



Maths Curriculum Statement – September 2022

Our School Vision:

Our aim is for all to belong to a safe and happy community which celebrates our diversity and differences. Our children will be well prepared for the next step of their journey as responsible citizens. We aspire for all to flourish.

Intent


Mathematics is an important creative discipline that helps us to understand and change the world. We want all pupils at St Mary and St Giles to experience the beauty, power and enjoyment of mathematics and develop a sense of curiosity about the subject with a clear understanding. At St Mary and St Giles, we foster positive can-do attitudes, and we promote the fact that 'we can all do maths!' We believe all children can achieve in mathematics and teach for secure and deep understanding of mathematical concepts through manageable steps. We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems. At our school, most children will be taught the content from their year group only. They will spend time becoming true masters of content, applying and being creative with new knowledge in multiple ways.



We aim for all pupils to:

- become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently, and accurately to be successful in mathematics.

Implementation

Our whole curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability, additional needs, to flourish to become the very best version of themselves they can possibly be. It is underpinned by our curriculum drivers:

	Opportunity	We strive to provide a range of opportunities to excite, motivate and enthuse our children. This includes 'Maths Week England,' and 'Times Tables Rockstars.' We want our children to broaden their aspirations and make real life links to their learning.
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	Enquiry	We foster the natural curiosity of our children and support them to develop inquisitive thinking about their learning. Our curriculum is structured with many mathematical enquiries which enable the children to develop a range of mathematical skills and acquire new knowledge.
	Language	Language rich environments and lessons develop a rich vocabulary which we want our children to use confidently and accurately. We want to develop expressive and articulate young people who have a broad mathematical vocabulary.

Our whole curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability, additional needs, to flourish to become the very best version of themselves they can possibly be. We teach through a Mastery approach, that means all children gain a deep understanding of the mathematics they are learning so that:

- Future mathematical learning is built on solid foundations which do not need to be re-taught.
- There is no need for separate catch-up programmes due to some children falling behind
- Children, who, under other teaching approaches, can often fall a long way behind, are better able to keep up with their peers, so that gaps in attainment are narrowed whilst the attainment of all is raised.
- Children who grasp key concepts rapidly are challenged to deepen their mathematical understanding.
- Children will become responsible citizens, resilient learners, reflective thinkers, and respectful individuals.
- Children will make real life links to their mathematical learning.
- Children will be given the opportunity to become confident mathematicians, whilst maximizing links with other curriculum subjects, e.g., Science, using visit and visitors when needed and through extra-curricular activities.
- Children can use enquiry to find their own solutions to problems using the CPA approach – Concrete, Pictorial, Abstract, which will allow them to develop a range of skills essential to problem solving and the acquisition of new knowledge.

The five principals that the Mastery approach is based on are:

- Problem solving - Mathematical problem-solving is at the heart of our approach. Children are encouraged to identify, understand, and apply relevant mathematical principles and make connections between different ideas. This builds the skills needed to tackle new problems, rather than simply repeating routines without grasping the principles.
- High expectations - We believe no child should be left behind. We focus on children 'keeping up over catching up'. By making high expectations clear – and emphasising the high value of mathematics education – learners are encouraged to build confidence and resilience.
- Concrete, pictorial, abstract - Objects, pictures, words, numbers, and symbols are everywhere. Our approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience, and deepen understanding. Together, these elements help cement knowledge so children truly understand what they've learnt.
- Depth before breadth - All learners benefit from deepening their conceptual understanding of mathematics, regardless of whether they've previously struggled or excelled. We believe children must be given time to fully understand, explore and apply ideas - rather than accelerate through new topics. This approach enables learners to truly grasp a concept, and the challenge comes from investigating it in new, alternative, and more complex ways.
- Growth mindset - We believe our 'abilities' are neither fixed nor innate, but can be developed through practice, support, dedication, and hard work. 'Natural talent' is just a starting point and does not determine who has more or less potential to achieve. This belief encourages a love of learning and resilience that enables everyone to achieve.

- Mathematical language - The way children speak and write about mathematics transforms their learning. We use a carefully sequenced, structured approach to introduce and reinforce mathematical vocabulary. We always ask children to explain the mathematics in full sentences (not just what the answer is, but how they know it's the right answer). This is key to building mathematical language and reasoning skills.

We use White Rose Maths to enable us to teach this mastery approach and within this mastery approach we use the CPA (Concrete, Pictorial, Abstract) approach. We use this approach because objects, pictures, words, numbers, and symbols are everywhere. We incorporate all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience, and deepen understanding. Together, these elements help cement knowledge so children truly understand what they've learnt. This approach will also give the children the opportunity to broaden their aspirations and develop their skills so that they can problem solve and acquire new knowledge.

Lesson Design:

- 1) Fluency Or Arithmetic – all lessons to start with rolling numbers, flashback 4, a fluency activity supporting maths mastery, red objectives recap or arithmetic session
- 2) Explore - In Focus - Present problem to explore - children try to solve it using manipulatives.
- 3) Structure - Let's Learn - Teacher models children's methods on board and helps to organise their ideas. Emphasise the method we want children to pay attention to - have we used/found the same method today?
- 4) Reflect – Guided Practice - Reflection supported by teacher. Children practise skills, with talk partner – work through examples to move from concrete/pictorial to abstract.
- 5) Practise – Independent - Children complete independent work.
- 6) Diving Deeper- Children complete a more complex problem that enables them to use their mathematical reasoning.

Impact

By the time the children at St Mary and St Giles leave our school they should be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. They should have the skills to solve problems by applying their mathematics to a variety of situations with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios. Children will be able to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.