St John Fisher Catholic Voluntary Academy

St Thomas Aquinas Catholic Multi-Academy Trust



Mathematics Policy

Policy Date: 7/10/2024			
Policy Review Date:	7/10/2025	Anthony Gallagher	Alranch
Ratified by Governing Body:			

Policy for Maths

Aim high, work hard, be kind

<u>Overview</u>

This document is a statement of the aims, principles and strategies for the teaching and learning of Mathematics at St John Fisher Catholic Voluntary Academy. It contributes to the school's philosophy of teaching and learning as expressed through the Mission Statement.

<u>Rationale</u>

This policy helps create a structured yet flexible framework, ensuring that students build a solid foundation in mathematics during their primary school years. It also supports teachers in delivering high-quality math lessons while addressing the diverse needs of their learners. Mathematics teaches us how to make sense of the world around us, through developing a child's ability to calculate, reason and problem solve. It enables children to understand and appreciate relationships and pattern, in both number and space within their everyday lives. All students should develop strong mathematical skills and mathematical understanding, fostering a positive attitude towards the subject.

Aims and Objectives

- Develop children's confidence and fluency in mathematics.
- Encourage problem-solving and logical reasoning.
- Promote a positive attitude toward mathematics as an enjoyable and useful skill.
- Equip students with the mathematical knowledge necessary for everyday life, further education, and employment.
- Ensure that students can work independently, collaboratively, and take ownership of their mathematical learning.

Curriculum Overview

The school follows the national curriculum for mathematics, which is structured around the following key areas. Each year group is expected to cover a progressive range of skills, with more challenging topics introduced as students advance.

- Number (including addition, subtraction, multiplication, and division).
- Fractions (including decimals and percentages).
- Measurement.
- Geometry (properties of shapes, position, and direction).
- Statistics (data interpretation).

Teaching Approaches

At St John Fisher we teach the National Curriculum, supported by the Maths No Problem! mastery teaching approach from Singapore. This is a highly effective approach to teaching maths based on research and evidence. It has been created especially for children in the U.K. and follows the National Curriculum 2014. We have high expectations for pupils to think mathematically, solve problems, and make connections through fluency and mathematical reasoning. The scheme follows the following format:

Chapter Opener - Familiar events or occurrences that serve as an introduction for pupils.

Explore - Includes questions related to various lesson objectives as an introductory activity for pupils.

Master - Introduces new concepts through a C-P-A approach with the use of engaging pictures and manipulatives. Guided examples are provided for reinforcement.

Activity Time - Provides pupils with opportunities to work as individuals or in small groups to explore mathematical concepts or to play games.

Guided Practice - Comprises questions for further consolidation and for the immediate evaluation of pupils' learning.

Mind Challenge - Challenging non-routine questions for pupils to apply relevant heuristics and to develop higher-order thinking skills.

My Maths Journal - Provides pupils with opportunities to show their understanding of the mathematical concepts learnt.

Review - Allows pupils to assess their own learning after each chapter.

Teachers will use the teaching strategies below:

Differentiated Instruction: Lessons can be tailored to meet the needs of different ability groups within each class.

Mathematical Fluency: Focus on speed and accuracy with numbers, through regular practice of times tables, mental math, and number bonds.

Real-World Application: Ensure that students see the relevance of math in real-world contexts through practical tasks and cross-curricular links.

Concrete, Pictorial, Abstract (CPA) Approach: A structured method used in teaching concepts, starting with physical objects (concrete), then moving to visual representations (pictorial), and finally working with numbers and symbols (abstract).

<u>Assessment</u>

Formative Assessments: Ongoing in-class assessments, observations, and daily quizzes are used to inform daily teaching and to identify students' strengths and areas for improvement.

Summative Assessments: Formal assessments are conducted at the end of each term and each chapter to evaluate students' understanding of core mathematical concepts.

Standardised Tests: Standardised testing (e.g., national assessments in mathematics) may be administered in specific year groups to measure overall achievement against national standards.

Inclusion and Equal Opportunities

The school ensures that every child, regardless of background, ability, or special educational needs (SEND), has access to high-quality mathematics teaching.

Support for SEND Pupils: Students with special needs will receive additional support through targeted interventions, tailored resources, and appropriate adjustments in teaching methods. Their support will be outlined in their SEND plans.

Challenge for Higher Attainers: More able students are given tasks that provide greater depth learning and complexity in order to extend their learning.

<u>Homework</u>

Frequency: Mathematics homework is set weekly to consolidate skills learned in class.

Types of Homework: This may include online practice (e.g., math apps) or written exercises to engage students in real-world math problems.

<u>Resources</u>

- Classrooms are equipped with essential math resources (manipulatives such as counters, number lines, etc.).
- The use of technology, such as interactive whiteboards and math software, to enhance learning.
- Access to online resources for both students and parents to support learning at home.

Professional Development

Regular training and development opportunities are provided for teachers to stay updated on the latest methodologies, tools, and curriculum changes in mathematics education. Learning walks, coaching, book looks, pupil voice and collaboration are encouraged to ensure effective teaching practices across the school.

Monitoring and Evaluation

The Mathematics Lead oversees the implementation of the policy, ensuring consistency and high standards of teaching.

Lesson observations, student performance data, and feedback from staff and students are used to evaluate the effectiveness of the mathematics curriculum.

Parents and Guardians

Resources are provided for parents to help support their child's learning in mathematics at home.

Early Years Foundation Stage (EYFS)

Within the EYFS, we believe it is important to build a strong foundation in mathematics through play, exploration, and practical activities.

<u>Aims and Objectives</u>

- Develop children's confidence and curiosity in exploring early mathematical concepts.
- Foster positive attitudes towards mathematics through play-based learning.
- Introduce basic concepts of number, shape, space, and measure in a developmentally appropriate manner.
- Encourage children to use mathematical language and thinking in everyday contexts.
- Build the foundation for mathematical understanding that will support learning in later stages of education.

EYFS Framework for Mathematics

Mathematics is one of the Specific Areas in the EYFS curriculum and is divided into two strands. The curriculum is designed to align with Development Matters and the Early Learning Goals (ELGs) to ensure age-appropriate progression.

- Numbers: This involves understanding and using numbers, counting, recognising numerals, and solving simple problems using addition, subtraction, and other basic operations.
- Shape, Space, and Measure: This focuses on understanding properties of shapes, comparing sizes, using positional language, and recognising patterns.

Teaching and Learning Approaches

EYFS mathematics is taught primarily through play and exploration, allowing children to experience math in a natural, engaging way. Key approaches include:

Play-Based Learning: Children explore mathematical concepts through structured and free play activities, such as building blocks, sorting objects, counting games, and using role-play scenarios (e.g., shopping games).

Practical Activities: Use of real-life objects for counting, sorting, and comparing (e.g., counting fruits, measuring sand in cups) to help children connect math to everyday experiences.

Mathematical Language: Encouraging children to use terms like "more," "less," "big," "small," "before," "after," "next," and "last" in their conversations to develop early mathematical vocabulary.

Adult-Directed Activities: Small group activities led by practitioners to introduce specific concepts such as counting or recognising shapes.

Outdoor Learning: Using the outdoor environment to reinforce mathematical concepts, for example, through counting leaves, comparing sizes of natural objects, or exploring positional language like "under," "over," "beside."

Assessment and Observation

Ongoing Observation: Practitioners use informal observations and interactions during play and structured activities to assess children's mathematical understanding and development.

Baseline Assessments: Initial assessments when a child starts in the setting to gauge their starting point in mathematical understanding.

Progress Tracking: Practitioners use the EYFS Development Matters framework to track progress towards achieving the Early Learning Goals (ELGs) for mathematics by the end of the Reception year.

Roles (Governing Body, Head teacher, Teachers, Staff, Parents, Pupils)

Head Teacher and Governing Body:

- Support the use of appropriate teaching strategies by allocating resources effectively.
- Ensure that the school buildings and premises are best used to support successful teaching and learning.
- Monitor teaching strategies in the light of health and safety regulations.
- Monitor how effective teaching and learning strategies are in terms of raising pupil Attainment.
- Ensure that staff development and performance management policies promote good quality teaching.

Subject Leader:

- To have an impact on raising standards of attainment for Mathematics across the whole school.
- Adapt and use the Programme of Study for Mathematics across the whole school that meets the needs of our children.
- To monitor the whole school and individual needs to be able to assess individual professional development opportunities and needs.
- To maintain the availability of high-quality resources.
- To maintain an overview of current trends and developments within the subject.
- To ensure, together with the Head Teacher and Assessment Lead, a rigorous and effective programme of moderation of assessments.
- To ensure a regular and effective programme of analysis of children's work sample monitoring is in place.
- To ensure a regular and effective programme of analysis of short-term planning is in place.
- To effectively manage any funding designated to Mathematics.

Class Teachers:

- Ensure the effective implementation of the National Curriculum for Mathematics.
- Adapt and use the Programme of study for Mathematics across the whole school that meets the needs of our children.
- Make effective use of Assessment for learning within Mathematics.
- To ensure work is planned to enable all children to reach their full potential.

Teaching Assistants:

• To support the class teacher in the effective implementation of Mathematics.

Parents/Carers:

We believe that parents have a fundamental role to play in helping children to learn. We do all we can to inform parents about what and how their children are learning by:

holding parents' evenings to discuss children's progress

- sending an annual report to parents in which we explain the progress made by each child and indicate how the child can develop their learning
 explaining to parents how they can support their children with homework and
- their Maths learning.

Last reviewed October 2024