

# Curriculum Statement

## Teaching and learning of: Maths



<b>INTENT</b>	<p>At Thorpe Primary Academy we believe that all children can achieve in mathematics and want to create confident, skillful mathematicians who have a life-long love of mathematics and can expertly apply their knowledge and understanding. We have chosen to use the White Rose Maths programme as the foundation of our mathematics curriculum because of its strong pedagogical approach, which is rooted in mastery principles. Our curriculum is designed with our children at the heart of the process in order to support and challenge their thinking and reasoning through opportunities to explore and discover for themselves. Ultimately, our goal is to ensure that we nurture children who are engaged, motivated and curious learners who are interested and invested in their future. This programme also aligns closely with the expectations of the National Curriculum and provides a clear, progressive structure that ensures all pupils develop fluency, reasoning, and problem-solving skills in a way that is accessible and engaging as well as exposing them to opportunities to explore further and challenge themselves. Ultimately, our aim is to:</p> <ul style="list-style-type: none"> <li>• Develop well-rounded, confident, resilient, curious and successful mathematicians</li> <li>• Deliver a mathematics curriculum which is based on small steps teaching, allowing the majority of children to progress together and building in opportunities for strengthening and deepening understanding</li> <li>• Embed fluency, reasoning, and problem-solving skills into every lesson, ensuring children develop the ability to apply their knowledge flexibly.</li> <li>• Deliver a curriculum that allows all pupils to develop mastery of mathematical concepts through acquiring a deep, long-term, secure and adaptable understanding of a concept before moving on to new content</li> <li>• Provide a coherent curriculum that follows a carefully structure sequence of learning, allowing opportunities to build year on year on their prior mathematical understanding and preventing gaps in knowledge</li> <li>• Use a concrete-pictorial-abstract (CPA) approach to develop secure understanding of mathematical concepts.</li> <li>• Use 21st century technology such as online tools, iPads (Y6),resources and expertise</li> <li>• Foster a growth mindset in mathematics, ensuring that all pupils believe in their ability to succeed and view mistakes as learning opportunities.</li> <li>• Ensure that all children, regardless of background or ability, develop a strong foundation in mathematics that prepares them for the next stages of their education and beyond.</li> </ul>		
	<b>Underpinned by</b>	<p style="text-align: center;"><b>Knowledge</b></p> <p>At Thorpe Primary School, we use White Rose as a mastery based approach to the National Curriculum which we follow. Each unit of work recaps and then builds on prior learning so that all pupils are able to secure and embed their mathematical knowledge as they move up the school.</p>	<p style="text-align: center;"><b>Mastery</b></p> <p>Through the use of White Rose we aim to develop a mastery approach to mathematics through acquiring a deep, long-term, secure and adaptable understanding of the subject. There are certain principles and characteristics which characterise this approach. They are:</p> <ul style="list-style-type: none"> <li>• An expectation that all pupils are capable of achieving high standards in mathematics. The mastery approach rejects the idea that a large proportion of people ‘just can’t do maths’. Instead, all pupils are encouraged by the belief that by working hard at maths they can succeed.</li> <li>• The majority of pupils progress through the curriculum content at the same pace. Challenge is through extending children’s thinking with rich and sophisticated problems rather than moving onto new content. Individualised support and interventions help to support those who need consolidation.</li> </ul>

		<ul style="list-style-type: none"> <li>• Practice is a vital part of learning but it is with carefully designed variation (varying the way the concept or question is presented) to build fluency and understanding of mathematical concepts.</li> <li>• Children are exposed to and are encouraged to use a range of representations (the way in which the maths is shown) to show deep understanding of a concept.</li> </ul>	
IMPLEMENTATION	<p>The White Rose Maths programme follows a 'small-steps' approach to teaching and learning. This ensures that knowledge is broken down into manageable chunks, allowing pupils to develop deep understanding before progressing. The programme is designed around the principles of teaching for 'mastery', influenced by research from organisations such as the National Centre for Excellence in the Teaching of Mathematics (NCETM) and international education systems such as Shanghai and Singapore Maths.</p> <p>Key features of our curriculum include:</p> <ul style="list-style-type: none"> <li>• Daily maths lessons following the White Rose Maths framework, ensuring a clear progression of knowledge and skills.</li> <li>• A concrete-pictorial-abstract (CPA) approach, where children first explore concepts using physical manipulatives, then pictorial representations, and finally abstract notation. This approach ensures a deep and secure understanding.</li> <li>• Fluency, reasoning, and problem-solving tasks embedded in every lesson to encourage children to apply their mathematical knowledge in different contexts.</li> <li>• Opportunities for all learners, including carefully planned scaffolding for those who need additional support and challenge for those who grasp concepts quickly.</li> <li>• Regular retrieval practice and formative assessment, ensuring that key knowledge is retained and misconceptions are addressed promptly.</li> <li>• A focus on mathematical vocabulary, ensuring that children can articulate their reasoning clearly and confidently.</li> <li>• Cross-curricular links, where appropriate, to demonstrate the relevance of mathematics in other subjects and real-life applications.</li> <li>• Year group team work together to adapt the learning journey to meet the needs of the children including additional strengthen and deepening activities. One member of the year group takes overall responsibility.</li> <li>• Number bonds and times tables weekly.</li> <li>• KS2 weekly arithmetic test and feedback session.</li> <li>• Mental and oral starters including revising previous content and use of Flashback 4 resources, 3 in 3, arithmetic questions.</li> <li>• Using NCETM resources alongside White Rose to deepen understanding of key concepts</li> <li>• We also use the following resources to support our teaching of maths (particularly when creating strengthen/deepen activities): Test Base, Twinkl mastery materials and NCETM.</li> <li>• Questioning and discussion play a vital role. Children are encouraged to think deeply about mathematics, identifying patterns and connections. This ensures deeper understanding than just memorising written methods. An integral part of every maths lesson is the discussion around the knowledge, skills and approach that is needed,</li> </ul>		

In the EYFS (and as in addition to the White Rose Maths programme in years 1 and 2), we also teach using the 'Mastering Number' programme. This programme, developed by the National Centre for Excellence in the Teaching of Mathematics (NCETM), is designed to help children develop firm foundations in early number sense, ensuring they build fluency, confidence, and flexibility with number facts. We have chosen to incorporate 'Mastering Number' because:

- It develops strong number fluency, ensuring children become confident in recognising, comparing, and manipulating numbers within 10 and 20.
- It provides daily, structured practice that deepens understanding of key number concepts, preventing gaps from developing early on.
- It reinforces the conceptual understanding of number, ensuring children can visualise and reason about numbers rather than relying on rote learning.
- It supports the automatic recall of number facts, such as number bonds and doubles, which are essential for mental arithmetic.
- It helps children build mathematical resilience, promoting a positive attitude towards number work.

By embedding this programme in our EYFS and KS1 curriculum, we ensure that pupils enter Key Stage 2 with strong foundational knowledge, allowing them to confidently tackle more complex mathematical concepts. The fluency developed through 'Mastering Number' reduces cognitive load in later years, ensuring that pupils can focus on problem-solving and reasoning without struggling with basic number recall. This additional focus on fluency supports all learners, particularly those who may struggle with number sense, and provides a consistent, structured approach to early maths that aligns well to our core maths curriculum. There are five key aspects to the Mastering Number programme that are covered from the EYFS to Year 2.

Mastery	Depth before breadth	Putting number first	CPA
<p>The teaching for mastery approach means that all pupils move through the curriculum at broadly the same pace, with extra support provided where necessary. Pupils who grasp concepts more quickly are challenged through deeper reasoning tasks, rather than accelerating through new content.</p>	<p>This approach emphasises mastering fundamental concepts thoroughly before moving on to more advanced topics. This method ensures a strong foundation, allowing pupils to understand and apply basic principles deeply. By focusing on depth, learners can build a solid base, making it easier to grasp complex ideas later on.</p>	<p>Our curriculum has number at its heart. A significant amount of teaching time is spent reinforcing number in order to build competency and ensure pupils can confidently access the rest of the curriculum.</p>	<p>Research shows that children should build competency using the CPA approach. Pupils firstly work with physical objects, in order to bring the maths to life and to build understanding. Then, pupils work with pictorial representations, making links to the concrete. Finally, pupils can then develop their understanding of abstract methods as they have a solid understanding of the maths.</p>
<p><b>SEND</b> The Maths curriculum is adapted to meet the needs and styles of all learners. A variety of teaching and learning strategies are used to ensure that all pupils can achieve, including:</p> <ul style="list-style-type: none"> <li>• use of manipulatives to support the CPA approach,</li> <li>• small step learning,</li> <li>• targets from APDR are used to support the planning and adaptation within each unit's journey</li> </ul>	<p><b>Arithmetic</b> Specific mental maths skills are taught on a weekly basis to support the development of arithmetic. From Y3, fortnightly arithmetic tests are also used alongside feedback sessions to develop efficiency across a range of objectives in line with our calculation policy. Number bonds are a particular focus from Reception and multiplication facts from Y2 and this is further supported by the use of Numbots and TT Rockstars.</p>	<p><b>Questioning and Discussion</b> Questioning and discussion play a vital role. Children are encouraged to think deeply about mathematics, identifying patterns and connections. This ensures deeper understanding than just memorising written methods. An integral part of every maths lesson is the discussion around the knowledge, skills and approach that is needed, Every lesson begins with a recap of prior learning and then where they can, in pairs, explore the focus for the day and demonstrate their understanding; drawing on their use of concrete, pictorial or abstract methods. These different</p>	

		<p><b>Formative assessments</b></p> <p>Year group teams create a vision for the journey of each unit and then use Feedback books to note down adaptations that needed to be made within the lesson or for the next lesson. This will include a range of strengthening and deepening activities to enhance the learning.</p>	<p>approaches are then shared with the class, alongside high-quality modelling from the teacher.</p>
IMPACT	<p>Children will have developed the mathematical knowledge and skills to help them explore, navigate and understand the world around them and their place in it. Children's knowledge and skills will develop progressively as they move through the school, not only to enable them to meet the requirements of the National Curriculum but to inspire them to develop a curiosity and a deeper understanding about the world they live in. Children will be excited and enthused about sharing their learning with others.</p>		
	<p><b>Pupil Voice</b></p>	<p><b>Evidence in knowledge and skills</b></p>	<p><b>Breadth and depth</b></p>
	<p>Pupils will be given opportunities to feedback on their experiences in Maths through discussions and surveys. Success is judged on whether children are positive, confident and actively engaged in Maths.</p>	<p>Pupils can successfully evidence their learning in end-of-term/end of year assessment activities. They are able to efficiently solve arithmetic and reasoning problems orally or in written form.</p> <p>Termly analysis of data is used to identify trends and next steps. This is used at a year group level to develop action plans for the next term/year and what support is needed and at a whole school level to identify trends across groups, topics and question types which informs future actions and plans.</p>	<p>The curriculum builds year on year to ensure children can recap on and embed learning before building in new knowledge and skills. MTP reflect the previous year's learning.</p>