toolkits should contain age-appropriate resources, particularly concrete and pictorial apparatus to support children. These should be made available to pupils in all maths lessons with children choosing the resource they wish to use, in order for them to achieve the learning objective. Mathematical vocabulary should be displayed so that children use this in the communication of their understanding.

Monitoring and Review

Monitoring activities will be carried out by the maths' leader every term. This will involve scrutinising planning, curriculum coverage and maths evidence in books, carrying out learning walks and monitoring Class Dojo. Monitoring forms will be completed and feedback will be given to teachers in a timely manner.

The maths' leader will analyse and compare school data with national data, and plan staff training accordingly. The results of this monitoring will be shared with the head teacher and the Science Governor for the school.

Policy prepared by: Lucy Gregory and Chelsea Davis (Joint Maths Leaders)

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Chair of Strategic Committee

Signed:
Mrs M Gaidermann 05.03.25

Head Teacher

Signed:
Mrs S Eyre 05.03.25

Review date: March 2028