

Belong, grow, love to learn,  
cherish memories, shine together!



## Intent, implementation and impact

### Intent

Mathematics is important in everyday life, and with this in mind, the purpose of Mathematics at Quinton Primary School is to develop students' ability to solve problems, reason logically, think critically, and work systematically and accurately. All children are challenged and encouraged to excel in Maths.

At Quinton Primary, we adopt a mastery approach to teaching and learning, aiming for pupils to develop a deep understanding of maths and display an understanding of strategies that can be deployed automatically over time.

Teaching for Mastery is based on the expectation that all children can achieve highly in maths.

Achieving high standards in maths requires that children:

- Have a deep and flexible understanding of mathematical concepts;
- Are fluent in number facts;
- Develop fluency in calculation procedures.

New mathematical concepts are introduced using a 'Concrete, Pictorial, and Abstract' approach, enabling all children to experience hands-on learning when discovering new mathematical topics. This approach also provides clear models and images to aid their understanding. Arithmetic and basic maths skills are practised daily to ensure key mathematical concepts are embedded, allowing children to recall this information and see the connections between topics in Maths.

The national curriculum for mathematics aims 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.
- 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.

### Key principles for maths at Quinton

**Belong, grow, love to learn,  
cherish memories, shine together!**



**Depth Over Speed:** Key topics are studied in greater depth, allowing students to embed understanding before moving on.

**Whole-Class Teaching:** Teachers keep the class together, providing "keep up" support (e.g., small group sessions) rather than accelerating high-achievers into new content.

**Conceptual and Procedural Fluency:** Learners develop both the ability to perform procedures (e.g., long division) and the understanding of why they work.

**Use of Representations:** Concrete, pictorial, and abstract representations (e.g., using physical objects like Cuisenaire rods before moving to abstract numbers) are used to build understanding.

**Varied Practice:** Questions use "intelligent practice" to deepen understanding, changing small details to focus on underlying concepts rather than repetitive calculation.

## **Implementation**

The mathematics curriculum at Quinton is based on the framework of the White Rose Maths scheme, which has been developed to enable a mastery approach to teaching the subject. Teachers develop children's conceptual understanding through questioning designed to enhance fluency, reasoning, and problem-solving. A variety of resources are used, including but not limited to White Rose Maths, Classroom Secrets, NCETM, Times Table Rock Stars, and Numbots, to develop and assess children's understanding.

### **Maths at Quinton:**

- Basic maths skills are taught daily, focusing on key mathematical skills such as place value, the four operations, and fractions.
- A range of reasoning resources is used to challenge all children, giving them the opportunity to reason with their understanding.
- Feedback is provided throughout lessons, supporting children by identifying misconceptions and ensuring they are prepared for the next lesson.
- Children are taught through targeted, mixed-ability whole-class lessons.
- Lessons use the Concrete, Pictorial, and Abstract approach to guide children through their understanding of mathematical processes.
- Consolidation lessons are used to revisit previous learning and ensure maths skills are embedded.
- Homework focuses on arithmetic and is set to develop and review children's learning.
- Where possible, links are made with other subjects across the curriculum.

### **Maths in Reception and KS1:**

The carefully planned and sequenced teaching structure is supplemented with regular maths fluency sessions. The school is part of the NCETM 'Mastering Number' project, which has provided up-to-date training to all teachers. Through carefully planned sessions, this project is designed to strengthen children's understanding of numbers and fluency with number facts in the first three years of school.

Belong, grow, love to learn,  
cherish memories, shine together!

These short 20-minute sessions occur four times a week and focus on using manipulatives to explore and secure the quick number facts necessary for future success in maths. Throughout the year, children will use a range of materials and representations, including a small abacus-like piece of equipment called a rekenrek.

## The five big ideas for implementing mastery

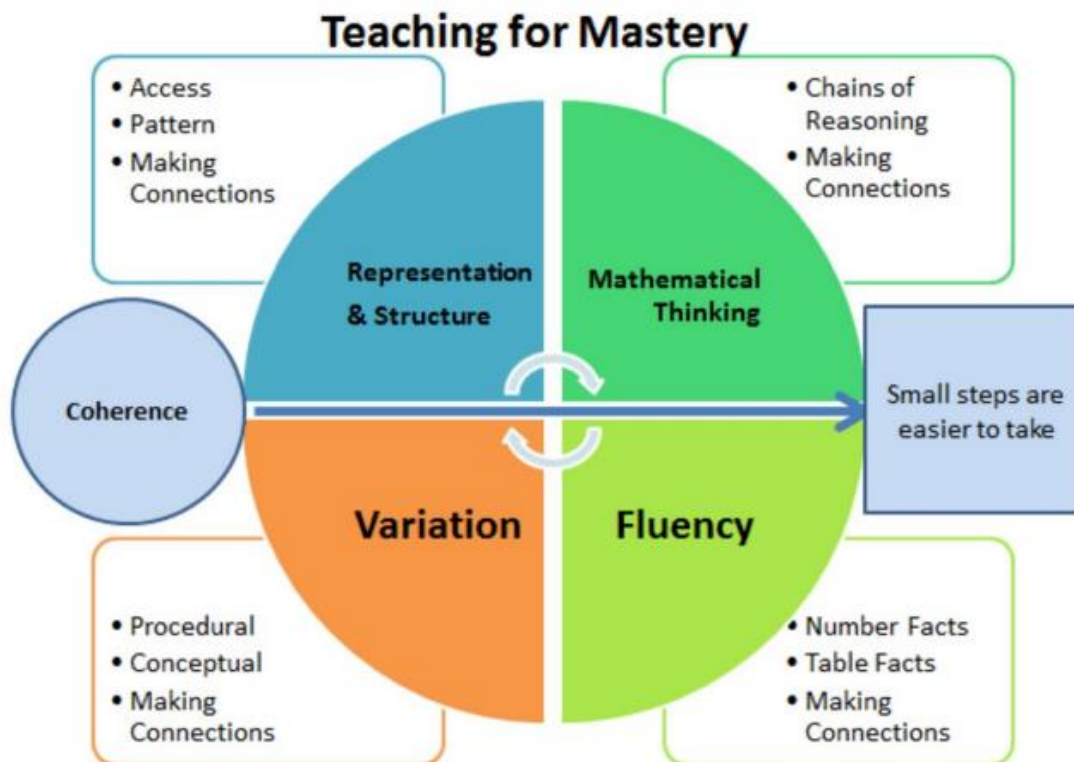
Coherence: Lessons are broken down into small, connected steps.

Representation and Structure: Using representations to expose the underlying structure of mathematics.

Mathematical Thinking: Focusing on reasoning and finding connections.

Fluency: Quick and efficient recall of facts and procedures.

Variation: Varying the way concepts are taught to focus on mathematical structure.



## Impact

As a result of our Maths teaching at Quinton, you will see:

- Engaged children who are all challenged.
- Confident children who can talk

about Maths, their learning, and the links between mathematical topics.

- Lessons that use a variety of resources to support learning.
- Children can use different representations of mathematical concepts.
- Learning that is tracked and monitored to ensure all children make good progress.

Belong, grow, love to learn,  
cherish memories, shine together!



Through the teaching of key mathematical skills, we enable our children to:

- Be **fluent** in the fundamentals of mathematics.
- **Reason** mathematically by following a line of enquiry.
- **Solve** problems by applying their mathematical understanding and knowledge.
- Have the confidence to explain their mathematical answers.