

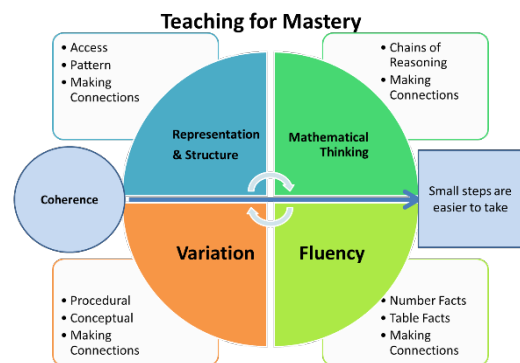
THE BIG IDEAS OF MATHS

At Highwood, our Mathematics curriculum is designed to ensure that all pupils:

- ♣ become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- ♣ reason mathematically by following a line of enquiry, conjecturing relationships, and generalisations, and developing an argument, justification or proof using mathematical language.
- ♣ can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

We achieve this by sequencing our learning on a repetitive and progressive cycle, using White Rose Hub to support teachers in their teaching, knowledge, and planning.

Teaching for Mastery Principles



At Highwood, we follow the NCTEM 5 Big Ideas for Teaching for Mastery when planning and teaching our children Maths. White Rose adopts the Teaching for Mastery Principles, helping us to align all of our approaches.

- Teaching for mastery is fundamentally built on the ethos that *all* children are capable of understanding and doing maths, given sufficient time and small enough steps (coherence)
- By building on the 5 Big Ideas for Mastery, pupils can make rich connections between concepts and ideas. Challenge is provided through depth, rather than accelerating onto new content
- It is not just about memorising facts or procedures but involves knowing 'why' as well as knowing 'that' and knowing 'how' to use knowledge appropriately, flexibly, and creatively to apply it in new and unfamiliar situations.

The Mastery Flow



Our philosophy of Teaching for Mastery is achieved through the focus on deep learning of each concept by exposing children to the following lesson flow.

The process encourages pupils to become fluent in the fundamentals of maths through frequent practice with increasing complexity over time. All children move through the flow at their own pace e.g., some children might be on 'do', while other children could be on explore. At all stages of the mastery flow, children

have the opportunity to develop well thought mathematical reasoning. During each objective, the main teaching happens during the 'show' part of the lesson. This is where children have the opportunity to move through the concrete, pictorial and abstract concepts, as well as having practical opportunities to explore the learning. Throughout this part of the lesson, teachers also use stem sentences to help develop children's understanding, as well as to help build up reasoning skills so children can reason, explain, and justify their learning.

Mental Maths is prioritised on the timetable for each year group by having dedicated mental maths slots, in addition to their allocated daily Maths lesson. In EYFS and KS1, teachers follow the NCTEM Mastering Number programme, ensuring that children are competent in number patterns and knowledge. In KS2 mental maths is focused around multiplication tables, as well as arithmetic, focusing children's learning for the MTC and KS2 SATS.