

Mastery is something that we want all pupils to acquire, or rather to continue acquiring throughout their school life.

A 'mastery maths curriculum', or 'mastery approaches' to teaching maths, both have the same aim — to help pupils, over time, acquire mastery of the subject. That is why we use the phrase 'teaching for mastery.'

Mastery of maths means a deep, long-term, secure and adaptable understanding of the subject. Among the by-products of developing mastery, and to a degree part of the process, are a number of elements:

- fluency (rapid and accurate recall and application of facts and concepts)
- a growing confidence to reason mathematically
- the ability to apply maths to solve problems, to conjecture and to test hypotheses.

The process of mastering maths - a gradual, accumulative process experienced as a child goes through school-- creates a tool for life. It is immeasurably more valuable than the short term ability to answer questions in tests or exams.

There is nothing new about the desire among teachers to help children develop deep understanding of the subject. The word itself has appeared in several documents down the years. But the widespread use of the word 'mastery' in relation to maths teaching and maths learning is relatively new, and it is a useful label that encapsulates the key aim of developing deep understanding.

Some of the implications of adopting mastery approaches to teaching maths are new. One of these is the move away from labelling pupils as 'high ability' or 'low ability' and giving them different tasks. Another is the approach, especially in the early primary years, of reducing the amount of mathematical topics handled in class, but taking longer over each one, so that early understanding is cemented more sustainably.

- Maths teaching for mastery rejects the idea that a large proportion of people 'just can't do maths'.
- All pupils are encouraged by the belief that by working hard at maths they can succeed.
- Pupils are taught through whole-class interactive teaching, where the focus is on all pupils working together on the same lesson content at the same time. This ensures that all can master concepts before moving to the next part of the curriculum sequence, allowing no pupil to be left behind.
- If a pupil fails to grasp a concept or procedure, this is identified quickly and early intervention ensures the pupil is ready to move forward with the whole class in the next lesson.
- Lesson design identifies the new mathematics that is to be taught, the key points, the difficult points and a carefully sequenced journey through the learning. In a typical lesson pupils sit facing the teacher and the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion.
- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.
- It is recognised that practice is a vital part of learning, but the practice used is intelligent practice that both reinforces pupils' procedural fluency and develops their conceptual understanding.
- Significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning. The structure and connections within the mathematics are emphasised, so that pupils develop deep learning that can be sustained.
- Key facts such as multiplication tables and addition facts within 10 are learnt to automaticity to avoid cognitive overload in the working memory and enable pupils to focus on new concepts.