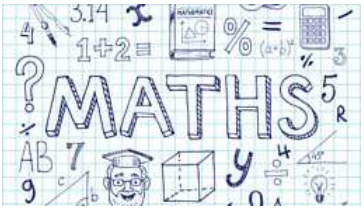
Maths



Intent

At Mapperley Plains Primary School, we recognise that maths is an essential part of daily life. Therefore, mathematics forms an important part of our curriculum where we endeavour to ensure that children develop an enjoyment for maths. It is our intention that our Maths curriculum ensures that the National Curriculum requirements are not only met, but children receive a broad and rich learning experience. Maths teaching and learning provides children with the opportunity to become number fluent and increase their problem solving and reasoning ability.

Our aim at Mapperley Plains is to:

- Explore mathematical concepts and methods.
- Ensure children experience learning in a variety of ways, using different resources and approaches
- Inspire an enthusiasm for maths, highlighting the importance of maths in everyday life by sharing realistic problems.
- Spark inquisitive minds to find new patterns and methods to problem solve at a challenging level.
- Deepen our understanding, questioning and the ability to explain mathematical concepts to our peers.

We offer a maths curriculum which equips our children with key skills, knowledge and vocabulary motivated by our curriculum drivers:

- **Initiative**- We encourage our children to develop their independence, empowering them to act and be responsible for their own learning about which they can clearly state and explain their opinions.
- **Inclusivity -** We pride ourselves on being an inclusive school that cares for every individual child. In doing so, we promote and deliver a range of strategies to ensure that we value everyone. We want the children to recognise and celebrate diversity existing in our world, instilling pride in individuality
- **Resilience-** We relentlessly focus on developing children who are resilient, who can adapt to and recover from tough or challenging situations. We encourage the children to try their best in all that they do.
- **Possibilities**- We encourage the children to build aspirations, identify talents and know possibilities for their future lives.

We ensure the curriculum is **Relevant and Memorable.** The unique needs of our children, along with our culture, climate and events shape our curriculum. When planning lessons we consider the following: 'Because our children…we…'

Our aim is ensure that a mathematician leaving Mapperley Plains will:

- 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 non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Implementation



As a school, we follow our Progression Map for Maths, devised from the Early Years Framework and National Curriculum Guidelines. We ensure our maths curriculum provides breadth and balance; is relevant and engaging and is differentiated to match the needs and abilities of all of our children to ensure that all pupils are able to excel. Children within EYFS develop the concept of maths mastery through talk, practicing the skills they've learned during play, and developing number sense. From EYFS children will be introduced to concrete apparatus to support with their understanding of maths. This will then develop into pictorial representations and then finally abstract problem solving. Throughout KS1 and KS2, we adhere to our calculation policy which outlines the progression of strategies and methods that the children will be taught. Maths is taught daily across school with time dedicated to arithmetic practice and knowledge of the multiplication facts.

Throughout school we follow a scheme of work adapted from the 'White Rose' scheme, which supports children in learning the fundamentals behind the meanings of numbers and exploring other key mathematical areas. We use the 'White Rose' scheme to support our medium term planning, however, as a school we have altered the order and length of units to have the greatest impact on our children. Every maths lesson begins with an arithmetic warm up which helps the children to embed their learning further and make links across different areas of maths. The frequency of these sessions supports with the transference from the working memory into the long term memory, revisiting as part of regular retrieval opportunities.

Children will be provided with rich learning opportunities that deepen thinking and understanding that supports children to make independent connections. We ensure our children leave us not only with the skills needed for the next part of their journey, but with a rich body of knowledge both **substantive** (e.g number facts and times tables) and **disciplinary** knowledge (how to work things out, reason and problem solve).

Developing the use of the correct vocabulary in Maths is crucial and so key vocab is identified and listed for each unit of learning. This is then used to assess knowledge and enables pupils to express and communicate their understanding and knowledge clearly and effectively.

Ongoing formative assessment is used to ensure all lessons are relevant and supports with planning next steps. Children are given lots of opportunities to visit prior learning through low stakes mini-quizzes and other revisit tasks which allow teachers to measure their level of understanding. End of term assessments are used to identify gaps that need to be retaught or embedded within fluency lessons or interventions. Termly assessments are also used as a diagnostic tool to ensure that teachers are adapting learning to meet the needs of all pupils. Teachers will record data to monitor progress over time, taking into consideration not only the tests but their own understanding of the child.

Multiplication facts play an important role in our maths learning, with children developing their fluency in rapid recall of tables up to 12 x 12 by the end of year 4. To support this as a school we use Times Table Rockstars. Times tables are a focus within every classroom and the children are encouraged to practise at home with family and friends too. Each classroom has a display showing the children's progress with their work on the multiplication facts as well as a maths working wall in which key concepts and facts are displayed.

Impact

Through the high quality teaching of maths we will see pupils leaving Mapperley Plains at year 6, transitioning to secondary school, that have a bank of efficient and accurate skills that can be used to calculate effectively. We will see…

- Children who have the language to be able to justify, reason and explain their answers.
- Children who are enthusiastic, passionate mathematicians
- Children who know their 12 X 12 times tables by Year 4 and their relevant times tables in years 1 – 3.
- Children who are confident when given a real-life maths problem at an appropriate level.
- Children becoming more accurate and working at speed during arithmetic style questions.
- Children who can complete multi-step problems, at an age appropriate level,
- Children who have a resilient attitude when solving mathematical problems.

Maths and SEND

For children with SEND, adaptations may be made in Maths which are based on the child's individual needs. We ensure that children with SEND are appropriately challenged in Maths by:

- Using teaching methods which match the needs of children.
- Chunking content into smaller steps and ensuring the curriculum is designed to reduce excessive or unhelpful demands on working memory.
- Ensuring adaptations are based on individual needs and aim to retain ambition for children with SEND.
- Understanding that, for children with more complex SEND needs, it may be appropriate to have different curriculum expectations.