Maths Curriculum Overview for Whole School

Our Approach

At St Mary's we believe that Mathematics underpins so much of our everyday lives and that developing a secure foundation in Mathematics is essential for all of our children. We strive for all children to feel confident and excited about their learning in Mathematics. Our curriculum is broken down into small steps and enables children to develop a secure understanding of key concepts and builds fluency by:

- Teaching concepts through a concrete, pictorial and abstract approach
- Continually revisiting and building upon prior learning
- Ensuring that problem solving and reasoning is integral to our delivery of the curriculum.
- Encouraging children to reason by creating an environment in which children feel confident to take risks and share their ideas
- Providing activities that enable deliberate practice and develop automaticity

In all year groups, the children have daily Maths lessons. In Reception, Key Stage One and Key Stage Two, these lessons are based on the White Rose sequence of learning. In Years One and Two we also use Primary Stars resources to support us in delivering this sequence. In our Reception class, resources and provocations within the continuous provision further support the development of Mathematical concepts and children's understanding and use of Mathematical vocabulary.

Fluency is supported from Year 2 onwards, through arithmetic sessions. In addition, we have introduced the computer based program, IDL, to allow more opportunities for our lowest attaining children to engage in deliberate practice and support automaticity. Children in KS2 are also supported in learning their times tables through the program TT Rockstars and are actively encouraged to access this at home. KS2 children have access to 'Learn with Emile' and are motivated through challenges such as competing in a 'World Cup Times Tables' competition.

Enabling all children to achieve

At St Mary's we have high expectations for all children in all subjects including Maths.

During Maths lessons teachers make excellent use of formative assessment to identify children who would benefit from additional support in order to secure key concepts and develop fluency. This support takes often takes place within lessons and includes:

- Working through questions with an adult
- Additional modelling of tasks
- Using pictorial representations and carefully selected resources to scaffold learning.
- Making adaptations to tasks and questions so they are more accessible for specific learners
- Allowing more time for children to secure a specific small step
- Targeted adult lead activities in the Reception class (often these will focus on securing counting skills, number recognition and using specific Mathematics vocabulary)

When appropriate, children with SEND will have specific Maths targets and strategies as part of their SEND support plans in order to support their progress.

There are also times when we make greater adaptations to our Maths sequence and create a personalised curriculum in order to meet the needs of SEND learners with more complex needs. We do this so as to ensure that the Maths curriculum is enables these learners to secure key concepts that are relevant for them at their stage of development. In order to meet the needs of these learners, class teachers will work closely with our SEND teacher and external agencies.

Further Support is also provided through:

- Weekly National Tutor Programme for identified children in KS2 who need to focus on securing basic mathematical concepts
- IDL intervention which addresses gaps in children's knowledge and skills by re-visiting areas for development
- Home learning: teachers provide many opportunities for children to consolidate the basics in their weekly Maths home learning, e.g. home learning based around times tables in Y4

Links across the curriculum

We recognise that Maths is essential to everyday life from activities such as carrying out a weekly shopping trip to redecorating a room. As part of our approach to Maths, we aim for all children to see Maths as a relevant and meaningful subject and we plan strong cross curricular links between Maths and other curriculum areas. These links are particularly evident in our Science, Geography and Computing curriculum. E.g. data collection, recording and analysis in Science (tally charts; Venn diagrams; bar charts; line graphs; finding the average; taking pulse rate etc). Geography: map coordinates; converting distances; populations; ratio of number of people to size of country etc. Computing: graphs; coding; spreadsheets; branching databases; databases; logo (including angles); grouping and classifying.

Key Objectives and Focus Areas

	Reception		
	Autumn Term	Spring Term	Summer Term
Number	1.1. Develop the key skills of counting objects including saying the numbers in order and matching one number name to each item. 1.2. Estimate and guess how many there might be before counting. 1.3. Joins in and sings counting songs and number rhymes. Listen to and enjoy stories that involve counting.	2.1. Look at small quantities in familiar patterns – for example a dice – and random arrangements, saying how many they can see. 2.2. Use 5 frames and 10 frames to become familiar with the tens structure of the number system. Talk about how many spaces are filled or unfilled. 2.3. Link the number symbol (numeral) with its cardinal number value.	3.1. Explore the composition of numbers to 10 3.2. Automatically recall number bonds for numbers 0-5/0-10. **ELG Number** Have a deep understanding of number 10, including the composition of each number. **ELG Number** Subitise (recognise quantities without counting) up to 5. **ELG Number** Automatically recall – without reference to rhymes, counting or other aids – number bonds up to 5. Recall some number bonds to 10, including doubling facts.
Numerical Patterns	1.1. Use vocabulary 'more than', 'less than', 'fewer', 'the same as', 'equal to', 'bigger' and 'smaller' 1.2. Become familiar with two digit numbers and start to notice patterns within them. 1.3. Distribute items evenly from a group.	2.1. Understand the 'one more than/one less than' relationship between consecutive numbers. 2.2. Count beyond 10, noticing patterns within the structure of counting.	**ELG Numerical Patterns** Verbally count beyond 20, recognising the pattern of the counting system. **ELG Numerical Patterns** Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less that or the same as another quantity. **ELG Numerical Patterns** Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
Shape	1.1. Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	2.1. Compare length, weight and capacity. 2.2. Continue, copy and create repeating patterns.	3.1. Compose and decompose shapes so that children recognise a shape can have other shapes *within* it, just as numbers can. **No ELG relating to Shape and Space**

Year One		
Autumn		
Number and Place Value Focussing within 10 (5 weeks)	Addition and Subtraction (5 weeks)	Shape (1 weeks)
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals and words Count in multiples of twos, fives and tens given a number, identify one more and one less	Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs Represent and use number bonds and related subtraction facts within 10	recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

Year One			
Spring			
Place Value Within 20 (3weeks)	**Addition and Subtraction (3weeks)**	**Place Value Within 50 (2 weeks)**	**Length and Height Mass and Volume (4 weeks)**
Identify and represent numbers up to 20 using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Read and write numbers from 1 to 20 in numerals and words. Finding one more and one less than a given number.	Add and subtract one-digit and twodigit numbers to 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = − 9.	Identify and represent numbers up to 50 using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Read and write numbers from 0 to 50 in numerals Partitioning numbers up to 50 into groups of tens and ones.	Compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] Mass/weight [for example, heavy/light, heavier than, lighter than] Capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] Time [for example, quicker, slower, earlier, later] Measure and begin to record the following: Lengths and heights Mass/weight Capacity and volume

(Learning on Mass and Volume may need to be continued into the Summer Term)

Year One					
Summer					
Multiplication and Division (3 weeks)	**Fractions (2 weeks)**	**Position and Direction (1 week)**	**Place Value (2weeks)**	**Money (1 week)**	**Time (2 weeks)**
Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Identify and represent numbers up to 100 using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Read and write numbers from 0 to 100 in numerals Partitioning numbers up to 50 into groups of tens and ones.	Recognise and know the value of different denominations of coins and notes	Recognise and use language relating to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Time (hours, minutes, seconds) Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]

Year Two		
Autumn		
Number and Place Value **(4 weeks)**	**Addition and Subtraction** **(5 weeks)**	**Shape** **(3 weeks)**
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations, including the number line Compare and order numbers from 0 up to 100; use and = signs read and write numbers to at least 100 in numerals and in words use place value and number facts to solve problems.	Read, write and interpret mathematical statements involving addition, subtraction and equals signs. Represent and use number bonds and related subtraction facts within 20 Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction using concrete objects and pictorial representations. add and subtract numbers using concrete objects, pictorial representations, and mentally, including: ➤ a two-digit number and ones ➤ a two-digit number and tens ➤ two two-digit numbers ➤ adding three one-digit numbers Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Pupils should be taught to identify and describe the properties of 2-D shapes, Including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and eve everyday objects

Year Two		
Spring		
Money **(2 weeks)**	**Multiplication** **(5 weeks)**	**Measurement** **Length and Height** **Mass, Capacity and Temperature** **(3 weeks)**
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Double and halve numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using >, < and =

Year Two			
Summer			
Fractions (3weeks)	**Time (3 weeks)**	**Statistics (2 weeks)**	**Position and Direction (2 weeks)**
Recognise, find, name and write fractions 1/3 , ¼, 2/4 and ¾ of a length, shape, set of objects or quantity Write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½	Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data.	Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right. Recognise angles for quarter, half and three quarter turns (clockwise and anti-clockwise)

*Summer term units of work for Year One and Year Two may be slightly amended when more detailed information about the Summer Term White Rose Units is available.

Click on the links below to see our Maths Curriculum Overviews in Year 3, 4, 5 and 6:

Year 3 Maths Curriculum Overview
Year 4 Maths Curriculum Overview
Year 5 Maths Curriculum Overview
Year 6 Maths Curriculum Overview

Maths National Curriculum