NEW MILLS PRIMARY SCHOOL

Mathematics Programme of Study

At New Mills Primary School, we use a 'mastery' approach when teaching mathematics. We want all of our children to become confident, resilient mathematicians, thriving in a challenging environment where it is safe to make mistakes.

National Curriculum

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

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.

- The National Curriculum for Mathematics

Intent

At New Mills Primary School, our teaching for 'mastery' approach aims to create mathematicians who are fluent, can reason well using the correct mathematical vocabulary and have excellent problem solving skills. We use a wide range of mathematical resources to enable pupils to show their workings in a concrete, pictorial and abstract form wherever suitable. Within each lesson, staff use guided and independent practise to secure understanding, with increased levels of challenge to suit all learners. A strong focus on mathematical vocabulary helps scaffold key concepts and enables every child to explain their learning.

Implementation

At New Mills Primary School, our mathematics curriculum is designed to meet the needs of our pupils ensuring our curriculum intentions are met. We do this through;

- **White Rose** - Every class from EYFS to Y6 follows the White Rose scheme of learning which is based on the National Curriculum. Lessons are adapted and supplement with resources from the NCETM's Curriculum Prioritisation in Maths framework. Staff follow a set lesson structure, with a common focus on vocabulary, guided and independent practise. Each lesson is designed to support children's fluency, reasoning and problem-solving skills.

- **Continuing Professional Development (CPD)** - At New Mills Primary School, we are part of the Turing Maths Hub with the NCETM. Through this long term partnership, we are now working on sustaining the mastery approach to teaching mathematics within our school. Part of this process involves working alongside other local schools to share ideas and good practice. This is then disseminated through regular staff meetings and training sessions facilitated by the subject leaders.

- **Mastering Number** – In EYFS and KS1, we use the NCETM's Mastering Number scheme to secure firm foundations in the development of good number sense for all children. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention is given to key knowledge and understanding needed in EYFS, and progress through KS1 to support success in the future. Children have 4 mastering number sessions, taught separately to their maths lessons.

- **Online Maths Tools** - In order to support children's mathematical learning at home, we utilise Mathletics across all KS1 and KS2 classes. In EYFS and KS1, we also use the White Rose 1 minute maths app to help secure subitising and knowledge of the 4 operations, and Numbots. In KS2, Times Tables Rock Stars is used to encourage multiplication practise, application and consolidation.

- **Cross Curricular** - Maths is taught across the curriculum ensuring that skills are applied in other subjects. For example in Science lessons, graphs, tables and charts are often produced and interpreted by the children.

- **Assessment** - Through our teaching, we continuously monitor pupils' progress against expected attainment for their age, making formative assessment judgements where appropriate and using these to inform our teaching. Additional daily 'impact' sessions are used to help children who need additional time to secure their understanding of the concept taught in that day's maths lesson. End of block assessments are used to inform additional small group interventions. Summative assessments are completed termly; these results aid discussions in termly Pupil Progress Meetings. The main purpose of all assessment is to always ensure that we are providing quality first teaching for every child.

Impact

The impact of our mathematics curriculum is that the majority of children in our school are able to:

- demonstrate a positive attitude towards mathematics;
- demonstrate a deep understanding of number sense;
- recognise relationships and make connections between concepts; applying their knowledge to a range of contexts;
- reason mathematically, confidently using appropriate vocabulary.