

# Teaching for Mastery in Maths

**Intention:** All children see themselves as mathematicians, acquiring a deep, long-term, secure and adaptable understanding of mathematics.

**Implementation:** Teachers deliver a sequential maths curriculum to ensure progress for all.

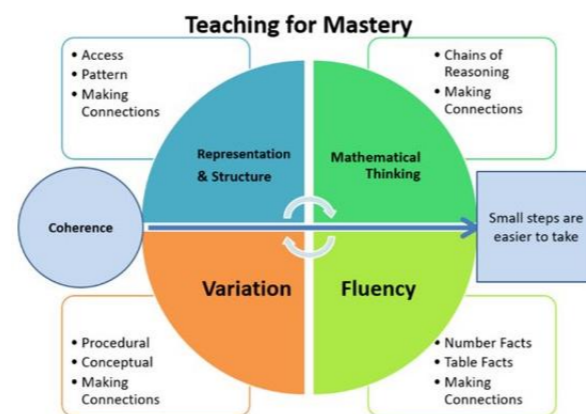
**Impact** is measured by through progress and attainment. Children view and understand themselves as mathematical learners. They are equipped with the necessary skills for the next phase in their education and beyond.

## Planning and Lesson Design

Long Term Maps follow the National Curriculum and plot the learning journey for the academic year; quality planning resources from NCETM and White Rose are used to support planning. Medium Term Plans plot the sequence of learning to build concepts and expose the relationships between them.

Within planning teachers identify:

- Small steps within the conceptual journey
- Prior learning - the new learning will build on through retrieval opportunities
- Mathematical structures and the representations that support understanding (CPA)
- Key mathematical vocabulary
- Stem sentences to scaffold understanding and mathematical talk
- Misconceptions that may arise
- Opportunity for exploration of a concept



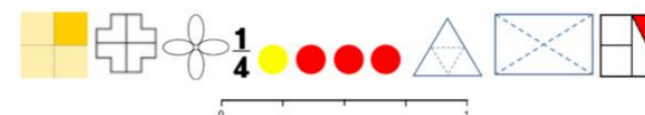
## Organisation and structure of lessons

- Maths lessons are generally 60 minutes. Children are taught maths in their classes
- In KS2 3-4 additional catch-up lessons are planned weekly to secure learning
- In KS1 2 additional catch-up lessons are planned weekly to secure learning
- Pre-teaching, and targeted interventions assist children in keeping up with concepts that they find difficult
- Pace in some lessons may vary depending where the class is in the journey of a concept
- Fluency sessions are taught regularly, generally these sessions last approximately 10 minutes

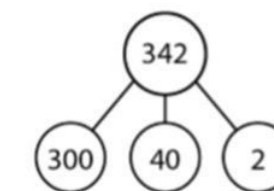
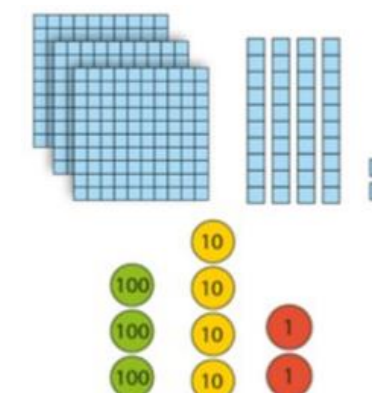
## What can you expect to see in maths lessons?

Across the teaching of a sequence, you will see the following aspects of mastery teaching:

- Teaching is based on 'I do, we do, you do' (Ping Pong teaching)
- A learning journey supported by small steps in learning
- Concepts are seen from different perspectives



- Common misconceptions are planned to embed the knowledge of key concepts and to expose structures securely
- Manipulatives being used so children can 'see' the structure of the mathematics and to scaffold learning (concrete representation)
- Pictorial representations continue to expose the structure of the mathematics and reinforce learning of the concept to deepen their understanding (pictorial representations)
- Number sentences, expressions and equations in the written form (abstract representation)
- Children recording their learning journeys in an age appropriate way
- Precise, accurate mathematical vocabulary is used by all
- Stem sentences to frame the main learning intentions e.g. 'The whole has been divided into 4 equal parts. Each one of those parts is one quarter of the whole.'
- Children talk to share strategies and explain their mathematical thinking and reasoning
- Teachers modelling efficient methods at the appropriate stage with the learning journey
- Feedback is provided by the teacher to prepare children for the next step in the sequence of lessons
- Opportunities for challenge is provided throughout the lesson through questioning e.g. 'Prove it'..., 'What if'... 'or show a different representation'
- Problem-solving tasks for children to apply concepts flexibly



100s	10s	1s
3	4	2

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"The whole has been divided into 4 parts but they are not equal."

## Key Elements for Effective Teaching

Vocabulary and Discussion	Challenge for All	Use of Concrete, Pictorial and Abstract Representations	Variation	Reasoning and Problem Solving	Fluency and Arithmetic
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