



## Mathematics at The Mead Academy Trust

*'Mathematicians aren't people who find Maths easy. They are people who enjoy the challenge.'*

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| <p><b>Maths Intent</b></p>         | <p>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.</p> <p>At the Mead Academy Trust we intend to develop mathematicians through the engaging delivery of a high quality mastery curriculum. Our mastery approach is informed by the National Centre for Excellence in the Teaching of Mathematics and their <a href="#">'five big ideas'</a> that underpin teaching for mastery.</p> <p>In line with the <b>National Curriculum</b> 2014 our teaching aims to ensure that all pupils:</p> <ul style="list-style-type: none"> <li>• become <b>fluent in the fundamentals</b> 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.</li> <li>• <b>reason mathematically</b> by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof <b>using mathematical language</b></li> <li>• can <b>solve problems by applying</b> 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</li> </ul> <p>Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.</p> |
| <p><b>Maths Implementation</b></p> | <p>To ensure the highest standards of teaching and learning in Mathematics, we implement a sequenced, knowledge rich curriculum that is progressive and builds on prior knowledge and skills over time.</p> <p>Our curriculum is delivered using a teaching for mastery approach and is underpinned by the NCETM's Five Big Ideas:</p> <ol style="list-style-type: none"> <li><b>1. Coherence</b><br/>Lessons are broken down into small connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.</li> <li><b>2. Representation and Structure</b><br/>Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation.</li> <li><b>3. Mathematical Thinking</b><br/>If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others.</li> <li><b>4. Fluency</b><br/>Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|                  | <p><b>5. Variation</b><br/> Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.</p> <p><b>White Rose Maths - WRM</b><br/> The WRM positive approach focuses on reinforcing number competency, whilst providing opportunities to build reasoning and problem solving into each lesson, and encourages each child to build confidence and resilience to achieve in maths.</p> <p><b>Ready to Progress Criteria (DfE Guidance for teaching mathematics for key stages 1 and 2):</b><br/> We use the Ready to Progress Criteria (RTP) support coherence, identify core concepts and ensure progression in our curriculum. The RTP criteria has been identified through the MNP curriculum for each year group. This supports the prioritisation of key lessons and concepts within the MNP sequence of lessons. RTP criteria, and supporting NCETM resources also support the delivery of Maths Meetings in each year group.</p> <p><b>Mastering Numbers Programme (NCETM)</b><br/> Each school is taking part in the <a href="#">Mastering Numbers Programme</a> (2021-2022). It aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. Attention is given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.</p> |
| <b>Resources</b> | <ul style="list-style-type: none"> <li>• White Rose Maths</li> <li>• Ready to Progress Criteria - DfE Guidance</li> <li>• NCETM resources</li> <li>• Knowledge Organisers</li> <li>• Number Sense</li> <li>• FunKey Maths – times tables</li> <li>• Boolean Maths Work Groups - Mastering Numbers, Teaching for Mastery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |