



Mathematics curriculum

Defining our curriculum intent

Developing learners' moral compass
WHO WE ARE

Our children will develop a deep sense of self and others to contribute positively within the diverse community and world in which they live.

Defining our curriculum intent

Developing learning behaviours
HOW WE ACT WHEN WE LEARN

Our children will develop their learning behaviours and attributes so that they can embrace all opportunities and think critically.

Defining our curriculum intent

Developing learners' character
WHO WE ARE WHEN WE LEARN

Our children's uniqueness will be nurtured so that they develop self-discipline and integrity to make good choices.

Our Curriculum Intent

Developing learners' learning
WHAT WE LEARN

Our children will experience a knowledge-rich curriculum, underpinned by oracy, language and reading.

Overarching Intent Statement

Our curriculum is the beating heart of our academies and is rooted in John 10:10.

"I came that they might have life and live it to the full"

Our children will flourish through experiencing a knowledge-rich curriculum which is both broad and balanced and fosters a love of learning, enabling all children to make connections and be well prepared for the next stage of their education.



ST MICHAEL'S
CHURCH OF ENGLAND ACADEMY

Curriculum intent for Mathematics: *As mathematicians, our children will develop a deep conceptual understanding through exploration, reasoning and problem solving of all areas. We expect our children to explain and articulate their understanding and become fluent in number so they can use known number facts to make efficient choices with calculations. They will make connections and discover patterns to take creative approaches when faced with challenges and show appreciation of the beauty and power of Mathematics. We aim to develop resilient learners and our children take time to deepen their understanding of mathematical structures through the use of resources and representations.*

Fluency in Number facts

All classes have a daily 15-minute fluency session, in addition to the main maths lesson. In KS1, the focus is on additive fact fluency and in KS2 the focus is on multiplicative fluency. Evidence tells us that children who can recall facts enjoy and are able to master the maths curriculum easier than the children who can't recall these facts.

How we teach Mathematics

The Trust's long-term planning document is the National Curriculum 2014 Programme of Study. This should always be a teacher's first starting point for reference, particularly the first two pages which highlight the 3 aims underpinning all Trust CPD, teaching and learning activity in mathematics.

Teachers use the [DfE NSG RTP materials](#) and [White Rose block overview](#) to organise the teaching sequences for maths in their class, which:

- Gives an overview of what is to be taught and when
- Provides a clear end goal for what children need to be able to progress in the next phase of their learning
- is based on age appropriate content to ensure children move through the curriculum at broadly the same pace
- supports the small steps in learning for each area of mathematics
- draws on key representations to use that support children to see and understand the structure of the mathematics

Any materials that are used to support learning and teaching pedagogy are interrogated by teachers, who consider why those specific examples have been chosen and how the representations expose the structure of the mathematical concept being taught. Teachers have the flexibility to supplement these resources with others, as they feel appropriate to the needs of the children.

In our aim to develop mathematical thinkers, a reasoning culture should be evident in every classroom: children expect to have to justify their answers, show their thinking, explain their methods and find more than one solution.



ST MICHAEL'S

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In line with Dienes research on the six stages of learning our lessons start with a problem that all children can access (the teacher ensures that this is the case) and children are expected to work collaboratively to solve it, exploring and discovering the maths for themselves, before scaffolding up and applying concepts to different contexts, in pairs and then independently. Vygotsky's work talks of rich discussion and peer talk and this is a fundamental part of this aspect of the lesson, as children talk and work together to internalise their thinking and restructure their thoughts.

We expect the majority of our children to move through the programme of study for their year group at broadly the same pace, respecting teacher's professional judgement in making decisions about readiness to progress to the next stage, although this will not be into new content from a year group above. Rapid graspers are challenged through rich and sophisticated problems and expected to demonstrate their reasoning, explain their thinking to others and be able to model the concept in more than one way to show a true depth of understanding and grasp of the topic.

In the EYFS, teachers make use of the NumberSenseMaths materials to structure their direct teaching on number, as outlined above. This programme is rich in mathematical talk and focuses on the structure of number, with plenty of opportunities to practice and revisit concepts. Pattern, Shape, Space and Measure are taught drawing on development Matters, the ECMG spatial reasoning toolkit, Learning trajectories (Clements and Sarama) and the NCETM progression documents. During Number weeks the provision maintains a rich non-number focus, based on the previous unit, as well as supporting the development of the number focus. All adults are clear about the maths focus and intended outcomes mathematically in each area of the provision, teaching through children's play



	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1	Settling, Baseline, All About Me			Non-Number		Number: Subitising quantities to 3	
				Spatial reasoning <i>Construction and 3D shapes</i>	Spatial reasoning <i>Construction and 3D shapes</i>	Book1: Subitising 1-2	Book 2: Subitising 1-3
				Continue spatial reasoning for rest of term through provocations in continuous provision			
				Numberblocks Series 1, episodes 1 -15 (focus One to Five)			
Autumn 2	Non-Number		Number: Subitising quantities to 5				
	Spatial reasoning 2D <i>shapes and shape puzzles</i>	Spatial reasoning 2D <i>shapes and shape puzzles</i>	Book 3: Subitising 1 - 4	Book 3: Subitising 1 - 4	Book 4: Subitising 1 - 5	Book 4: Subitising 1 - 5	
				Continue spatial reasoning for rest of term through provocations in continuous provision			
				Numberblocks – watch again Series 1, episodes 1 -15 (focus One to Five) this embeds a deep understanding of numbers to 5			

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Spring 1	Non-Number		Number: Enumerating between 6 and 10 items			
	Pattern	Pattern	Book 5: Subitising 6-10	Book 5: Subitising 6-10	Counting out up to 10 items from a collection (not covered by NSM)	
				Continue pattern all term through provocations in continuous provision		
				Numberblocks Series 2, episodes 1 -15 (focus Six to Ten)		
Spring 2	Non-Number	Partitioning 2, 3, 4, 5 and 10 and 'number bonds' for these numbers				
	Spatial reasoning <i>Symmetry (incl. shape puzzles & construction)</i>	Books 6 & 7: Partitioning 2 and 3	Book 8: Partitioning 4	Book 9: Partitioning 5	Book 10: Partitioning 10	Book 10: Partitioning 10
				Continue spatial reasoning all of term through provocations in continuous provision		
				Numberblocks – watch again Series 3, episodes 1 -15 (more about One to Ten)		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Summer 1	Non-Number		Number: Composition of 6 – 9 and comparison of numbers to 10			
	Measures	Measures	Book 11: Composition of 6-9	Book 11: Composition of 6-9	Book 12: Comparing numbers to 10	Book 12: Comparing numbers to 10
				Continue measures all term through provocations in continuous provision		
				Numberblocks Series 3, episodes 16 -30 (focus Eleven to Fifteen) supports counting up to and through 20. Further deepens numbers One to Ten		
Summer 2	Number: Patterns in numbers to 10			Non-number		
	Book 13: Patterns in odd and even numbers	Book 13: Patterns in doubles	Book 13: Equal distribution	Pattern	Spatial reasoning <i>Maps and Plans</i>	Measure
				Continue spatial reasoning for rest of term through provocations in continuous provision		
				Numberblocks Series 4, episodes 1 -15 (focus Sixteen to Twenty) supports counting up to and through 20. Further deepens numbers One to Ten		



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	<p>Number</p> <p>Place value (within 10)</p> <p>VIEW</p>					<p>Number</p> <p>Addition and subtraction (within 10)</p> <p>VIEW</p>					<p>Geometry Shape</p> <p>VIEW</p>	Consolidation
Spring term	<p>Number</p> <p>Place value (within 20)</p> <p>VIEW</p>		<p>Number</p> <p>Addition and subtraction (within 20)</p> <p>VIEW</p>			<p>Number</p> <p>Place value (within 50)</p> <p>VIEW</p>		<p>Measurement</p> <p>Length and height</p> <p>VIEW</p>		<p>Measurement</p> <p>Mass and volume</p> <p>VIEW</p>		
Summer term	<p>Number</p> <p>Multiplication and division</p> <p>VIEW</p>			<p>Number</p> <p>Fractions</p> <p>VIEW</p>		<p>Geometry Position and direction</p> <p>VIEW</p>	<p>Number</p> <p>Place value (within 100)</p> <p>VIEW</p>		<p>Measurement Money</p> <p>VIEW</p>	<p>Measurement</p> <p>Time</p> <p>VIEW</p>		Consolidation



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	<p>Number</p> <p>Place value</p> <p>VIEW</p>				<p>Number</p> <p>Addition and subtraction</p> <p>VIEW</p>				<p>Geometry</p> <p>Shape</p> <p>VIEW</p>			
Spring term	<p>Measurement</p> <p>Money</p> <p>VIEW</p>		<p>Number</p> <p>Multiplication and division</p> <p>VIEW</p>				<p>Measurement</p> <p>Length and height</p> <p>VIEW</p>		<p>Measurement</p> <p>Mass, capacity and temperature</p> <p>VIEW</p>			
Summer term	<p>Number</p> <p>Fractions</p> <p>VIEW</p>			<p>Measurement</p> <p>Time</p> <p>VIEW</p>			<p>Statistics</p> <p>VIEW</p>		<p>Geometry</p> <p>Position and direction</p> <p>VIEW</p>		<p>Consolidation</p>	



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 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 Statistics VIEW		Consolidation				



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 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	Statistics VIEW	Geometry Position and direction VIEW			



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 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		



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	<p>Number</p> <p>Place value</p> <p>VIEW</p>	<p>Number</p> <p>Addition, subtraction, multiplication and division</p> <p>VIEW</p>		<p>Number</p> <p>Fractions A</p> <p>VIEW</p>			<p>Number</p> <p>Fractions B</p> <p>VIEW</p>		<p>Measurement</p> <p>Converting units</p> <p>VIEW</p>			
Spring term	<p>Number</p> <p>Ratio</p> <p>VIEW</p>	<p>Number</p> <p>Algebra</p> <p>VIEW</p>	<p>Number</p> <p>Decimals</p> <p>VIEW</p>	<p>Number</p> <p>Fractions decimals and percentages</p> <p>VIEW</p>	<p>Measurement</p> <p>Area, perimeter and volume</p> <p>VIEW</p>	<p>Statistics</p> <p>VIEW</p>						
Summer term	<p>Geometry</p> <p>Shape</p> <p>VIEW</p>		<p>Geometry</p> <p>Position and direction</p> <p>VIEW</p>	<p>Themed projects, consolidation and problem solving</p>								