

Curriculum Handbook for Mathematics



St. Martin's

C. of E. Primary School

Serve one another in love

Galatians 5v13

St. Martin's C of E (VA) Primary School

Mathematics Curriculum

'Mathematics is a creative and highly inter-connected 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)

Aims

The national curriculum for mathematics aims to ensure that all pupils develop their mathematical knowledge.

Substantive Knowledge-

- **become fluent** in the fundamentals 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

Disciplinary Knowledge-

- **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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Curriculum Intent

Here at St. Martin's C of E (VA) Primary School, we believe that our Maths curriculum will create enthusiastic, creative and articulate mathematicians. Through a varied and inspiring curriculum, we aim to develop children's problem solving, resilience and reflective skills- skills that are easily transferrable across the curriculum.

Our approach to Maths is both skills and knowledge based. In order for children to develop into well-rounded and passionate mathematicians, we aim to encourage children's understanding of the world around them and arm them with the skills to approach everyday problems.

As a school, we believe that fluency is key. Children need to have a secure understanding of basic principles in order to deepen their knowledge further. Through our rigorously planned curriculum, children are encouraged to challenge themselves through critical thinking and efficient and effective approaches to problems which they may face. All children are



encouraged to develop deep-thinking and questions the way in which the world works, therefore promoting the spiritual growth of our children. In Maths lessons, children are always encouraged to delve deeper into their understanding of Maths and how it relates to the diverse world around them.

Children are encouraged to make mistakes in a safe environment and are supported to discuss misconceptions with staff and with their peers. We place oracy at the heart of our learning through shared work and class discussions, therefore allowing everyone to 'talk like a mathematician.'

Curriculum Implementation

- At St. Martin's, we structure and plan our lessons using White Rose Maths schemes of learning to ensure firm foundations and sequence of learning.
- We use a range of rich resources to enhance our lessons and deepen understanding, such as, NCETM and Nrich.
- Basic skills are taught daily, focusing on key mathematical skills including place value, the four operations and fractions.
- A range of reasoning resources are used to challenge children.
- Children are taught through targeted, differentiated, small group and mixed ability whole class lessons.
- Lessons use a Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes.
- Where possible, links are made with other subject areas across the curriculum.
- To supplement learning, children have access to various platforms including Times Tables Rock Stars and RM Easimaths.

Curriculum Impact

As a result of our Maths teaching at St. Martin's, you will see:

- Engaged children, who are challenged.
- Confident children who can talk about Maths and their learning.
- Lessons that use a variety of high-quality resources to support learning.
- Different representations of mathematical concepts.
- Learning that is tracked, analysed and monitored to ensure that all children make good progress.

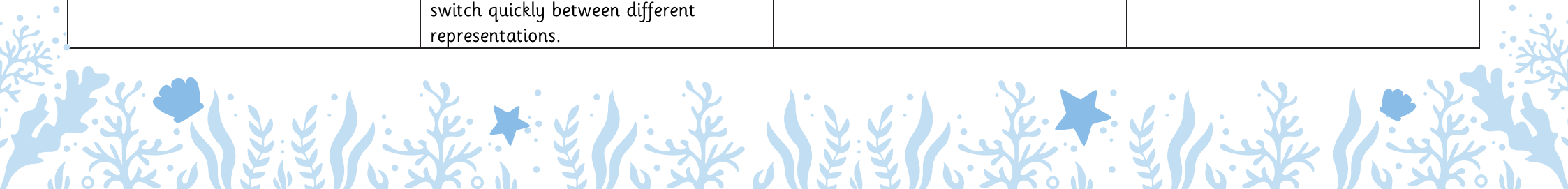


St. Martin's C of E (VA) Primary School
SEND Provision – Mathematics

<u>Cognition and Learning</u>		<u>Communication and Interaction</u>	
<u>Subject Challenges for SEND</u>	<u>Provision for SEND</u>	<u>Subject Challenges for SEND</u>	<u>Provision for SEND</u>
<p>Retaining number bonds and multiplication facts.</p> <p>Poor knowledge of 1 to 1 correspondence</p> <p>Understanding of subjectspecific vocabulary.</p> <p>Difficulty with comprehensionof problem solving</p>	<p>Use of times tables grids, hundred squares, practical examples of counting modelled clearly.</p> <p>Use of numicon and number frames to help support number facts</p> <p>Pre-teach subject specific vocabulary. Drawparticular attention to subject specific vocabulary which can be used in everyday speech</p> <p>Teachers to have steps modelled and diagrams, methods already prepared to support pupils not becoming overloaded. Thisincludes using bar modelling to support teaching and learning.</p>	<p>Expressing themselves and sharing their thoughts and opinions orally.</p> <p>EAL pupils may find it difficultto access resources/learning</p>	<p>Use stem sentences to provide subject specific language in a particular format –this will enable children to accurately communicate their thoughts and opinions.</p> <p>Use flash cards supported by visuals to allow the children to explain mathematicalconcepts.</p> <p>Appropriate modelling to aid understanding.</p> <p>Differentiated written resources can be supported by visuals and could be translatedusing Word. (Teachers click Review – Translate – Translate Document). This will fully translate the document and open in a new window.</p>

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SEND Provision – Mathematics

<u>Sensory and Physical</u>		<u>Social Emotional and Mental Health</u>	
<u>Subject Challenges for SEND</u>	<u>Provision for SEND</u>	<u>Subject Challenges for SEND</u>	<u>Provision for SEND</u>
<p>Fine motor skills/physical difficulties.</p> <p>Children with a visual impairment may find it difficult to view text/images.</p>	<p>Teachers to be proactive in identifying appropriate resources and manipulatives for each individual child's need. For example, some children may require cross guard pencil grips. Speak to SENCO if unsure.</p> <p>Ensure that font size used in resources matches the specific font size specified in the child's report provided by the Visual Impairment Team (saved in SEND files on TShare). Enlarge images to appropriate sizes to aid access.</p> <p>Avoid the need for copying lots of information. example, notes on interactive whiteboards can be printed off for all pupils/TA support</p> <p>Use concrete or visual support for mathematical discussions whenever possible. Exploit the many forms of mathematical representation – eg pie charts, bead strings, number lines, bar charts, tiles – and the connections between them. ICT can enable pupils to switch quickly between different representations.</p>	<p>Maths anxiety</p> <p>Difficulties with social skills may result in children finding group work challenging.</p>	<p>Relate mathematical concepts to everyday applications and other areas of the curriculum so pupils see how mathematics is relevant and how it can be applied – eg prepare questions where pupils can use their knowledge of the school or local area.</p> <p>Pre-teach key information and vocabulary so that children feel prepared for the lesson and can share their knowledge with their peers – resulting in raised self-esteem.</p> <p>Carefully consider seating arrangements during group work to ensure that children are placed next to patient, non-dominant children. Additional adult support can be deployed as necessary.</p> <p>Ensure children have access to usual aids such as ear defenders to reduce noise.</p>



St. Martin's C of E (VA) Primary School
SMSC Subject Statement

Maths

Spiritual

- Maths supports pupil's spiritual development by helping them to develop deep thinking and questioning the way in which the world works. Through maths children gain an appreciation of the richness and power of mathematics in our everyday lives.

Moral

- Maths supports pupil's moral development through discussion about mathematical understanding and challenging assumptions, supporting children to question information and data that they are presented with. Maths helps children to understand and use rigorous and logical argument and discourage jumping to conclusions when trying to determine the truth.

Social

- Maths support pupil's social development by promoting self-esteem and building self-confidence. Maths encourages collaborative learning in the classroom in the form of listening and learning from each other and paired discussion and working with partners. We help pupils develop their mathematical voice and powers of logic, reasoning and explanation by offering explanations to each other. We provide events and team maths challenges for increased pupil involvement.

Cultural

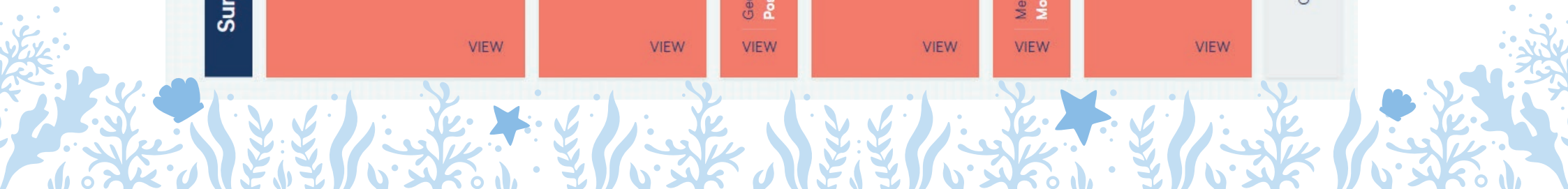
- Maths supports pupil's cultural development by developing an appreciation with the pupils that mathematics, its language and symbols have developed from many different cultures around the world: e.g. Egyptian, Indian, Islamic, Greek and Russian roots. Through maths we investigate and research cross cultural patterns – tessellation.



St. Martin's C of E (VA) Primary School
White Rose Maths Long Term Plan

Year 1:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value (within 10) FREE TRIAL VIEW					Number Addition and subtraction (within 10) VIEW					Geometry Shape VIEW	Consolidation
Spring term	Number Place value (within 20) VIEW	Number Addition and subtraction (within 20) VIEW			Number Place value (within 50) VIEW	Measurement Length and height VIEW	Measurement Mass and volume VIEW					
Summer term	Number Multiplication and division VIEW			Number Fractions VIEW	Geometry Position and direction VIEW	Number Place value (within 100) VIEW	Measurement Money VIEW	Measurement Time VIEW			Consolidation	



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White Rose Maths Long Term Plan

Year 2:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW			Number Addition and subtraction VIEW				Geometry Shape VIEW				
Spring term	Measurement Money VIEW	Number Multiplication and division VIEW			Measurement Length and height VIEW		Measurement Mass, capacity and temperature VIEW					
Summer term	Number Fractions VIEW		Measurement Time VIEW		Statistics VIEW		Geometry Position and direction VIEW		Consolidation			



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Year 3:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW		Number Addition and subtraction VIEW				Number Multiplication and division A VIEW					
Spring term	Number Multiplication and division B VIEW		Measurement Length and perimeter VIEW		Number Fractions A VIEW			Measurement Mass and capacity VIEW				
Summer term	Number Fractions B VIEW	Measurement Money VIEW	Measurement Time VIEW		Geometry Shape VIEW		Statistics VIEW		Consolidation			

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Year 4:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW				Number Addition and subtraction VIEW		Measurement Area VIEW		Number Multiplication and division A VIEW		Consolidation	
Spring term	Number Multiplication and division B VIEW			Measurement Length and perimeter VIEW		Number Fractions VIEW			Number Decimals A VIEW			
Summer term	Number Decimals B VIEW		Measurement Money VIEW		Measurement Time VIEW		Consolidation		Geometry Shape VIEW		Geometry Position and direction VIEW	



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Year 5:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW		Number Addition and subtraction VIEW		Number Multiplication and division A VIEW		Number Fractions A VIEW					
Spring term	Number Multiplication and division B VIEW		Number Fractions B VIEW		Number Decimals and percentages VIEW		Measurement Perimeter and area VIEW		Statistics VIEW			
Summer term	Geometry Shape VIEW		Geometry Position and direction VIEW		Number Decimals VIEW		Number Negative numbers VIEW	Measurement Converting units VIEW		Measurement Volume VIEW		

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Year 6:

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Number Place value FREE TRIAL VIEW	Number Addition, subtraction, multiplication and division VIEW				Number Fractions A VIEW		Number Fractions B VIEW		Measurement Converting units VIEW		
Spring term	Number Ratio VIEW	Number Algebra VIEW	Number Decimals VIEW	Number Fractions decimals and percentages VIEW		Measurement Area, perimeter and volume VIEW		Statistics VIEW				
Summer term	Geometry Shape VIEW		Geometry Position and direction VIEW	Themed projects, consolidation and problem solving VIEW								

