

# **ST THOMAS MORE CATHOLIC PRIMARY SCHOOL**

## **MATHEMATICS POLICY**

### **Introduction**

This policy sets out St Thomas More Catholic Primary School's aims and strategies for the successful delivery of Mathematics. It should be read in conjunction with other relevant school policies such as: Curriculum; Teaching & Learning; Assessment & Marking; Equal Opportunities and SEND policies.

This policy has been developed by the maths leaders (Miss Cole and Mrs Wilson) in consultation with the Leadership Team and general teaching staff. This policy is based on government documentation for statutory and non-statutory programmes of study.

At St Thomas More Catholic Primary School, our vision is that we will 'Positively affect the life and future of every child.' Our mathematics curriculum is designed to enable children to be happy in their learning, confident in their abilities, resilient in the face of challenge and respectful and welcoming of diversity. We have high aspirations for our children and enable our children to have high aspirations for themselves. We encourage this throughout lessons, which are delivered in line with the National Curriculum (2014) and Development Matters (2021).

### **Aims**

Our overarching aim is for all children at St Thomas More Catholic Primary School to enjoy mathematics and be confident mathematicians who have a secure and deep understanding of the fundamentals of mathematics. We believe in enabling children to see the mathematics which surrounds them every day. This will ensure children's success and provide them with vital life skills to carry them through to secondary school and allow them to be a mobile member of society.

### **Our Intent**

In line with the National Curriculum for mathematics (2014) and Development Matters (2021), our aim is to provide a high-quality mathematics education, which allows all children to become fluent in the fundamentals of mathematics in order to develop conceptual understanding and the ability to apply knowledge rapidly and accurately.

We advocate that maths is achievable for all. As such, our intention is for children to develop mathematical fluency and broadly follow the curriculum at the same pace as their peers. To make this possible, teachers and supporting adults are actively involved in monitoring and scaffolding learning during lessons to ensure that all children have a secure

understanding of the lesson objectives. Children are encouraged to deepen and apply their understanding through challenging, yet achievable tasks.

As a school, we use White Rose as a guide ensure coverage of the National Curriculum for mathematics (2014) and Development Matters (2021). The intention is not, however, to use White Rose as a scheme to be followed exactly. Each teacher knows the strengths of the children in their care and, as such, has the autonomy to adapt lessons in order to cater to the needs of their class. The intention is to create a bespoke curriculum for our children which develops children's knowledge sequentially from Foundation Stage up to Year 6, revisiting, remembering and applying earlier skills whilst learning new skills.

The intention of using the concrete, pictorial and abstract (CPA) approach to teaching mathematics is to support the understanding of all children across all ages and abilities. CPA also provides children with lifelong strategies for problem solving.

### Curriculum

The National Curriculum (2014) and Development Matters (2021) form the basis of teaching and learning at St Thomas More Catholic Primary School. Children receive at least the minimum entitlement of a daily mathematics lessons. From Key Stage 1 (KS1) onwards, most lessons are approximately an hour long and include both a fluency and mental oral starter, main input and a plenary.

### Planning, Teaching and Learning

Alongside the National Curriculum (2014) aims, teachers follow the White Rose overview to structure their yearly pathway through mathematics. This is also used as a basis for short term planning and adapted according to the needs of the children. Teachers may reorder lessons where progression is not affected, e.g. In Year 3, Roman numerals are taught alongside the Romans topic rather than at the time recommended by White Rose. Teachers plan closely with year group colleagues to ensure consistency of opportunity for all children.

To further ensure continuity and progression, all classes follow our agreed Calculation Policy and Progression in Mental Calculation guidance which is available on the school website (this takes precedence over White Rose).

Mathematics lessons are underpinned by the desire to develop children's knowledge sequentially by revisiting, remembering and applying existing skills whilst acquiring new skills.

#### *Fluency and Mental/ Oral Starter – Revisiting and remembering*

Every lesson begins with a short fluency starter. These starters help to progress children's fluency within number either through oral counting or quick recall of key number facts. Progressing on from this, children then have a mental/ oral starter which is carefully planned to give children the opportunity to recap and consolidate learning from previous

units of work. This allows children to retain knowledge and form meaningful connections within mathematics.

#### *Main Input – Revisiting, remembering, applying existing skills whilst acquiring new skills*

Within mathematics lessons, clear objectives are set and shared with children alongside pertinent mathematical vocabulary. Learning is an active process whereby the children are encouraged to participate fully within the main teaching element of the lesson. In order to do this, teachers break down the learning into smaller steps which build on from what the children already know; it is vital that clear links are made between previous and new knowledge. This is achieved through the use of careful questioning, facilitating mathematical talk and modelling by teachers of both thought processes and practical application using manipulatives.

Teachers regularly interchange between concrete ideas, pictorial and abstract representations. The concrete stage uses manipulatives to solve problems. It brings concepts to life by allowing children to handle physical objects themselves. The pictorial stage uses pictures or models to support children in visualising the problem. Once children are secure in these stages, they can solve abstract mathematical challenges.

#### *Independent Work – Applying existing skills whilst acquiring new skills*

Following the main input, tasks set by teachers ensure that all children are given challenging yet achievable tasks; these include a mixture of fluency, problem solving and reasoning. All children are asked to reason and justify their understanding throughout the duration of the lesson. Mathematical talk is encouraged between peers and adults. If necessary, teachers and supporting adults scaffold learning further.

#### *Plenary – Remembering and applying skills*

Plenaries are used to allow the children to reflect upon what they have learned in the lesson. Children have further opportunities to extend their thinking; this may involve looking at problems which require them to identify and articulate misconceptions proving whether a statement is true or to challenge their mathematical thinking.

### Assessment

A variety of assessment is undertaken in order to support children and enhance learning by informing future planning, correcting misconceptions, ensuring coverage and completion of objectives, and to ensure next steps are met for all children.

Formative assessment is carried out continuously in lessons and provides instant feedback to the children. Summative assessment is carried out termly, during assessment week, to reinforce teacher judgements and, through gap analysis, provides further opportunities to identify areas of development within individual classes. Children across Key Stages 1 and 2 use the White Rose assessment materials with the exception of Years 2 and 6 who use previous SATs papers.

Formal assessment is reported three times a year to the maths subject leaders and SLT; children's attainment is tracked and monitored using Target Tracker and discussed in pupil progress meetings with SLT. This ensures that targeted support can be given to those who need it. Mathematics attainment is reported at the end of each Key Stage in line with government guidelines. These, in turn, are reported to parents and to governors.

In Year 4, the online Multiplication Tables Check (MTC) is administered to children during Term 5.

### Inclusion

At St Thomas More Catholic Primary School, we aim to enable all children to achieve to their full potential. This includes children of all abilities, social and cultural backgrounds, those with disabilities, English as an Additional Language (EAL) speakers and those with Educational Health Care Plans (EHCPs).

All children receive high quality mathematics teaching on a daily basis. All children are given challenging yet achievable tasks. Where necessary, children are scaffolded to help them to make meaningful connections within their learning. The use of manipulatives is encouraged for all age groups and abilities.

Through assessments and provision mapping, teachers implement rapid interventions and amend planning to ensure that all children are supported to achieve age related expectations.

Every effort is made to ensure that mathematics activities are equally interesting for both boys and girls, from all ethnic groups throughout the school, and that fair opportunities are offered to all. For further clarification please refer to our Inclusion Policy.

### Home-School Links

At St Thomas More Catholic Primary School, we recognise that mathematical learning does not just take place within the classroom. We encourage parents to be involved in their child's mathematical education through attendance at curriculum evenings, parent evenings and 'Bring your parent to maths' sessions.

Parents support children's fluency in number by helping them practise their personalised weekly challenges of either number bonds or times tables. Successes are celebrated both in school and at home through certificates.

Children have home access to the online platforms MyMaths and Purple Mash. Teachers set weekly homework using these and children are also encouraged to access additional games and activities to support their learning.

## Resources

The use of high-quality materials and tasks support the teaching of mathematics and are integrated into lessons. These include:

- White Rose online materials
- NCTEM online materials
- NRICH materials
- NCTEM Mastering Number Programme
- BEAM Talk It, Solve It
- MyMaths
- Target Maths text books

We also use a range of manipulatives including Dienes, Numicon, place value counters, bead strings, multilink cubes, number lines and squares and rekenreks. In addition to this, a range of equipment to support geometry and measures is used across the school.

## Monitoring, Evaluation and Feedback

Having identified priorities, the Senior Management Team and mathematics leaders construct an action plan which may form part of the School Development Plan. This forms the basis for any monitoring activities to clearly identify when, who and what is to be monitored and how this will take place. This may be through:

- Work scrutiny
- Learning walks
- Observations
- Pupil, parent and staff voice

## Roles and Responsibilities

The Headteacher, Deputy Headteacher, Senior Leadership Team and the mathematics leaders will be responsible for monitoring mathematics across the school. All teachers are expected to plan, teach and assess in order to provide a high-quality and enriching mathematics curriculum for all children.

**Policy updated by:** Miss L Cole and Mrs A Wilson

**Review date:** November 2021

**Next review date:** November 2023