

St Michael's Catholic Primary School



Mathematics Curriculum Statement

Intent

The national curriculum states 'Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas.' Therefore, the intention for mathematics at St Michael's School is to ensure that all pupils become fluent, reason mathematically and solve problems.

At St. Michael's, we teach our children to make sense of the world around them by enabling them to:

- Become **fluent** in the fundamentals of mathematics, so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. This includes knowing by heart number facts, such as number bonds, doubles and multiplication tables. To support this, children should recognize and understand relationships and patterns within number i.e. develop good number sense. Children should be able to use formal written methods accurately but should also be proficient at using mental strategies to perform calculations.
- **Reason mathematically** by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- **Solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions – including unfamiliar contexts and real-life scenarios.

At St Michael's, these skills are embedded within daily Maths lessons and separate daily fluency lessons and developed consistently over time. Our teachers will ensure that mathematical skills are taught every day based on the White Rose Maths schemes of learning alongside the Mastering Number programme in Reception, Years 1, 2 and 3. We endeavour to make cross curricular links wherever possible to develop and secure pupils' mathematical fluency . Our pupils understand the importance of mathematics, are encouraged to be confident in numeracy and to apply the skills they learn to problem solving and reasoning questions.

Implementation

We teach all elements of the National Curriculum, which sequences and structures the teaching into the year groups. In order to ensure this curriculum is covered in full and in manageable and logical steps, we follow the White Rose planning in EYFS, KS1 and KS2. The Ready to Progress Criteria is cross-referenced within this planning to ensure teachers focus on the core concepts to be taught, retained and reviewed.

We begin each new maths topic with a review of the previously taught Ready To Progress criteria within that strand. This enables teachers to quickly identify gaps and mis-conceptions as well as identify which children have maintained a secure grasp of the concept and so are ready to start deepening their understanding. If gaps are identified, we use the Ready to Progress powerpoints either with the whole class or a small group to address the gaps before moving on to the new learning.

Our lessons are progressive, building on skills and understanding step by step, continuously developing place value, the four operations and the understanding of fractional parts. Teachers and teaching assistants model the skills being taught and use different representations, stem sentences, procedures and written methods to develop fluency (using concrete, pictorial and abstract approaches where appropriate). We

expect all children to achieve a degree of fluency that then allows them to experience problem solving and reasoning at the appropriate level.

During the main teaching part of the lesson, all children are provided with a mini whiteboard and pen (or other appropriate resources such as number fans) to encourage as much pupil interaction and on-going teacher assessment as possible. Children will be given access to additional resources such as multi-link cubes, 100 squares and multiplication grids to enable them to access the lesson if needed. Children record relevant vocabulary or modelled examples at the top of their page prior to independent tasks within a topic. If a teaching assistant is present during the lesson, they will collaborate with the teacher so that support for children that are either showing signs of misunderstanding or children that would benefit from additional challenge can be provided. Children are arranged in mixed ability seating to encourage peer mentoring.

Children will be given a mixture of different tasks to do during the week such as written calculations, times tables, mental arithmetic, application activities, problem solving and reasoning activities. We use the NCTEM materials to ensure children develop mastery skills within each topic. Children in Year 2 upwards are given a weekly times-tables or mental maths test. Children have opportunities throughout the week to practise these skills as well as having access to their own personal account on 'Times Tables Rockstars'.

Teachers and teaching assistants adhere to the school **calculation policy** to ensure that all methods are taught in the same way across the school with a consistent expectation of how work is set out.

Flexible afternoon interventions allow us to immediately address mis-conceptions and difficulties that have arisen amongst individual children during the morning maths lesson so that 'no child is left behind.'

Early Years Foundation Stage (EYFS)

The Nursery curriculum is based on the White Rose scheme of work.

The Reception curriculum predominantly uses Mastering Number for the teaching of number and White Rose Maths for Shape, Space and Measure. The Early Years maths curriculum is cross referenced with 'Development Matters in the EYFS' guidance and the Birth to Five Document which aims for all children in reception to have opportunities to develop and improve their skills in counting, understanding and using numbers, simple addition and subtraction problems.

Impact

Children's understanding and ability is assessed continuously through questioning, in the moment marking, observation, and through challenges given. At the end of each block of teaching, children are given the White Rose End of unit assessment to complete. At the end of each half term, children complete an arithmetic test and at the end of each term, the appropriate NFER assessments. NFER tests give standardized scores and allow gaps in teaching and learning to be identified.

We regularly check children's multiplication skills across KS2 and number fact recall in KS1 using iPad apps.

The teaching and learning of mathematics is monitored via regular 'book looks', learning walks and observations, pupil voice, pupil progress meetings and during Key Stage meetings.

By the time children leave St Michael's School, we expect them to be able to:

- Confidently recall number facts and mathematical procedures (formal written methods)
- Have the flexibility and fluidity to move between mathematical contexts and representations
- Recognise relationships and patterns in maths and make connections

In turn, Children will have mastered key areas of mathematics; this means they can show a concept in multiple ways, use the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations

Equal Opportunities

At St Michael's School we believe that every individual within the school has the opportunity to achieve their full potential and has the same chance and equal access to all areas of the curriculum.

Disability Equality Impact Assessment

This policy has been written with reference to and in consideration of the school's Disability Equality Scheme. Assessment will include consideration of issues identified by the involvement of disabled children, staff and parents and any information the school holds on disabled children, staff and parents.

Subject Leader – Mrs Parker