



## Moorside Primary School and Nursery

### Maths Intent

#### Intent

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 develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- 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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- consider whether answers are reasonable

Our Maths intent is echoed through our **school's vision**:

**-A culture of success and achievement for all**

*All children are supported to access the maths curriculum in line with their peers and achieve mastery which is embedded through our 'mastery readiness project'.*

**-An aspirational and inspirational curriculum**

*We aim to inspire our children through clear purposes for learning, with varied opportunities to apply their maths skills across the curriculum. We challenge children to be masters of maths, with opportunities to reason and problem solve regularly using the number sense that they develop.*

**-Strong relationships between the school, families, pupils and our community**

*Children are encouraged to continue their maths learning at home through online platforms such as Times Table Rockstars. We also share progress and successes in maths with parents through a 'Marvellous Me' app, to engage them in their child's learning. Parents receive 'non-negotiables' as information about the Curriculum content for their child's year group. They also receive a termly report about their child's progress and recommended support at home.*

**-A whole school inclusive and nurturing ethos**

*We believe that all children can and will achieve their full potential with appropriate scaffolding, including the CPA approach, well pitched questioning and timely keep up, catch up support or pre-teaching.*

**-High expectations for all stakeholders, surrounding our children with the best educators and specialists**

*Leadership of maths is robust and supportive for staff and children. As a team, teachers are reflective and open to development opportunities, collaboration and whole-school projects to continually drive further improvement. Teaching staff work closely to ensure consistency in progression and teaching strategies and assessment across all key stages at Moorside Primary School and Nursery.*

In line with our school curriculum intent and linking with the National Curriculum in maths, at Moorside we:

*Ensure that all our children become confident and resilient learners, proficient in problem solving and communicating effectively.*

At Moorside Primary School and Nursery, we have adopted a mastery approach to the teaching of maths from the Early Years across Key Stages 1 and 2, whereby children are given a deeper and broader understanding of the key mathematical concepts, rather than being accelerated quickly through new content. We follow the National Curriculum using NCETM progression documents, ensuring children build upon key skills each year. These skills are encompassed not only in our school curriculum intent, but in the aims of the National Curriculum. We use the local environment as a stimulus to link maths to the real world, for example using local takeaway menus and 'hands on action' and application of skills and knowledge in our Forest School.

At Moorside we revisit knowledge through a spiral curriculum, ensuring that knowledge is refreshed throughout the year.

## **Implementation**

The White Rose Hub principals of mastery are implemented from the Early Years onwards, starting with a focus on a number at a time and clear counting progression. Maths is enhanced in areas of Early Years provision and this is progressive, leading to supportive learning walls and maths areas into Key Stage 1 and beyond. The White Rose Hub resources are used as a tool to ensure that children build their key small steps in their learning throughout the year.

Most often, teachers begin lessons with an 'Anchor Task' to engage children in learning and assess current knowledge and understanding. Within this is the use of questioning to develop critical thinking and reasoning. This sets the objective within a real-life context problem (picture, scenario, story), allowing children a daily opportunity to reason and problem solve. Teachers use modelling and demonstration through images/manipulatives and ICT, using clear mathematical vocabulary, which is always visible and explained to the children. Current vocabulary is on display on the working walls and vocabulary is also developed through the use of the NCETM Professional Development materials. Children have the opportunity to investigate learning with the use of concrete apparatus and visuals to enforce the areas of learning in a range of conceptual ways. Children also practise skills using carefully crafted and varied questioning. Children are encouraged to read and understand the context of questions. Those children who grasp the fluency quickly, will be challenged with deeper thinking questions, asked to show their understanding in different representations or through writing own word problems/ explanations/application of skills.

The majority of our pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support with scaffolding (if needed) and rapid intervention, use of CPA and questioning. Practice and consolidation play a central role. Carefully designed conceptual and procedural variation in lesson resources builds fluency and understanding of underlying mathematical concepts, providing GD pupils with challenge.

Teachers use the concrete, pictorial and abstract approach (CPA) to ensure that procedural and conceptual understanding are developed simultaneously. All classroom working walls show the CPA approach.

The CPA approach is used across the maths curriculum and is vital in the teaching of calculations. Please see our Maths Calculations Pathway for the progression in operations.

Within the White Rose Maths hub schemes of learning, each National Curriculum objective is broken down into fluency, reasoning and problem solving, ensuring complete coverage. At Moorside, we use the learning

challenges to teach for mastery - an approach to extend and deepen the understanding of pupils within each year group. Teachers use this document in conjunction with a range of other useful resources such as Abacus, NCETM and NRich & I-See Reasoning.

At Moorside we are undertaking a three-year mastery project around mastery readiness, developing mastery and embedding mastery. The Headteacher is a specialist MAST Teacher and the subject lead is a trained Numbers Count Teacher. This ensures we all teachers secure in their subject pedagogy with current CPD.

## **Assessing Impact**

The Maths Subject Leader and Headteacher monitor through lesson observations, planning and book scrutinies, as well as learning walks and pupil voice, to ensure that all teaching environments are up to date and used effectively. The Subject Leader talks to children alongside looking at their books, to gain an insight into the progression and development of maths and outcomes in each class from the children's perspective.

Termly data through PUMA assessments is analysed and scrutinised to identify areas for development and further resourcing for each year group.

There is great emphasis on Assessment for Learning at all points within the lesson by the class teacher and/or teaching assistant and activities adapted during the lesson if necessary. Pupils who are identified for rapid keep up/catch up have targeted support as soon as possible by the class teacher or teaching assistant.

## **Impact**

- Children use their oracy skills and mathematical vocabulary to verbalise their knowledge and understanding.
- Formative assessment takes place on a daily basis and teachers adjust planning accordingly to meet the needs of their class.
- Teachers develop their own subject pedagogy and CPD is provided through internal peer to peer modelling as well as external providers to continually improve the quality of teaching and learning.
- Pupils achieve and make progress. Key Stage meetings and pupil progress meetings target individuals who need rapid intervention and more regular monitoring.
- The CPA approach is modelled consistently and progressively so children naturally use this model when solving problems independently.

## **Providing a purposeful catch up curriculum in Maths**

As part of our offer for remote learning, our children followed the programme set out for their year group by White Rose Maths. Resources for the topic were provided through learning packs and the children watched the daily videos for support and explanations. Further guidance was provided by the Class Teacher during weekly 'zoom' meetings. As part of our Covid recovery curriculum, we continue to offer a balanced curriculum and have reviewed our planning to include the recommendations from the guidance from the DfE in July 2021, 'Teaching a Broad and Balanced Curriculum for Education Recovery

([https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1003469/Teaching\\_a\\_broad\\_and\\_balanced\\_curriculum\\_for\\_education\\_recovery.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003469/Teaching_a_broad_and_balanced_curriculum_for_education_recovery.pdf))



Key Stage 1



## Lower Key Stage 2



## Upper Key Stage 2



