



# Oak Tree

## Primary School

# Maths Policy

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SLT Approval:	Miss D Bailey
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Article 29 (Goals of Education) Education must develop every child's personality, talents and abilities to the full. It must encourage the child's respect for human rights, as well as respect for their parents, their own and other cultures, and the environment.

**Mission Statement:**

At Oak Tree Primary School Everybody Matters

**Vision Statement:**

All pupils become socially and emotionally intelligent, as well as academically, so they can access all learning and life opportunities, now and in the future.

# *Respect Believe Achieve*

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### **1. Introduction and Aims**

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. At Oak Tree Primary School, we prepare pupils for their future lives with a firm foundation in the concepts and procedures of primary maths. We follow the National Curriculum but also want to inspire an appreciation of maths and a sense of enjoyment and curiosity about the subject.

Our lessons are focussed towards the aims of the National Curriculum:

- Fluency
- Reasoning
- Problem solving

In addition we aim that our children gain:

- Deep and sustainable learning
- An ability to build on previous knowledge
- An ability to reason and make connections
- Sound procedural and conceptual understanding

### **2. Teaching for Mastery**

'Mastery' of mathematics is...

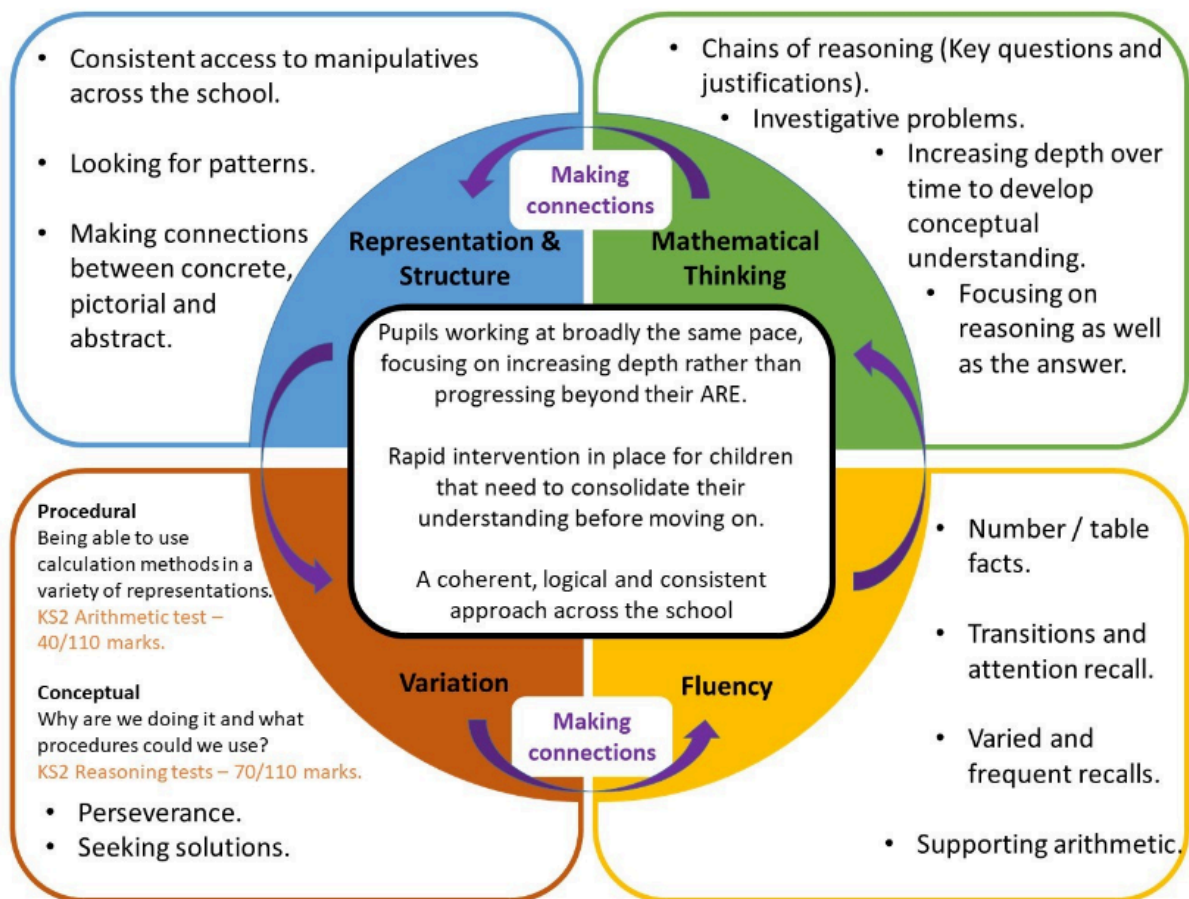
- Achievable for all
- Deep and sustainable learning

- The ability to build on something that has already been sufficiently mastered
- The ability to reason about a concept and make connections
- Conceptual and procedural fluency

In addition, teaching for mastery involves:

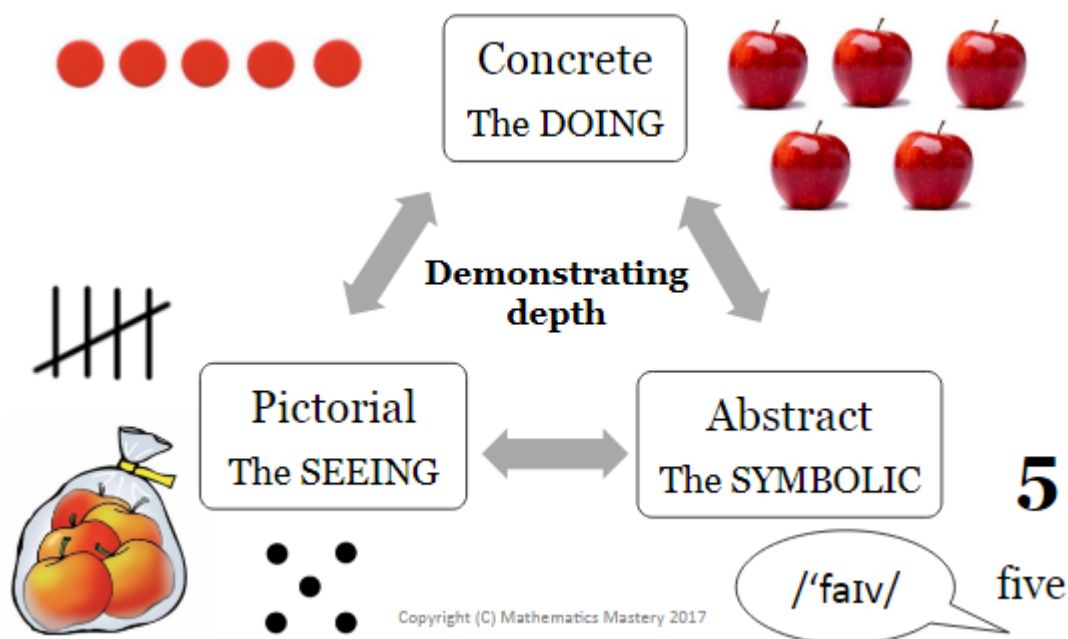
- The belief that all pupils can achieve
- Keeping the class working together so that all can access and master mathematics
- Development of deep mathematical understanding
- Development of both factual/procedural and conceptual fluency
- Longer time on key topics, providing time to go deeper and embed learning

“Mastery teaching” is a much abused term but is understood best as “the five big ideas” of *Mathematical thinking, Representation and structure, Variation, Fluency and Coherence* as set out in the diagram below:



Several years ago now, Maths teaching at the school underwent a bit of a revolution. Under the guidance of the Sussex Maths Hub and the NCETM (National Centre for Excellence in the Teaching of Mathematics), we strengthened our use of some older ideas and adopted a number of new practices which originated in East Asian classrooms and are becoming widespread in the U.K. These have been focused on deepening children’s understanding of mathematical concepts and ability to reason and problem solve. These practices include:

- Careful and thorough exposure to a variety of models and images following the Concrete-Pictorial-Abstract model to nurture children’s understanding of concepts:



- When ready, children are encouraged to employ a variety of methods to solve problems and carry out calculations, making judgements on the efficiency of these.
- Their ability to reason is improved through a focus on using precise language. Children are also expected to explain their thinking in full sentences. Their ability to explain their ideas is supported through the use of “stem sentences” and general truths in mathematics (e.g. all multiples of 5 end in 5 or 0) are taught explicitly. Children’s understanding is further deepened through targeted questioning.

Fluency in knowledge of number facts, and the application of what you already know to solve related calculations is thoroughly supported through regular daily CLIC (Counting, Learn-its, It’s nothing new, Calculation) lessons. Children spend twenty minutes per day learning number facts (“learn-its”) such as multiplication tables, counting, and drilling simple mental procedures for calculation through repetition and constant review. Their individual progress is monitored on a weekly basis through “Beat That” tests and the results fed back into planning or interventions.



Our children study the National Curriculum through the White Rose maths Hub scheme of work. This scheme supports our teachers to provide high quality teaching through varied example materials including suggested questions, problem solving and reasoning for every topic.

### **3. Assessment**

The three main types of assessment to be carried out are:

- **Assessment for Learning** (Formative) – the continuous assessment the teacher undertakes in order to plan the next stage for the pupils' learning. This includes both **evaluative** and **diagnostic** assessment, and is usually drawn from the child's level of performance in the classroom.
- **Summative** – assessments that find out or summarise what the child knows.
- **Self-assessment** – the child's evaluative assessment of their own understanding.

Summative assessments are carried out at the end of each term using nationally benchmarked tests. Results are recorded for each child and are used to inform teachers of gaps in children's understanding.

Throughout the year, assessment of individual children's ability is recorded using the school's assessment software, *Insight*. Recording is done by highlighting the objectives achieved. Full highlighting should not be recorded until the child has independently achieved the objective a few weeks after the teaching focus on that objective. These are regularly checked at the end of each topic with "end of block assessments". These assessments can be cross referenced with the results of the termly summative tests in order to give a full and accurate picture. Children's rate of progress can also be measured here and slow progress identified.

In summer of year 4, children's knowledge of and ability to quickly recall multiplication tables facts is tested using the Multiplication Tables Check and reported to the DfE. Information from this test is used to inform interventions to ensure that children as far as possible reach the end of school with fluency in tables knowledge, a vital tool for arithmetic - both mental and written.

Children at the end of Key Stage 2 will also be assessed against National Curriculum Tests (SATs) with the information from these tests used to inform Teacher Assessment judgements at the end of the key stage and reported to the DfE.

### **4. Feedback & Intervention**

Marking and feedback (oral and written) will take place throughout the lesson and while children are completing learning. Immediate feedback is most effective, in enabling children to make good progress, and so teachers will aim to identify children who have not fully understood the lesson concept, and give extra support and intervention, whilst the lesson is still taking place. This may involve working through

questions with an adult (1:1 or small group support), the use of peer support, or the use of practical equipment and / or diagrams and models.

Where pupils still do not have a secure understanding of the concept, the teacher must decide whether more whole class teaching is appropriate, or whether small group / 1:1 intervention is required, with specific pupils.

Pupil's work should be marked in line with the Marking Policy and should model how corrections should be made, giving children a chance to learn from their misconceptions or incorrect methods.

## **5. Resources and Displays**

Each classroom will be resourced with materials to support the delivery of Maths; such items might include number lines, multiplication table squares, place value resources, 100 squares, 2D and 3D shapes, multilink cubes, dice and other smaller items. Larger materials such as scales, trundle wheels and measuring cylinders are held centrally in the Resources Area.

Children should be encouraged to use whatever resources are available to them in the classroom and which they feel would be beneficial to help them when completing Maths work.

Each classroom should have a display dedicated to Maths; this could be in the form of a working wall, strategy board or problem solving area and pupil voice should be evident.

## **6. Inclusion**

In line with the School's Inclusion Policy, each child will have an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.