Moor Nook Community School

Mathematics Policy

September 2024

Written by A. Jaeger on behalf of Moor Nook Community School

Moor Nook Primary School aims to provide quality teaching and learning outcomes for all its pupils.

At Moor Nook we **CARE** for all our pupils:

- Encouraging creativity and inventiveness
- Promoting ambition, aspirations and self-improvement
- Fostering and developing resilience, independence and confidence
- Establishing a culture committed to equality of opportunity

Mathematics Vision

Mathematics, at Moor Nook, encourages pupils to make connections between what is new and what they already know, develop their independence and resilience when problem-solving and fosters their enjoyment and enthusiasm for Maths.

Values

Moor Nook Community School's ethos is underpinned by core values. These values support the development of the whole child has a reflective learner within a calm, caring, happy and purposeful learning environment. Each value is focused upon within a half-term, over a two-year cycle, and they include: Respect, Resilience, Knowledge, Kindness, Honesty, Achievement, Friendship, Determination, Love, Empathy, Co-operation and Fairness.

Wherever possible, we promote the school values when delivering the Mathematics Curriculum e.g. we show determination and resilience when problem-solving, we celebrate our achievements and ambition to succeed, we work co-operatively to solve challenges and discuss our work and demonstrate friendship, fairness and respect when listening to other's responses, answers and suggestions.

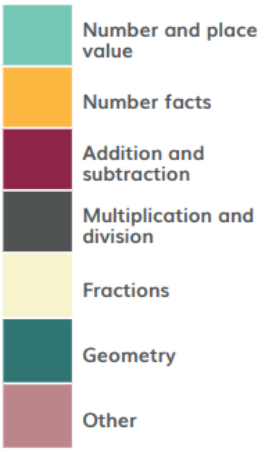
Mathematics Curriculum

Working with NCETM NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

At Moor Nook Community Primary School, we follow the NCETM (National Centre for Excellence in the Teaching of Mathematics) Curriculum Prioritisation in Primary Maths. This is a term-by-term framework to support the planning and teaching of Maths which draws together the 2014 National Curriculum, DFE Primary Mathematics Guidance and Ready-To-Progress Criteria (2020) and the NCETM's Primary Mastery Professional Development materials. We adopted this curriculum following our work with the NCETM Mastery Readiness Programme; we are currently in the sustaining year (following completion of the embedding year in 2023-2024).

This CP Curriculum mirrors the 2014 National Curriculum:

- To become fluent in the fundamentals of mathematics, including through varied and frequent practice, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To reason mathematically by developing an argument, justification or proof using mathematical language.
- To solve problems by applying their mathematics to a variety of routine and non-routine problems.



The Maths Curriculum is taught through seven different areas of Maths:

- Number and Place Value
- Number Facts
- Addition and Subtraction
- Multiplication and Division
- Fractions
- Geometry
- Other areas which are not included in the Ready-To-Progress Criteria e.g. measure.

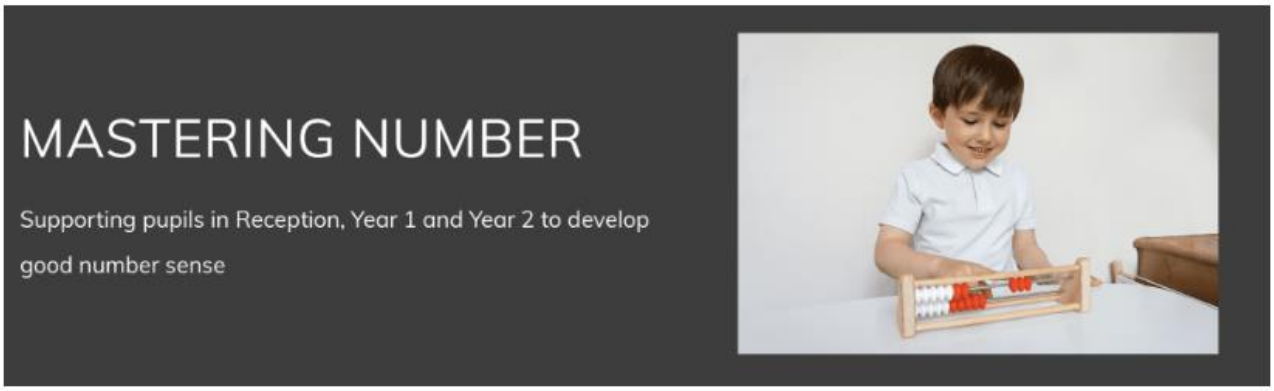
Teaching and Learning at Moor Nook

Maths in the Early Years

Mathematics is a one of the seven areas of learning and development that must shape educational programmes in Early Years' settings. Mathematics is a specific area and should strengthen and apply the prime areas of communication and language, physical development and personal, emotional and social development.

Maths, in the Early Years at Moor Nook, is taught through both the NCETM 'Mastering Number' programme and Shape, Space and Measure activities provided within the continuous provision. By following this teaching programme, it is hoped that all children will:

- be able to clearly communicate their mathematical ideas
- develop a secure understanding of how to build firm mathematical foundations
- work to develop fluency in calculation and number sense for all children
- use appropriate manipulatives to support their understanding of mathematical structures



The programme's aims correspond to those of the Statutory Framework for the Early Years Foundation Stage (2021):

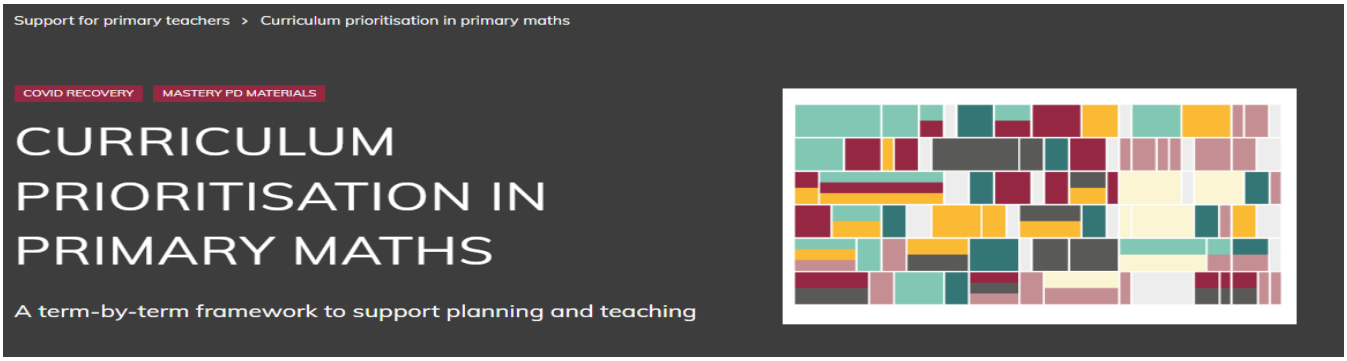
- Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- Children should experience frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting.
- Children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

- Children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
- Children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

For more information about the 'Mastering Number' programme please see the following link: https://www.ncetm.org.uk/maths-hubs-projects/mastering-number/

Mathematics in Key Stage 1 and Key Stage 2

In Key Stage 1 and Key Stage 2, Moor Nook follows the NCETM (National Centre for Excellence in the Teaching of Mathematics) Curriculum Prioritisation in Primary Maths.



Maths Lessons are delivered in units, with small step outcomes across each lesson. This is to ensure that children can understand and retain all the smaller steps needed to achieve the greater learning objective. Their learning is complemented by a use of varied manipulatives (practical resources), animated PowerPoint Slides, teaching guidance and pedagogy, tasks and challenges.

Teaching is in short bursts, with either children working with a partner to discuss their learning or independently on a whiteboard and completing tasks and challenges (reasoning and problem solving) in their books. This 'teach task, teach task' approach allows children to be fully involved in the whole lesson and develops their reasoning mathematically by fostering arguments, justifications, using mathematical language and encouraging mathematical thinking.

Additional support is offered to children, both 'live' within the Maths' lesson and outside of this time, to ensure children can stay on track with their class and do not have 'gaps' in their learning or understanding.

Please click on the link below to see the full year's overview for Years 1-6:
https://www.ncetm.org.uk/media/y2di0nmn/cp-overview-years-1-6_08122021.pdf

Pupils in Years 1 and 2 also have an additional ‘Mini-Maths’ lesson (10-15 minutes) outside of the main Maths Lesson, to follow the NCETM ‘Mastering Number’ programme. This intervention aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number.

Please click the link below for more information about this intervention:

https://www.ncetm.org.uk/maths-hubs-projects/mastering-number/

Children will record their work in Maths books, with large or small squares depending on their age group or ability. On some occasions work will be recorded by on Tapestry.

Multiplication Tables

Multiplication Tables are vital for children to make progress in Mathematics and influence many different areas of learning e.g. multiplication, division, fractions, decimals, percentages, factors, multiples, square numbers etc.

In addition to this, all pupils in Year 4 are required to sit the statutory Multiplication Tables Check (MTC). Therefore, we prioritise time to support the children with these in school, using Times Table Rock Stars (which can be accessed from home) and an intervention called ‘Mission Multiplication’. This begins from Summer Year 2 and continues to Year 6. For more information about Times Table Rock Stars please see the link: https://ttrockstars.com/

From September 2024, the school is also implementing the NCETM Key Stage 2 Mastering Number programme which supports, in Year 4, multiplication fact retrieval alongside conceptual and structural understanding of the multiplicative relationship and, in Year 5, multiplication fact retrieval with more opportunities to connect multiplication and division facts and make further conceptual connections.

For more information click here: https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-ks2/

Maths Active Ingredients

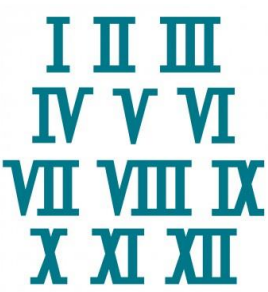
Across the school, regardless of year group or Key Stage, you should expect to see the following active ingredients in Maths teaching and learning at Moor Nook:

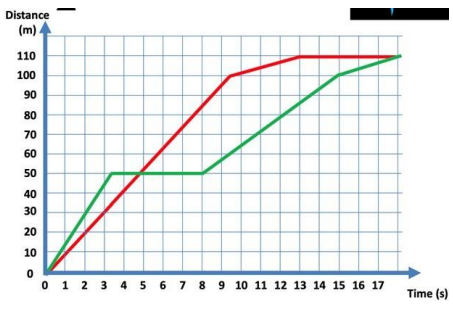
- ✓ Activating prior knowledge
- ✓ Small Step Teaching
- ✓ The teach task, teach task approach
- ✓ Maths Talk Partners
- ✓ Opportunities for Mathematical Thinking
- ✓ A focus on Mathematical Vocabulary and Stem Sentences
- ✓ Use of manipulatives
- ✓ Thinking Aloud & Modelling of approaches
- ✓ Additional challenges for all pupils
- ✓ Live marking and immediate intervention, with further intervention to support all pupils accessing main teaching and learning

Cross-Curricular Maths

Throughout the Primary and Early Years Foundation Stage curriculum opportunities exist to extend and promote Mathematics. Teachers seek to take advantage of all opportunities e.g. data handling in science, using formula in computing or exploring Roman Numerals in history.

Speaking and Listening is an important cross curricular issue, and we actively promote and encourage the development of children's speaking and listening skills in Mathematics. Maths Talk and Mathematical Thinking is planned daily, with an emphasis on using correct mathematical vocabulary and stem sentences, to explain, reason and justify their understanding.





Marking and Feedback

Marking in Mathematics, follows the School's Marking and Feedback Policy. High quality marking is crucial and should consider the lesson objectives and success criteria. Teachers 'live mark' during the lesson and address misconceptions immediately or plan interventions before the next lesson, so the children can 'keep up' with the learning and avoids gaps in their understanding or the promotion of misconceptions.

Teachers allow the children time to look at their marking and feedback, make corrections or complete additional challenges following the lesson.

Alongside teacher marking and feedback, where appropriate, children are encouraged to check computational exercises through estimation and inverse operations which promote their independence and resilience.
Additional challenges are available for the children to complete, when they have completed the tasks set within each allotted time, before moving onto the next step of learning.

Assessment

Pre-Assessment

At the beginning of a new unit, teachers will ask the children to complete a pre-assessment. This allows the teacher to understand what the children already know and what they have retained from previous teaching in this area of Maths and build upon their prior knowledge. This will be used to tweak/adjust planning so that any gaps in the children's knowledge and understanding or misconceptions can be addressed.

Teachers use a variety of resources for this including Testbase and the Curriculum Prioritisation Assessment Questions (arranged by the Ready-To-Progress Criteria).

Daily Assessment

Teachers 'live mark' during the lesson and address misconceptions or add additional reasoning to support and challenge pupils. After the lesson, the work will be marked in its entirety. If a pupil continues to have a misconception or appears to be struggling with a key point, this will be addressed through intervention before the next lesson so that the children can keep up with their class and access the teaching and learning within their classroom.

Termly Assessment

Alongside the on-going formative assessment, at the end of each term the children will complete a summative Maths assessment. The school uses the Testbase National Curriculum Tests for this purpose. These were selected as they mirror the Standard Assessment Tests (SATs) used at the end of Key Stage 1(optional) and Key Stage 2.

By allowing the children to complete these three times across the year, it is hoped that it will further enable them to become more confident and resilient with the testing expectations for Year 2 (Optional) and Year 6, in May. This data is included on the school's 'Target Tracker' Assessment Tool and discussed with the Senior Leadership Team in Pupil Progress Meetings.

Early Years Assessment

The EYFS Profile

The EYFS profile is a statutory assessment of children's development at the end of the Early Years Foundation Stage (known as a summative assessment) and is made up of an assessment of the child's outcomes in relation to the 17 early learning goals (ELGs). It provides a reliable, valid, and accurate assessment of each child's development at the end of the EYFS.

Day-to-day informal checking of what children have learnt will inform teaching and learning on an ongoing basis throughout the final year of the EYFS. This will include identifying areas where children may be at risk of falling behind, so that practitioners can provide rapid, effective support and intervention.

The EYFS requires the EYFS profile assessment to be carried out in the final term of the year in which a child reaches age 5. The EYFS profile must be completed for each child and submitted to the local authority.

The main purpose of the profile assessment at the end of the EYFS is to support a successful transition to Key Stage 1 (KS1) by informing the professional dialogue between EYFS and year 1 teachers. This should inform year 1 teachers about each child's stage of development and learning needs and help them to plan the year 1 curriculum to meet the needs of all children. The EYFS profile is also used to inform parents about their child's development.

Children are defined as having reached a Good Level of Development (GLD) at the end of the EYFS if they have achieved the expected level for the ELGs in the prime areas of learning and the specific areas of mathematics and literacy. This helps teachers and parents to understand broadly what a child can do in relation to national expectations.

Monitoring in Maths

Monitoring in Maths takes place in a 'little & often' approach. The monitoring can include teaching or environment observations, pupil interviews, book or planning scrutiny or Maths Learning Walks which encompass all the above.

Monitoring is included in the Maths Monitoring Book and feedback is shared with the staff members, in a timely fashion, so that they are aware of their strengths or areas for development. Additional support is offered to staff to enable them to reach their full potential and support the children in optimising their attainment and progress.

Monitoring Books are shared with the Head and Curriculum Lead to support their monitoring of subject leadership and to offer further guidance and advice to subject leaders and/or teaching staff.

More Able Pupils

Within the daily Mathematics lesson, teachers not only provide activities to support children who find mathematics difficult, but also activities that set appropriate challenges for children who are more able in Mathematics.

When appropriate, More Able pupils will access additional learning opportunities alongside other able pupils. This provides further challenge and further develops the values of confidence, determination and resilience.

For more information, please see the More Able Policy on the school's website.

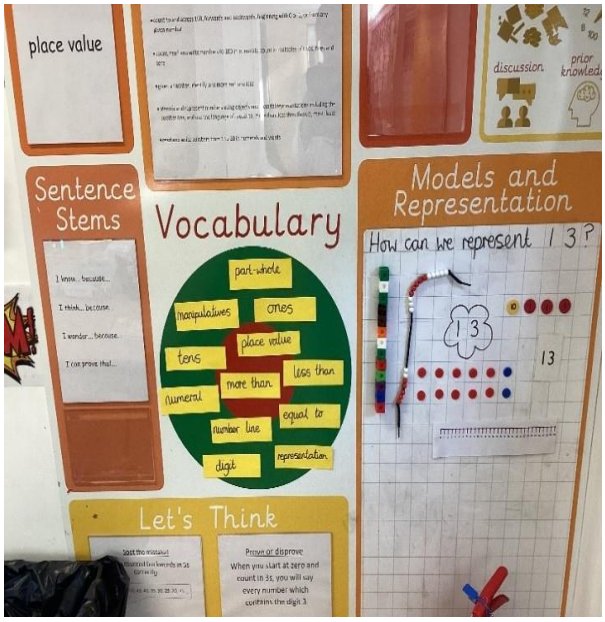
Special Educational Needs and Disabilities (SEND)

Children with SEND are taught within the daily Mathematics lesson with additional resources to support their understanding or Teaching Assistant support to allow them to access the whole class teaching and learning. For some pupils an individual curriculum or differentiated tasks are also required.

Where applicable, children's IEPs incorporate suitable objectives from the Mathematics Curriculum and teachers keep these objectives in mind when planning the teaching and learning within class. Children may also have time to focus on these objectives outside of the Maths lesson.

For further information please see the Special Educational Needs and Disabilities (SEND) Policy on the school's website.

The Maths Working Wall



The children's understanding and teaching of Maths will be supported by the Maths Working Wall. This should be in an area where children are able to see and access the representations, working equations and vocabulary.

The Maths Working wall could include:

- Key Objectives
- Vocabulary
- Pictorial representations
- Modelled strategies/ equations
- Modelled explanations
- Maths facts (non-negotiables)
- Maths Mindfulness

The role of parents in learning inside and outside of school

From their child entering the school, parents at Moor Nook are encouraged to support their child's understanding of Maths by practising number formation, using number bonds, exploring Maths in real-life contexts and later supporting their child's understanding of the Multiplication Tables.

In Key Stage 1, pupils can access Numbots at home. This supports their understanding, recall and fluency in mental addition and subtraction, so pupils move from counting and subitising to calculating. From Year 2, pupils can access Times Table Rock Stars at home. This supports their fluency and recall in multiplication and division facts.

Maths Competition and Events throughout the year encourage parental participation, enagement and enjoyment with the Maths curriculum.

Parents are given the opportunity to discuss their child's progress on three planned occasions through the year: at Parent's Evening in October and March and following the pupils' end of year Report in July. But, in addition to this, Moor Nook Community School has an open doors policy with parents, and they are welcome to come in and speak to teachers or subject leaders before and after school, at any time.

Maths and the Governing Body

At Moor Nook, we have a designated Curriculum Governor (Steve Belbin) who meets regularly with the Maths Subject Leader (Andrea Jaeger) to discuss curriculum development, pupil attainment and progress, resourcing etc.

The Mathematics Governor reports back to the curriculum committee on a regular basis, following discussion with the subject leader. The Mathematics Governor visits the school to talk with teachers and when possible, observe parts of the daily Mathematic lessons or learning environment.

Curriculum Complaints Procedure

The complaints procedure for Mathematics mirrors the school's other complaints procedures, which can be found in the Governor File on the school website.

Should a Parent or Carer have a concern about the Mathematics Policy or Teaching in Mathematics, they should in the first instance discuss this with the class teacher. If the concern continues, then they will meet with the Headteacher, Mathematics Subject Leader and class teacher.

If the concern cannot be resolved at this stage, the Head may involve the Curriculum Governor. The Chair of Governors, Counsellor Rollo, and/or the LEA will be involved, after other avenues to resolve the situation have been exhausted.

Appendix

For more information, please see the following additional documents:

- NCETM Website: Curriculum Prioritisation & Teaching Notes
- NCETM: Mastering Number
- Progression within the CP Curriculum documents
- Feedback & Marking Policy
- More Able Policy
- SEND Policy

Written by Andrea Jaeger on behalf of Moor Nook CP School, September 2024

Review date: September 2025.