ST. TERESA'S CATHOLIC PRIMARY SCHOOL, LEXDEN, COLCHESTER

Mathematics Policy

MISSION STATEMENT

We love God and each other and follow the example of St Teresa.
We enjoy learning together and doing our best in a happy, healthy and welcoming community.
We learn to be responsible and caring citizens.
"Let us do little things well today".
St Teresa

Introduction

Mathematics is an essential tool in everyday life; it is critical to science, technology and engineering, and necessary in most forms of employment. It provides a way of making sense of the world and can be used to analyse, predict, explain and verify information and ideas.
Mathematics should be a creative activity that encourages the children to ask questions and explain their thinking so they can use their mathematical knowledge to solve problems.
Mathematics is a practical subject and should provide the children with a range of challenging activities that are interesting and enjoyable and provide opportunities for the children to communicate their findings in a variety of ways.
At St Teresa's we aim to provide children with a solid foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject.

Aims

By the time pupils leave St Teresa's they should:

*have a positive attitude to mathematics and a confidence to apply their skills

*have a secure knowledge of number facts and a good understanding of the four operations through varied and frequent practice (see calculations policy for progression in these methods)

*be able to use this knowledge and understanding to carry out mental calculations rapidly and accurately

*be able to apply their mathematics to a variety of routine and non-routine problems by breaking them down into a series of simpler steps and persevering in seeking solutions

*be able to reason mathematically by following a line of enquiry, conjecture relationships and generalisations, and develop an argument, justification or proof using mathematical language

*be able to apply their mathematical knowledge to science and other subjects.

Our mathematical intention

'We **provide opportunities** to develop mathematical skills, concepts and processes in a variety of ways. We **embed learning** to enable pupils to be **fluent** in their **application** to **problem solving** situations. We provide opportunities to **connect learning** and **reason thought** for **deep mathematical thinkers** of the future.'

Implementation

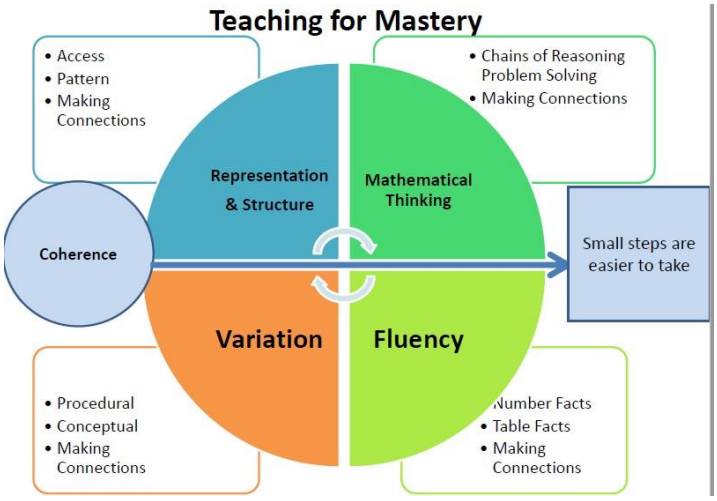
- By using small steps to children's learning, the coherent journey begins, providing detailed scaffolds for all children, regardless of ability, to achieve and succeed. Mathematics can be an abstract subject, a variety of representations and use of manipulatives in all year groups have the potential to provide all children to access and develop understanding to close gaps and move the mathematical learning journey forward.
- St Teresa's does not just teach for fluency on the 2016 National Curriculum. We develop fluency and procedures to become automatic so their minds become free to think about concepts and apply the skills to problem solving scenarios.
- The role of repetition enables the teachers to provide a sentence stem for children to communicate their ideas with mathematical precision and clarity. These sentences should provide key conceptual ideas or generalities. It provides a strong basis to build understanding and reasoning skills. Vocabulary is focused on and taught effectively.
- Mathematical Thinking is how we think about relationships. In carefully designing practical activities, fluency development exercises and problem solving scenarios, the teachers of St Teresa's create an opportunity to practise the thinking process with creativity.

Lesson Structure

Mathematics is a core subject following the Early Learning Goals and the National Curriculum. It is organised on a subject basis but cross curricular links are developed when appropriate.
Mathematics is covered by a daily lesson in KS1 and KS2 and is supplemented by at least 3 sessions of Morning Maths when the children arrive at school.
Reception children have the equivalent of 45 minutes mathematically focused activities a day.

Mathematics teaching should be lively and engaging with a range of teaching and organisational approaches to direct children's learning. We use the NCETM 5 big ideas for teaching for Mastery as drivers for enabling every child to succeed in every stage of the mathematics lesson.
These driver words include:

1. Fluency
2. Mathematical thinking
3. Representations
4. Variation
5. Structure



Lessons will include a variety of

*opportunities for demonstration, modelling, explanation, instruction and questioning by the teacher using precise mathematical language to develop concepts and procedures

*discussion between teacher and pupils and between pupils

*practical activities

*consolidation activities

*problem solving

*investigations

*use of ICT

*opportunities for work individually, in pairs, in groups and as a whole class

Equal Opportunities

Careful planning and awareness of individual children's needs ensure that every child has an equal access to the mathematics' curriculum. Children with special educational needs are supported by a differentiated curriculum and extra support when available and appropriate. Gifted, able and talented children are provided with activities designed to broaden and deepen their learning.
Mathematics is a strength of the school resulting in a significant percentage of our Year 5 and Year 6 children working above national age expectations. To ensure equal opportunities for all children a system of setting is in place in these year groups.

Inclusion

All children receive quality first teaching and activities are differentiated according to children's needs. Appropriate support is put in place where identified pupils are considered to require targeted support to enable them to work towards age appropriate objectives.

Resources

Every classroom has a selection of mathematics resources and there is a central maths area in the Resources Room from where other equipment can be borrowed. In January 2018 all staff attended a Numicon INSET day and these resources have now been purchased to aid mathematical teaching and learning. Since 2019, the maths lead has been working with the NCETM to become a teaching for mastery specialist (2021) and PD Lead (2022) which is utilized in staff PDMs.

Homework

Every teacher is expected to set one piece of mathematics homework a week. This is to include the regular use of SumDog, a mathematical platform that develops children's fact fluency. Some teachers may set additional homework on paper, this is dependent on the children in the class and their needs.

Measuring Impact

Evidence of learning

Each child will have a book and/or folder to provide a record of the work covered throughout the year. However many of the challenges set by the teacher will be mental or practical and will not necessarily be recorded in books or on paper. Children's work will be marked in line with the school

Teacher assessment will be carried out each half term and children's progress recorded on the Target Tracker.

Teacher's planning files will also have evidence of progression.

Management and INSET

The mathematics leader will attend any relevant courses and feed back to colleagues at staff meetings.
The mathematics leader will direct staff meetings in agreement with the leadership team.
Monitoring of mathematics throughout the school will be by lesson observation, book scrutiny, pupil perception and looking at planning.
Analysis of end of year and termly data will be used to monitor pupil progress.

Approved by Governors: 18th May 2021
Reviewed: Spring term 2023
To be reviewed: Spring term 2025