

## Curriculum Statement for the Teaching and Learning of Mathematics at Godmanchester Community Academy

*Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It 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. ( National Curriculum 2014)*

### **What we aim to achieve**

When teaching mathematics at Godmanchester Community Academy, we provide a mastery curriculum following White Rose Maths - which caters for the needs of all individuals and sets them up with the **necessary skills and knowledge for them to become successful in their future adventures**. We aim to prepare them for a successful working life. We incorporate sustained levels of challenge through varied and high quality activities with a focus on **fluency, reasoning and problem solving**. All children are taught with the expectation that they will achieve the lesson outcome; they use appropriate **mathematical vocabulary to reason and explain their workings**. They are taught to **explain their choice of methods** and **develop their mathematical reasoning skills**. We **encourage resilience** and an acceptance that struggle is often a necessary step in learning.

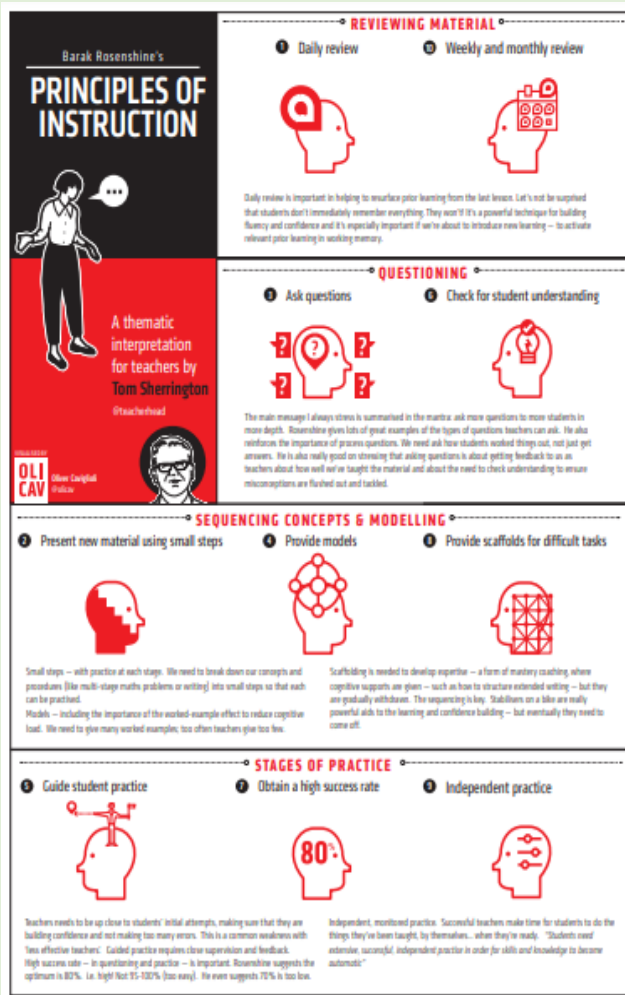
Mathematics is embedded in the wider school curriculum in many other subjects via curriculum booklets; this allows our students to see how mathematics applies to many different disciplines and how and why it is essential.

### **How we aim to achieve it**

<u><b>PLANNING</b></u>	<u><b>REVIEWING MATERIAL</b></u>	<u><b>CHECK FOR UNDERSTANDING</b></u>
<p><b>USING WHITE ROSE AS A FRAMEWORK (EYFS-6) &amp; ADDITIONAL RESOURCES TO SUPPORT:</b></p> <ul style="list-style-type: none"> <li>- White Rose</li> <li>- Deepening Understanding</li> <li>- Master the Curriculum (EYFS)</li> <li>- Busy Ant Maths (fluency)</li> <li>- NCETM</li> <li>- NRICH</li> <li>- Maths Pack</li> </ul> <p>Planning is shared across a year group but lessons are personalised to address the individual needs and requirements of a class. Coverage is maintained and monitored.</p> <p>The White Rose Frameworks ensure progression as well as recap and review, however, we follow our own long-term curriculum map. We ensure mathematics is embedded into the whole curriculum (e.g. science) through our use of curriculum booklets.</p>	<p><u><b>Morning quiz and regular arithmetic</b></u></p> <p>In tune with our whole-school approach on The Principles of Instruction (Rosenshine), we recap previous mathematical knowledge during the morning quiz (during the soft start/ registration time) and at the start of each mathematics lesson.</p> <p>In KS1 and KS2, children have a 10 minute focussed arithmetic session at least 3 times per week (e.g. 12 in 10).</p>	<p>During our Quality First Teaching, teachers and teaching assistants continuously monitor pupil progress against expected attainment, making <b>formative assessment</b> notes which we use to <b>inform our teaching</b> and <b>catch-up</b> groups/ <b>tutoring</b> sessions.</p>

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### PRINCIPLES OF INSTRUCTION



### SEQUENCING CONCEPTS AND MODELLING

#### Concrete – Pictorial - Abstract

We implement our approach through quality first teaching, delivering appropriately challenging work for all individuals. To support the childrens' understanding, we use a range of mathematical resources in classrooms including Continuous Provision in EYFS, Base10, bead strings, Cuisenaire Rods and place value counters (**concrete** equipment). Visualisers are used to support the use of equipment in the classroom.

When children have grasped a concept using concrete equipment - or during a lesson to support their initial understanding - images and diagrams are used (**pictorial**), for example bar models and the part, part whole model.

Concrete and pictorial approaches pave the way for an understanding of more **abstract** mathematics. This relies on the children understanding a concept thoroughly and being able to use their knowledge and understanding to answer and solve mathematics without equipment or images.

We follow our whole school approach to modelling using I do – We do – You do to enable our pupils to be successful with new concepts. In certain year groups, this approach is signposted through the use of traffic light colours (Red – Amber – Green).

#### ONLINE MATHEMATICS

In order to advance individual children's mathematics skills in school and at home, we utilise Times Tables Rock Stars for multiplication practise, application and consolidation. In KS2, the children are encouraged to achieve 1000 Mathletics points a week. Tablets/ laptops are used in the classroom to support the children's understanding using programmes such as Maths Pack.

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How we know it is working		
CREATING MATHEMATICIANS	REVIEW AND FEEDFORWARD	OUTCOMES
<p><u>PUPIL VOICE</u></p> <p>Through discussion and feedback, children talk enthusiastically about their maths lessons and speak about how they love learning about maths. They are keen to look through their books to evidence their progress. They can articulate the context in which maths is being taught and relate this to real life purposes. Children show confidence and believe they can learn about a new maths area and apply the knowledge and skills they already have.</p>	<p><u>STAFF WELLBEING AND DEVELOPMENT</u></p> <p>We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective. We take part in training opportunities and regional networking events, such as local Maths Hub work groups.</p> <p>We aim to feed this growth forward into our curriculum and planning to create opportunities for our pupils as well.</p> <p><u>STUDENT KNOWLEDGE</u></p> <p>RAG rating grids feedforward into the next year and a detailed handover occurs between teachers. Where gaps in knowledge are found, these are addressed through careful re-teaching and retrieval practise.</p>	<p><u>EXPECTATIONS</u></p> <p>At the end of each year, we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children who have gaps in their knowledge receive appropriate support.</p> <p><b>Summative assessments</b> are completed at the end of each term; these results lead discussions in termly Pupil Progress Meetings from which focus children are identified and provision is detailed. The main purpose of all assessment is to always ensure that we are providing excellent provision for every child hence even summative assessments are used formatively.</p>