



## Maths Strategy – Shaldon Primary School



Mathematics is essential to everyday life; it is the language of science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education will provide a foundation for understanding the world around us, the ability to reason mathematically, an appreciation of the elegance and influence of mathematics and a lifelong sense of enjoyment and curiosity in the subject.

Using White Rose as the spine of our mathematics planning, learners will master small steps in an order that enables them to grow into fluent mathematicians. They will understand the importance, relevance and wonderful influence that maths has in our world on a daily basis and will be able to apply their knowledge to solve sophisticated and contextual problems.

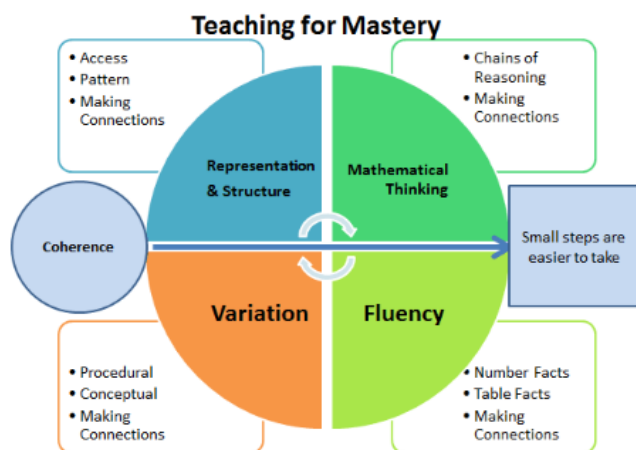


We have 5 main aims for mathematics at Shaldon:

- 1) To provide a consistent and personalised approach to maths 'mastery' that benefits all pupils
- 2) To ensure pupils build upon prior knowledge, using a scheme of work, ensuring coverage and sequential planning.
- 3) To develop our pupils' fluency, reasoning and problem solving
- 4) To ensure ALL pupils make good progress in mathematics, providing quick catch up for pupils that do not.
- 5) To ensure mathematics in EYFS and KS1 lays the early foundations that supports relationships with children and extends learning

# 1

To provide a consistent and personalised approach to maths 'mastery' that benefits all pupils



The 'mastery approach' to teaching maths is the underlying principle of Mathematics Mastery through the use of the White Rose planning resources. Instead of learning mathematical procedures by rote, pupils are taught to build a deep conceptual understanding of concepts that will enable them to apply their learning in different situations.

Teaching for mastery does not mean we do not differentiate, whatever the grouping, but we do aim

high for all students. We believe all students should have opportunities to develop reasoning and solve problems as well as develop fluency. Differentiation can be achieved, for example, through varying the degree of support provided, using enabling and extending questions, and providing opportunities deepen understanding of an object – not just moving through content quicker.

# 2

To ensure pupils build upon prior knowledge, using a scheme of work, ensuring coverage and sequential planning.

Shaldon Primary School has adopted the White Rose maths scheme across the school.



This scheme has been adopted to ensure staff are supported in planning units of work that build upon prior knowledge; provide opportunities for fluency, reasoning and problem solving; support staff subject knowledge and approach to teaching mathematics.

Our small step approach is designed to ensure that students will come back to topics time and time again, both within the study of the same area of mathematics and in other areas so that they will continue to deepen their understanding through this revisiting and interleaving.

# 3

## To develop our pupils' fluency, reasoning and problem solving

We intend that the study of mathematics will enable our pupils to:

- **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.

To support this in lessons and marking feedback, Pupils are encouraged and supported to **explain** and **debug** their learning.

**Explain** – Pupils are encourage to explain their thinking around a problem, reinforcing their understanding, written and orally

**Debug** – When pupils have attempted a problem and have not been successful in their answers, they are required to inspect their thinking and workings before attempting the question again. When they achieve a correct answer, they compare their correct thinking to their initial working out to deduce where they made a mistake. They then explain this orally or in writing before moving on to a new problem. This helps children to identify areas where they need to be more precise in the future.

# 4

## To ensure ALL pupils make good progress in mathematics, providing quick catch up for pupils that do not.

Identify - Use of assessment	React
<p><b>Formative Assessment</b></p> <ul style="list-style-type: none"> <li>- Assessment during Whole-class teaching</li> <li>- Assessment of work in books</li> <li>- Reasoning and understanding</li> </ul> <p><b>Summative</b></p> <ul style="list-style-type: none"> <li>- End-of-unit assessments</li> <li>- Termly Rising Stars PUMA Assessment (KS2)</li> <li>- Times table assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Provide opportunities in the classroom for all groups of pupils to be challenged – resulting in good progress</li> <li>• Precision teaching – daily intervention of times tables, number bonds, number recognition etc.</li> <li>• Targeted guided group work in class- working with the teacher on the area of need</li> <li>• Additional targeted group work – small group work on the area of need</li> <li>• Use assessment analysis to identify whole-class area of needs</li> <li>• Pupil progress meetings with Team Leaders help to rapidly target children who need to make accelerated progress.</li> </ul>

# 5

To ensure mathematics in EYFS and KS1 lays the early foundations that supports relationships with children and extends learning

## 1. Develop experts in early year

- Mathematical pedagogy for pupils in EYFS and KS1
- Plan for how children typically learn mathematics
- Be aware that grasping a new concept takes time

## 2. Dedicate time and integrate throughout

- 1) Dedicated time in the timetable for pupil input
- 2) Opportunities to apply/continue conversations and vocabulary into the provision
- 3) Use everyday opportunities to explore mathematics

## 3. Use manipulative and representations

- 1) Make links between manipulative and representations
- 2) Clear rationale for manipulatives used
- 3) Use manipulatives to encourage discussion
- 4) Represent problems in their own way

## 4. Build upon prior understanding

- 1) Assess do and do not know to extend learning
- 2) Assess in a range of contexts
- 3) Listen to responses and ask questions to gain pupil understanding
- 4) Use information to inform next steps

## 5. Targeted support for all pupils

- 1) High quality targeted support is effective
- 2) Children with the greatest needs are supported by experienced staff
- 3) Explicit connections are made to everyday contexts