Mathematics Policy

"At St Michael's, we believe that children should be strong mathematicians, using the correct language and being able to clearly explain their work. The children at our school will be problem solvers, who are able to solve multi step problems and reason clearly."

This policy outlines the aims of teaching and learning of mathematics at St Michael's First School. At St Michael's, we recognise that mathematics is a core subject at the heart of enabling our pupils to flourish, living 'life in all its fullness' (John 10:10).

Aims and purpose of the policy

- To develop a positive attitude to mathematics.
- To ensure that there is equality of access and opportunity for all children to develop their skills in Mathematics.
- To seek to ensure that all children achieve their full potential in all aspects of Mathematics by the time they move from First to Middle education.
- To ensure children have access to a broad and balanced mathematics curriculum.
- To provide clear and consistent teaching throughout the school.
- To provide guidance for teaching staff, parents and governors on agreed practice within our school.

Our School Vision for Mathematics

At St Michael's, we aim for children to be strong mathematicians, using the correct mathematical language and being able to clearly explain their work. We aspire for the children at our school to be problem solvers, who are able to solve multi-step problems and reason clearly. Children at St Michael's will use their mathematic skills to work effectively with others and also to develop as independent learners, using a concrete-pictorial-abstract approach, allowing exploration and application of skills throughout all lessons. Using progression throughout Key Stage One and Two, we hope that the children will be multiplication experts by the end of Year 4.

Implementation

At St Michael's, we understand that a motivating, challenging and comprehensive maths curriculum needs to be accessible to all and link the use of mathematics across a range of subjects, adding meaning to the learning of maths. Our long term planning is largely based on the White Rose Maths curriculum but is enhanced by a range of resources. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of maths. To begin a unit, children complete a pre-assessment task in order to demonstrate prior knowledge. This is used to inform the teacher's planning.

Staff use a variety of skills to support the children in their work, but use the CPA approach (concrete-pictorial-abstract). It explains concepts by using **concrete** resources such as counters to explain simple addition, using **pictorial** representations such as drawings of counters, and using **abstract** representations such as numbers. This helps learners to be more secure in their understanding, as they have to prove that they have fully grasped an idea. Ultimately, it gives pupils a firm foundation for

future learning. We use an addition and subtraction, and a multiplication and division calculation policy which provides an overview of the different models and images that can be used to support the teaching of the different concepts. Our calculation policy breaks down each operation into skills and shows teachers the different models and images that could be used to effectively teach that concept. Our full calculation policy can be found in our Maths Curriculum area on our website.

Throughout KS1 and KS2, pupils have daily maths lessons that last for one hour – four lessons following the White Rose scheme and a fifth lesson linking to fluency and to be decided by the teacher depending on the needs of the class and their learning within the week. In Early Years, pupils have a daily maths meeting in the morning, followed by teacher direct input in the afternoon, enabling all pupils to receive quality adult input and also be given opportunities to practise and consolidate their knowledge through a range of planned, child-initiated activities.

Throughout the school, teachers deliver one curriculum for all, providing opportunities to stay together and to work through new content as a whole group. Within lessons, teachers teach the whole class, allow pupils time to practise and bring the class back together to move on. Differentiated learning is provided through a selection of tasks to consolidate fluency, use skills to solve problems or use skills and reasoning skills to solve higher-level challenge problems. Where there may be gaps in learning these will be identified and if needed, intervention planned. Each class has a general bank of resources for day-to-day maths lessons. Further shared resources are stored in the resource cupboard for staff to access.

Each classroom has a maths 'working wall' showing examples of the topic currently being covered and a permanent display of sentence stems, mathematical symbols, numbers, times tables and vocabulary appropriate to the age range. Additional resources are available in school to support children's learning further, e.g. specific teaching programmes used in interventions, (Plus 1, Power of 2 etc.) and online programmes (TT Rockstars, Purple Mash, Education City) that are used to enhance learning and provide motivational tasks and homework activities.

Impact

Our successful approach to the teaching and learning of maths results in an engaging curriculum that embeds understanding and knowledge through practical activities. Introductions to concepts using concrete materials and practical activities supports, relating the learning to new situations. Our marking policy supports children in recognising their strengths and areas for development. The children understand green is used to show correct answers but that they need to revisit their work if the marking is yellow. This is an expectation from Year 1 to Year 4, and children are expected to show their learning journey within any given lesson. Children are encouraged to share their misconceptions and misunderstandings and become adept in using appropriate vocabulary in doing so.

The use of open dialogue to discuss and explain mathematical thinking also strengthens the use and understanding of mathematical language along with ensuring children can explain, justify and evidence their thinking. Sentence stems are provided to ensure that children are able to explain not only what they know, but how they found the answer. Connecting maths across the curriculum highlights how maths relates to life. Once a term, St Michael's takes part in a Maths Enrichment Day, a day dedicated to Maths learning, as we recognise the importance of seeing maths outside of the

classroom. Activities are tailored to suit the needs of the class and visitors are invited into school to discuss how they use maths in their lives.

All children are regularly assessed using formative assessment strategies (See Assessment and Feedback policy) to monitor progression and at the end of each term, children complete an end of term Progression in Mathematics assessment (PUMA), assessing all the blocks taught over the term. This assesses long-term progress and enables teachers to assess the children against age related expectations.

Leadership and Management

The subject leader's role is to empower colleagues to teach mathematics to a high standard and support staff in the following ways:

- By keeping up to date on current issues; disseminating relevant information and providing training for staff members (either directly or through other professionals).
- Leading by example by modelling lessons or styles of teaching.
- Having a knowledge of the quality of mathematics provision across the school and using this to provide a coaching and mentoring role.
- Identifying and acting on development needs of staff members.
- Monitoring expectations, provision and attainment across the school and providing feedback to develop practice further in order to raise standards.

Monitoring and Evaluation

The quality of teaching and learning is monitored as part of the appraisal process through lesson observations and through the progress and attainment documents. In addition, continuity and progression across the school is monitored by the Deputy Headteacher and Subject Leader as is the implementation and impact of Assessment for Learning. The subject action plan and the Schools Improvement Plan identify actions intended to raise standards.

Communication with Parents

In September, parents are invited to attend a meet the teacher meeting where they are informed of year group overviews, including year group expectation of mathematics. During Parents' Evenings, in the Autumn and Spring term, maths targets are shared; a short summary mid-year report shared early in the Spring term highlights children's mid-year progress and attainment; and a written report is completed annually in the Summer Term.

The Governing Body

A governor responsible for mathematics is identified from the governing body. Governors are invited to attend any Maths meetings within the Maths team. The subject leader and the nominated governor meet termly for a monitoring meeting.

Date Adopted: 17.3.22

Review Date: March 2025

Signed: **(Chair of Governors)**

Version control:

Version Number	Review Date	Reviewed by	Changes Made (please specify section/ paragraph/line)
1	24.122	Rebecca Crow	New Policy
	12.03.22	J.Booth	N/A