

# Teaching for Maths for Mastery

## A Parents' Guide

At St Teresa's Catholic Primary School we have high expectations for every child. Teaching for mastery in Maths is essentially the expectation that all pupils will gain a deep understanding of the maths they are learning. For understanding in Maths to be secure, learning needs to be built on solid foundations.

### Overview

A mastery approach to the curriculum means pupils spend far longer on fewer key mathematical concepts whilst working at greater depth. Long term gaps in learning are prevented through speedy teacher intervention and those children who grasp the concepts more quickly are given opportunities to deepen their knowledge and improve their reasoning skills rather than accelerating on to new curriculum content.

Problem solving is central and opportunities are given for pupils to calculate with confidence, ensuring an understanding of why it works so that pupils understand what they are doing rather than just learning to repeat routines and procedures without grasping the mathematics happening.

We aim to develop learners that have:

- Deep and sustainable learning
- An ability to build on previous knowledge
- An ability to reason about a concept and make connections
- Sound conceptual and procedural understanding

Typically, the majority of pupils will progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention. Practice and consolidation play a central role. 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 will use the concrete, pictorial and abstract approach (CPA) to secure procedural and conceptual understanding simultaneously.

## Curriculum map

Pupils spend far longer on key mathematical concepts in number. Children who grasp the concepts more quickly are given opportunities to deepen their knowledge and improve their reasoning and problem solving skills rather than moving on to new curriculum content.

## Lesson Design

Teachers initially use concrete apparatus and visuals to enforce the concept being taught. Children have the opportunity to practise the new skills using carefully crafted and varied questioning. The children will have the opportunity to feed back to the teacher and classmates, to explain how they solved problems, using precise mathematical language and full sentences. Independent practise is in the form of a set of tasks that are increasingly complex. Initial tasks reflect the teacher modelling, and then move through pictorial representations to abstract, then to problem solving. The teacher will then explain and demonstrate the next stage of the learning.

## Support Staff

During the teacher input, progress assistants should:

- Provide hover support and spot the children who do not grasp the concept as quickly as the others and inform the class teacher, who then has the opportunity to work with those children while the others practise.
- During the practice activities progress assistants will work with different children to support and assess learning.
- The children should, as far as possible, practise their skills independently and an over reliance on Progress Assistant support should be avoided.

## Interventions

Using the evidence of the PA, the practice activities and teacher questioning, any children who have not grasped the concept or who have misconceptions will receive an intervention to ensure that they are ready for the next day's learning.

## Differentiation

Differentiation will be achieved by children working on differing complexities of problems within the same objective, as described above. Children who rapidly grasp a concept on any given day will reach the challenging problems in independent practise, based on that day's learning, to ensure that they continue to make progress. There will be some children who are using practical equipment for longer in order to support learning while rapid graspers may be challenged to demonstrate understanding using different equipment. While our aim is to close the attainment gap in all classes, we realise that in some KS2 classes there is already a large gap in the attainment of groups of pupils. We will continue to intervene to backfill any gaps in knowledge and understanding. We aim to avoid creating new gaps.

## Tracking Progress

At the end of a teaching sequence, children's learning will be assessed through questions and problems that require the pupils to remember, understand, apply, analyse and evaluate their knowledge and skills. The results will be kept by the teacher and used to inform pupil progress meetings. A judgement of whether the children are on track to achieve Age Related Expectations in maths will be made each term and recorded in whole school data.

## Resources

It is acknowledged that a great deal of time is needed for teachers to produce the visuals and varied practice activities to support the learning. Consideration of possible misconceptions must be undertaken prior to each lesson, as well as an alternative or additional way to model concepts. At St Teresa's, we use the White Rose Maths Hub Scheme of work, and have purchased some commercial materials to support teachers in their planning.