



# Maths Strategy – Totnes St John's



Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A

high-quality mathematics education therefore provides a foundation for understanding the world: the ability to reason mathematically; an appreciation of the beauty and power of mathematics; and a sense of enjoyment and curiosity about the subject.

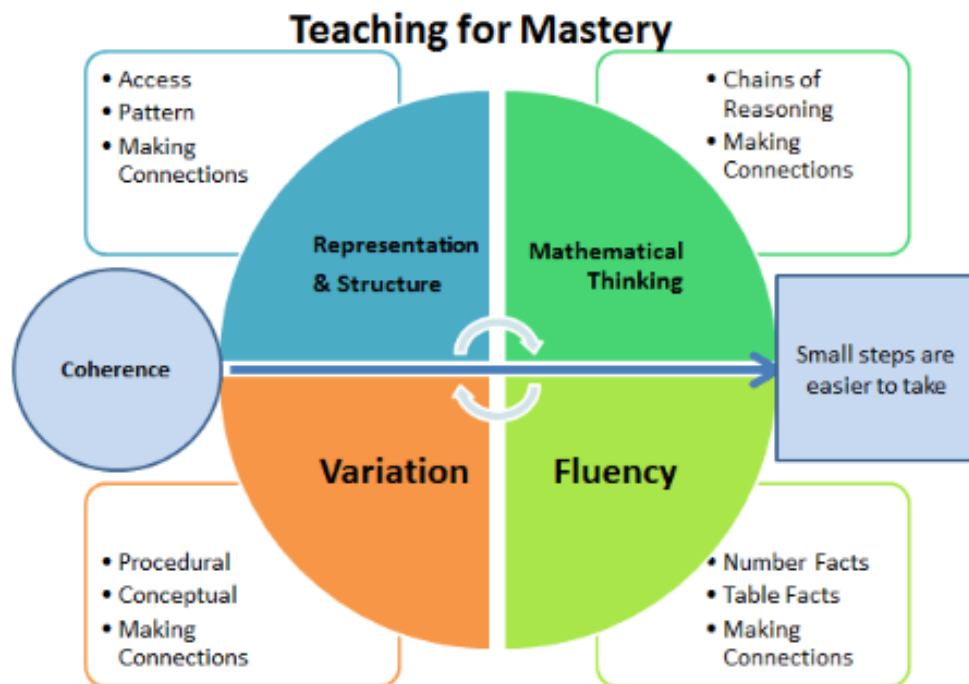
Using White Rose as the spine of our mathematics planning, learners will master small steps in an order that enables them to grow into competent mathematicians. They will understand the importance, relevance and wonderful influence that maths has in our world on a daily basis and apply their knowledge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

We have 5 main aims for mathematics at St John's:

- 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 adapt learning, 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 strengthen fluency. Adaptive learning 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.**

Totnes St John's 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. Teachers use the Ready to Progress document alongside White Rose to help prioritise mathematical content for children who are struggling to remain on track.

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. This will enable 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 EPMC:

**E**xplain

**P**rove

**M**ethod

**C**heck

**Explain** – Pupils are encouraged to explain their thinking around a problem which reinforces their understanding- both written and orally

**Prove** – Pupils are expected to prove their understanding. This can be by showing calculations, drawings/diagrams and reasoning for a problem

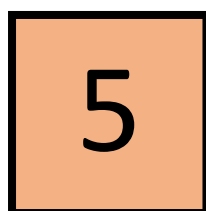
**Method** – Pupils are challenged to use a range of strategies, making choices on the most efficient methods

**Check**- Pupils are expected to independently check over and make any corrections necessary to their work



**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> </ul>



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

<p><b>1. Develop experts in early years mathematics</b></p> <ol style="list-style-type: none"> <li>1) Mathematical pedagogy for pupils in EYFS and KS1</li> <li>2) Plan for how children typically learn mathematics</li> <li>3) Be aware that grasping a new concept takes time</li> </ol>	<p><b>2. Dedicate time and integrate throughout</b></p> <ol style="list-style-type: none"> <li>1) Dedicated time in the timetable for pupil input</li> <li>2) Opportunities to apply/continue conversations and vocabulary into the provision</li> <li>3) Use everyday opportunities to explore mathematics</li> </ol>	<p><b>3. Use manipulative and representations</b></p> <ol style="list-style-type: none"> <li>1) Make links between manipulatives and representations</li> <li>2) Clear rationale for manipulatives used</li> <li>3) Use manipulatives to encourage discussion</li> <li>4) Represent problems in their own way</li> </ol>	<p><b>4. Build upon prior understanding</b></p> <ol style="list-style-type: none"> <li>1) Assess do and do not know to extend learning</li> <li>2) Assess in a range of contexts</li> <li>3) Listen to responses and ask questions to gain pupil understanding</li> <li>4) Use information to inform next steps</li> </ol>	<p><b>5. Targeted support for all pupils</b></p> <ol style="list-style-type: none"> <li>1) High quality targeted support is effective</li> <li>2) Children with the greatest needs are supported by experienced staff</li> <li>3) Explicit connections are made to everyday contexts</li> </ol>
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