



ST MICHAEL & ALL ANGELS C OF E PRIMARY SCHOOL

Mathematics Policy

Date Approved	14.1.21
Date for Review* <small>(*subject to any relevant changes in legislation or other appropriate guidelines)</small>	December 2023
Policy Last Revised	December 2020
Author	Head Teacher
Delegated Responsibility	Strategic Planning Committee

Approved by:	R Evans
	R Evans
	Chair of Committee
Date received by FGB	2.2.21

Rationale

At St Michael & All Angels we have high expectations for all of our pupils and believe that all pupils can achieve highly and become confident and skilled Mathematicians. We strive for all pupils to be curious about Mathematics and to understand the importance of Mathematics in their everyday lives.

Aims of the new National Curriculum

The National Curriculum for Mathematics aims to ensure that all pupils:

- Become **fluent** in the fundamentals of Mathematics, including through varied and frequent practise 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.

Teaching and Learning Style

At St Michael & All Angels you will typically see the following features to Mathematics learning:

- Practise and consolidation play a central role to Mathematics learning. Carefully designed variation within this builds fluency and understanding of underlying Mathematical concepts in tandem.
- Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up.
- Teachers use the CPA approach (concrete, pictorial, abstract) approach to ensure that concepts are modelled to pupils using multiple representations. This ensures that procedural and conceptual understanding are developed simultaneously.

Curriculum – EYFS

Mathematics within the EYFS is developed through purposeful, play based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on pupils' interests and schemas or current themes and will focus on the expectations from Development Matters / Early Years Outcomes.

As the pupils progress through, more focus is placed on representing their Mathematical knowledge through more formal experiences. Pupils will be

encouraged to record their Mathematical thinking when ready and this will increase throughout the year.

Curriculum – Year 1 to 6

All year groups are following the White Rose Scheme of Work and having purchased the premium resources which Key Stage 1 and 2 use alongside examples and questions within the scheme. Year 1-6 also use other resources such as Target Your Maths and Diving into Mastery lessons to ensure fluency and reasoning is covered in enough detail. The scheme of work gives flexibility to ensure the needs of the pupils are met. If a concept has not been grasped thoroughly by most pupils, there is flexibility to adapt the curriculum timings and to revisit concepts.

Pupils who grasp concepts more rapidly are given opportunities to deepen their knowledge further and improve their reasoning skills.

Lesson Design

Teachers will briefly recap previous learning before then building upon by introducing the next step to the pupils. Teachers use concrete apparatus and visual representations at every opportunity to reinforce the concept and ensure deep and meaningful understanding. Pupils have the opportunity to practise the new skills using carefully crafted and varied questioning and talk will be used regularly to allow the pupils the opportunity to feedback as to how they solve problems.

During the teacher input any additional staff should be assessing and identifying those pupils who do not grasp the concept as quickly or fully as others. This information will then be passed back to the teacher so that the teacher/support staff can work directly with these pupils during independent work.

During independent learning the pupils should, as far as possible, practise the skills that they have acquired independently to avoid an over-reliance on adults, however throughout this time, additional staff should work with different pupils to support and assess learning.

Differentiation

Differentiation will be seen by pupils working on different complexities of problems within the same objective, called 'Intelligent Practice'. 'Rapid graspers' will have challenging problems to solve to ensure that they continue to make progress. There will be some pupils who utilise practical equipment for longer in order to support learning. While our aim is that the gap between Mathematical attainment in our classes is closed, we accept that in some classes there is already a large gap in the attainment of groups of pupils. There will, therefore, be a need to give some pupils in these year groups separate Mathematic activities.

Resources

Within all lessons, teachers will utilise practical resources to ensure that concepts are represented to the pupils to gain depth of understanding.

It is acknowledged that a great deal of time is required for teachers to provide the visual reinforcement and varied practise activities to facilitate intelligent practice and support the learning. We have several resources that can support teachers with this planning.

The White Rose premium resources which work alongside our scheme of work offer a variety of PowerPoints, worksheets and some extra tutorial videos which is enhanced by our concrete resources used previously.

Links Between Mathematics and Other Subjects

Mathematics links with many subjects across the primary curriculum and opportunities are taken to draw mathematical experience out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts which will ensure children understand the place of mathematics within the real world.

Assessment and Reporting

Teachers will use targeted questions and problems that require pupils to remember, understand, apply, analyse and evaluate their knowledge and skills.

- Assessment will take place at three connected levels: day to day, periodic and transitional. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.
- Day to day assessment will be an informal part of every lesson to check children's understanding and give you information, which will help teachers to adjust day to day lesson plans. Effective Assessment for Learning (AFL) practice is integral to this with work marked regularly showing clear next steps.
- Periodic assessments will take place across the school. This will give a broader view of progress for the learner and teacher.
- Transitional assessments will take place towards the end of the school year to assess and review pupils' progress and attainment. Tests and tasks from national sources may be used. Accurate information will then be reported to parents and the child's next teacher.