What is 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."

NCTEM, https://www.ncetm.org.uk/resources/47230, September 2015

What is Mastery?

"'Mastery learning' is a specific approach in which **learning is broken down** into discrete units and presented in logical order. Pupils are required to **demonstrate mastery** of the learning from each unit before being allowed to move on to the next, with the assumption that **all pupils will achieve** this level of mastery if they are appropriately supported. Some may take longer and need more help, but all will get there in the end. Assessment is built into this process"

The Final Report from the Assessment Commission, 2015

What is Mastery?

The Final Report Of the Commission on Assessment without Levels (2015) acknowledges the recent promotion of Mathematics Mastery and the observation that this approach is characteristic of high performing East Asian countries. It describes the mastery approach as:

- A focus on achieving a deeper understanding of fewer topics, through problem-solving, questioning and encouraging deep mathematical thinking.
- A belief that all children can achieve a high standard
- The purpose of assessment is not differentiation but ensuring all children have grasped fundamental content before moving on.

The Final Report from the Assessment Commission

So, what are the key features of mastery?

Principles and features characterising the mastery approach (NCTEM, 2014)	**Does Abacus do this?**
High expectations for all: All pupils are capable of achieving high standards in mathematics.	✓
Keep the class together: Majority of pupils progress through the curriculum content at the same pace. There is no differentiation in content taught, but questioning and scaffolding to deepen knowledge or provide intervention	✓
Formative assessment: Precise questioning in class to test conceptual and procedural knowledge.	✓
Rapid intervention: Formative assessment is used to identify those requiring intervention so that all pupils keep up.	✓
Intelligent practice: Practice and consolidation play a central role … to build fluency and understanding of underlying mathematical concepts; "frequent and varied practice" *National Curriculum*, 2014.	✓

So, what are the key features of mastery?

Principles and features characterising the mastery approach (NCTEM, 2014)	**Does Abacus do this?**
Methodical curriculum design and carefully crafted lessons and resources.	✓
Lesson designs include a variety of representations needed to introduce and explore a concept effectively and also set out related teacher explanations and questions to pupils.	✓
A detailed structured curriculum is mapped out across all phases ensuring continuity… designed in small carefully sequenced steps.	✓
Concrete and pictorial representations of mathematics are chosen carefully to help build procedural and conceptual knowledge.	✓
Quality textbooks and coherent curriculum materials link school and home. Pupils can return to topics studied for consolidation and revision.	✓

A Mastery Curriculum

The National Curriculum states:

"All pupils should become fluent in the fundamentals of mathematics, including through varied and frequent practice"

"The expectation is that the majority of pupils will move through the programmes of study at the same pace."

"Pupils who grasp concepts rapidly should be challenged through rich and sophisticated problems before any acceleration through new content.

"Those pupils who are not sufficiently fluent with earlier material should consolidate their understanding before moving on."