



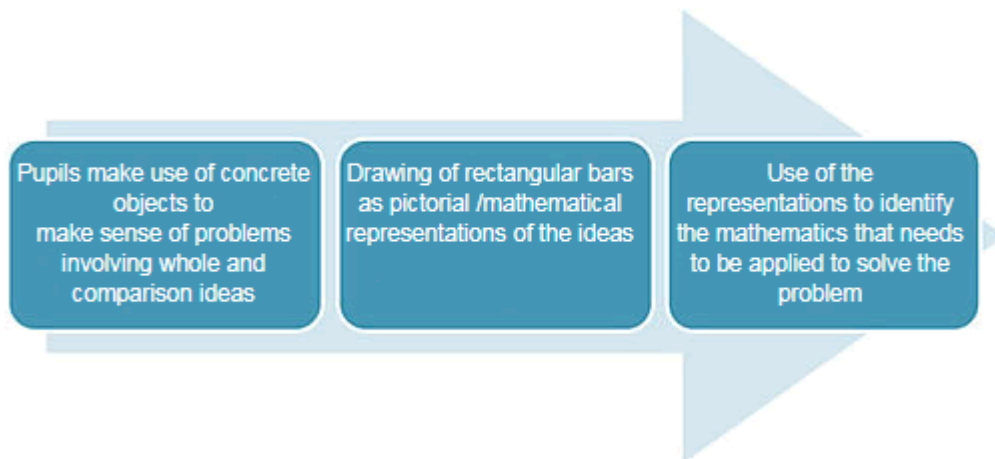
Cromwell Academy Intent, Implementation and Impact

Intent

At Cromwell Academy our intention is to provide children with the best possible opportunities to master mathematics. Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase ‘teaching for mastery’ describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that has been taught, to enable pupils to move on to more advanced material.

When teaching Mathematics our intention is to equip all children:

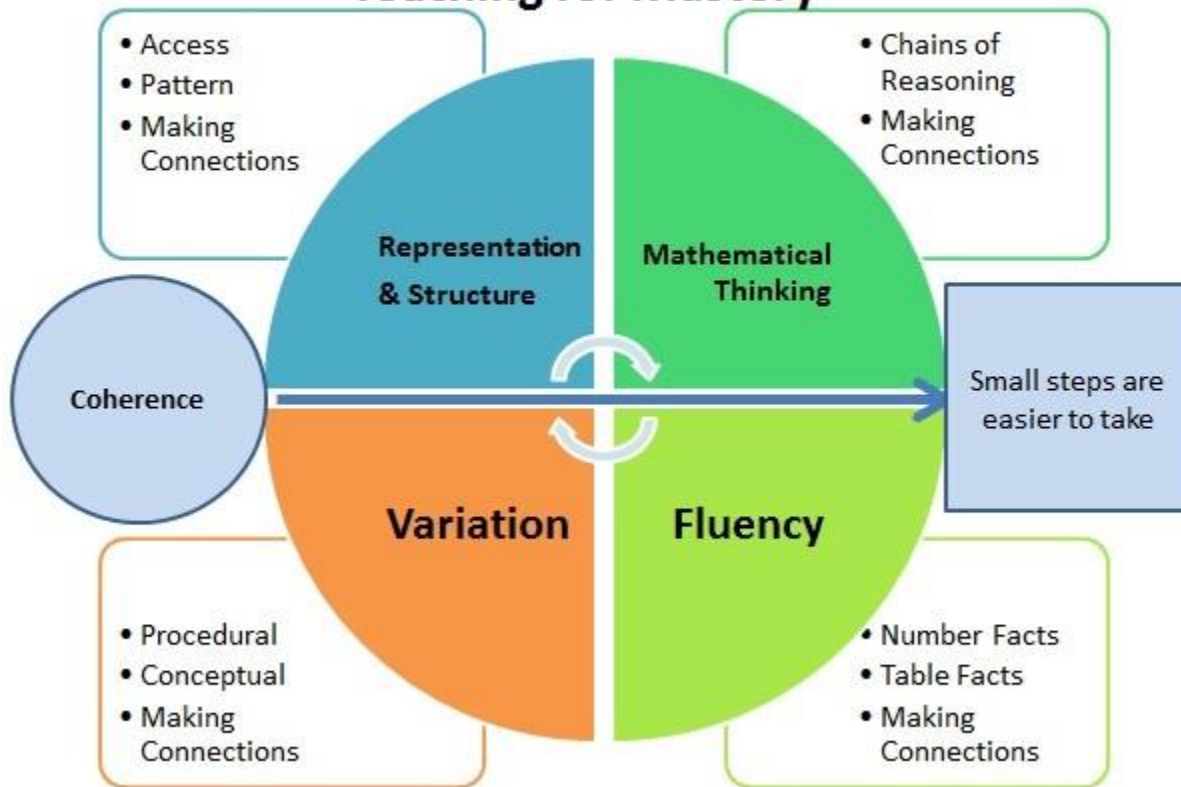
- with a favourable attitude towards and stimulate interest in mathematics
- with well-taught and explained strategies to solve a range of problems
- with a sound understanding of mathematical concepts, processes and strategies and the ability to apply them in a mental, written and problem-solving capacity
- with the skills to apply their mathematical understanding to a range of concepts
- with the skills to work independently and to be supported, or challenged further by an adult
- with the ability to record in a relevant, systematic and logical style with good clear method and structure
- with the ability to recognise mathematics in everyday situations and apply their mathematics to such situations
- with appropriate mathematical language
- with the ability to recognise how maths can be applied and linked to other subjects
- with an appreciation of the application of technology including computers, iPads



Implementation

Mathematics at Cromwell Academy is taught with a focus on deep understanding of mathematical concepts. Children will be given opportunities to develop fluency, reasoning and problem solving skills in order to apply their mathematical understanding. At Cromwell Academy, we develop children’s knowledge through moving from concrete objects, to pictorial representation to using pictorial representation to support finding the appropriate mathematical concept.

Teaching for Mastery



Teaching for mastery at Cromwell Academy requires the children to develop a number of skills and a deep understanding of concepts. These include:

Coherence

Connecting new ideas to concepts that have already been understood, and ensuring that, once understood and mastered, new ideas are used again in next steps of learning, all steps being small steps

Representation and Structure

Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation

Mathematical Thinking

If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others

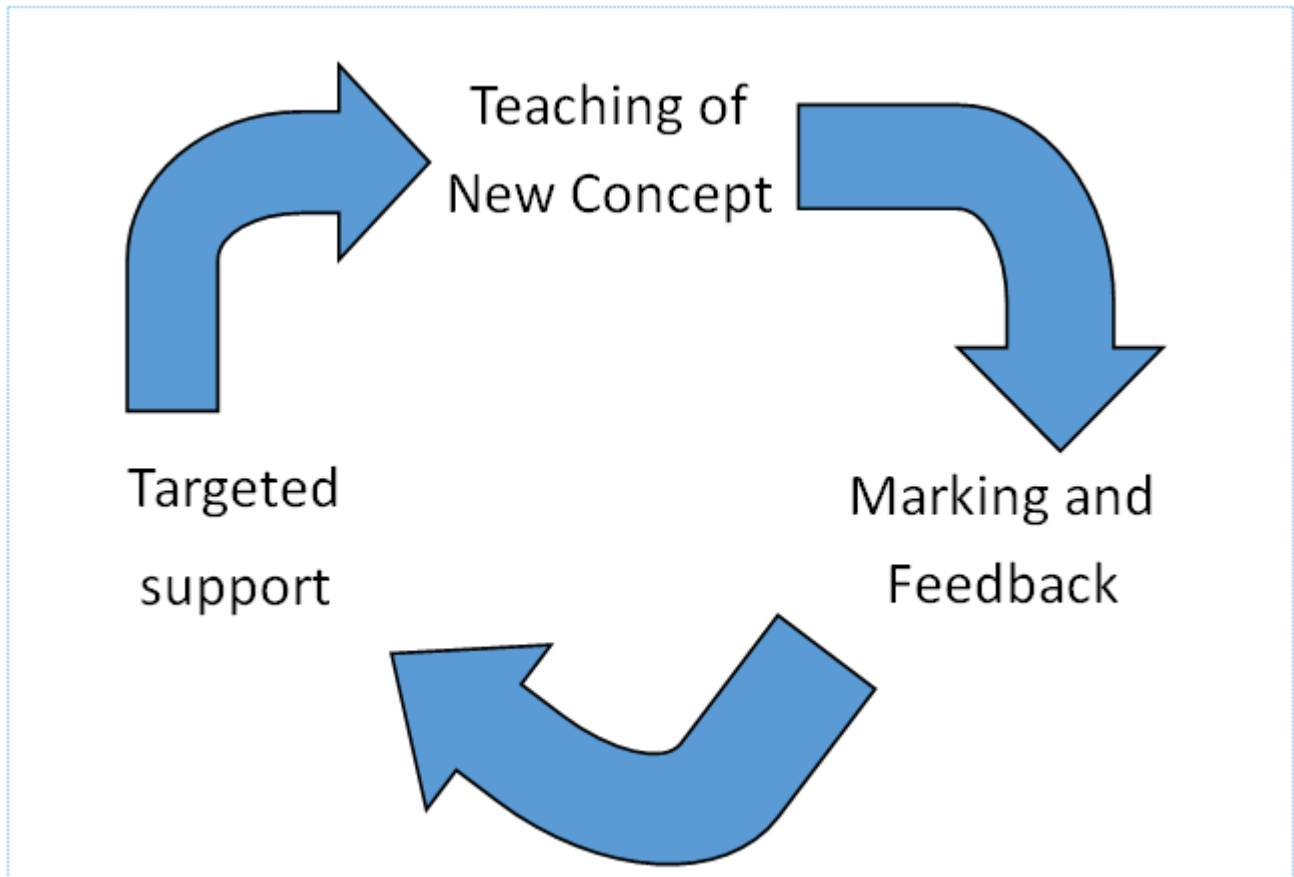
Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics

Variation

Varying the way a concept is initially presented to students, by giving examples that display a concept as well as those that don't display it. Also, carefully varying practice questions so that mechanical repetition is avoided, and thinking is encouraged.

Lesson structure



Prior to the lesson, teachers will:

- ensure they have a deep understanding of the concept they are teaching
- assess the children on the specific mathematical unit in order to group them for the upcoming set of lessons
- plan a range of tasks, which are focussed on the learning objective
- provide opportunities for children to apply their acquired mathematical understanding and skills
- provide some children with opportunities to “overlearn” through both pre-teaching

During a lesson at Cromwell Academy, children will:

- have concepts taught and modelled clearly, with explanations provided using key mathematical vocabulary
- be taught the appropriate learning objective from the national curriculum or school-wide scheme
- solve a variety of fluency, reasoning, problem solving and application problems
- be given a range of activities focussed on the objective of the lesson
- have time to work with a guided group in order to support or extend their learning

After a lesson at Cromwell Academy, children will:

- have their worked checked by their teacher
- have the opportunity to feedback to the teacher through self-assessment
- have opportunities to have targeted support that will build on from the feedback given by the teacher
- provide some children with opportunities to “overlearn” through post-teaching

Impact

The impact of our mathematics curriculum is that:

- children understand the relevance of what they are learning in relation to real world concepts.
- we have an environment where Maths is fun, and it is OK to be 'wrong' because the journey to finding an answer is most important.
- our children have a growth mindset and make measurable progression against their own targets.
- our maths books are packed with a range of activities showing evidence of fluency, reasoning and problem solving.
- our feedback and interventions are supporting children to strive to be the best mathematicians they can be ensuring a greater proportion of children are on track.
- children 'have a go' and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem.
- children are developing skills in which they are articulate and can verbally, pictorially and in written form reason well.
- our school standards are high, we moderate our books both internally and externally to ensure accuracy and ensure our children are achieving well.