Be a Mathematician! - Maths Curriculum - Intent

At Church Hill Infants School we want all children to have the belief that they can succeed in Mathematics. Through our mastery approach we promote an 'I can do it' attitude to maths and if they are finding something difficult we teach them to say 'I can't do it **yet**' and to keep trying until they overcome the challenge. At Church Hill Infants every child is capable of achieving and we ensure that we provide our students with a variety of methods to support their own learning styles. We ensure that all children have access to high quality manipulatives and the skills to independently select and use them. Breaking down larger mathematical concepts into small manageable steps helps our children to succeed. We teach them the importance of making mistakes and use slip ups and misconceptions to shape our teaching and the children's learning. We believe that maths should be purposeful and meaningful and that our children learn best when they understand how learning links to real life. Therefore we ensure that mathematical reasoning and problem solving runs through all of our mastery lessons so the children of all ages and abilities are able to make those links.

At Church Hill Infants School, we teach mathematics based on the aims and objectives from the 2014 National Curriculum. We implement our approach through high quality teaching and by embedding a mastery approach across the school. The delivery of appropriately pitched work for all groups of learners is supported by the materials from the White Rose Maths scheme of learning, as well as other high-quality resources.

	EYFS	Year 1	Year 2
Number and Place Value	**3 and 4 years** • Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set • Show 'finger numbers' up to 5. • Link numerals and amounts • Experiment with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5.	• Can read numbers to 10 and extend to 20 in numerals • Can count accurately objects up to 20 • Can count independently numbers up to 20 forwards and backwards • Can count out a given number of objects up to 10 from a larger group • Can say 1 more than a number up to 10 and extend to 20 • Can say 1 less than a number up to 10 and extend to 20 • Can say 1 more than a number up to 100 • Can say 1 less than a number up to 100 • Can represent a number up to 10 using practical equipment	• Can understand the value of 1s and 10s in any two - digit number • Can say 1 more and 1 less than a number up to 100 • Can partition one-digit numbers • Can partition two-digit numbers in different combinations of 10s and 1s • Can identify and represent two-digit numbers using different representation • Can estimate where a two-digit number would be placed on a 0 - 100 number line where tens divisions are marked • Can read and write numbers to at least 100 in numerals including using 0 as a place holder • Can order more than two numbers using a blank number line

	Reception • Link the number symbol (numeral) with its cardinal number value. • Count beyond ten. • Compare numbers. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. **ELG** • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • Verbally count beyond 20, recognising the pattern of the counting system. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	• Can identify and represent a number using practical objects and pictorial representations including a number line • Can solve simple problems involving place value	• Can solve problems using place value and number facts
Addition and Subtraction	**Reception** • Automatically recall number bonds for numbers 0–5 and some to 10. **ELG** • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	• Can use number bonds to 10 and all the numbers in between • Can use subtraction facts to 10 and all the numbers in between • Can use addition number bonds within 20 • Can use subtraction facts within 20 • Can read and understand mathematical statements that include +, - and = signs • Can add two one-digit numbers using concrete objects or pictorial representations • Can subtract two one-digit numbers using concrete objects or pictorial representations	• Can recall addition facts to 10 and 20 and all the numbers in between fluently • Can recall subtraction facts to 10 and 20 and all the numbers in between fluently • Can recall subtraction facts to 10 and 20 and all the numbers in between fluently • Can use subtraction facts to 10 and 20 to derive related facts to 100 using multiples of 10 • Can add a two-digit number and 1s using concrete objects or pictorial representations • Can subtract a two-digit number and 1s using concrete objects or pictorial representations

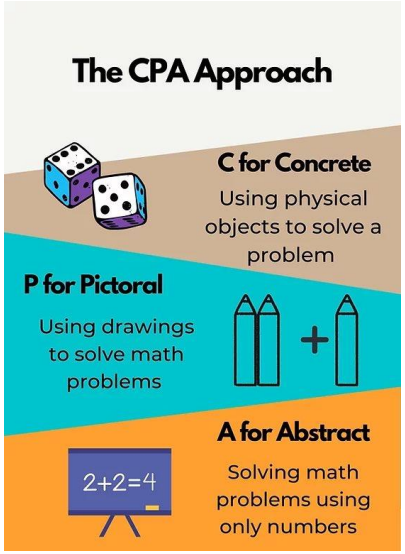
		• Can add a two-digit number and a one-digit number within 20 • Can subtract a one-digit number from a two-digit numbers using concrete objects or pictorial representations • Can solve simple problems involving addition using concrete objects • Can solve simple problems involving subtraction using concrete objects	• Can add a two-digit number and 10s using concrete objects or pictorial representations • Can subtract a two-digit number and 10s using concrete objects or pictorial representations • Can add 2 two-digit numbers using concrete objects or pictorial representations • Can subtract 2 two-digit numbers using concrete objects or pictorial representations where no regrouping is required • Can subtract 2 two-digit numbers using concrete objects or pictorial representations where regrouping is required • Can solve problems involving addition using concrete objects and pictorial representations involving numbers, quantities and measures • Can solve problems involving subtraction using concrete objects and pictorial representations involving numbers, quantities and measures
Multiplication and Division		• Can halve numbers up to 10 using practical objects and extend to 20 • Can count in 2s to find out how many dots/cubes etc there are in an array or pattern • Can count in 10s to find out how many dots/cubes etc there are in an array or pattern • Can count in 5s to find out how many dots/cubes etc there are in an array or pattern • Can solve simple problems involving doubling and halving/sharing using concrete objects	• Can use the x, ÷ and = signs to write mathematical statements • Can recall and use multiplication facts for the 2 times table • Can recall and use division facts for the 2 times table • Can recall and use multiplication facts for the 5 times table • Can recall and use division facts for the 5 times table • Can recall and use multiplication facts for the 10 times table • Can recall and use division facts for the 10 times table • Can recognise and explain odd & even numbers within the context of the patterns in the 2, 5 and 10 • Can calculate mathematical statements for multiplication using the 2, 5 and 10 times tables

			• Can calculate mathematical statements for division using the 2, 5 and 10 times tables • Can solve problems involving multiplication using concrete objects or pictorial representations • Can solve problems involving division using concrete objects and pictorial representations
Fractions		• Can understand that two halves make one whole in a practical context • Can find 1/2 of a shape, object or group of objects in a practical context • Can find 1/2 of a quantity • Can understand that 1/4 represents one of four equal parts of a whole • Can find 1/4 of a shape or object • Can find 1/4 of a quantity	• Can understand that the bottom number (denominator) denotes the number of equal parts the whole is divided into • Can understand that the top number in a fraction (numerator) denotes the number of equal parts • Can understand 1/2 represents one of two equal parts of a whole • Can find 1/2 of a shape or set of objects • Can understand that 1/4 represents one of four equal parts of a whole • Can find 1/4 of a shape or set of objects • Can understand 1/3 represents one of three equal parts of one whole • Can find 1/3 of a shape and set of objects • Can understand 2/4 represents two of four equal parts of a whole • Can find 2/4 of a shape or set of objects • Can recognise the equivalence between 2/4 and ½ • Can understand that 3/4 represents three of four equal parts of a whole • Can find 3/4 of a shape or set of objects • Can write a fraction represented in a shape or set of objects

			• Can solve and write simple fractions
Measures	**<u>3 and 4 years</u>** • Compare quantities using language: 'more than', 'fewer than'. • Make comparisons between objects relating to size, length • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then…' **<u>Reception</u>** • Compare length, weight and capacity.	• Can use the language related to length and height • Can use the language related to mass and weight • Can use the language related to capacity and volume • Can use the language related to time • Can solve simple problems involving comparing measures in a practical context • Can measure and begin to record length and height using non-standard units and extend to standard units • Can measure and begin to record mass and weight using non-standard units and extend to standard units • Can measure and begin to record capacity and volume using non-standard units and extend to standard units • Can recognise the value of different coins and notes • Can tell the time on an analogue clock using o' clock and half past	• Can choose and use appropriate standard units to measure length and height • Can choose and use appropriate standard units to measure mass • Can choose and use appropriate standard units to measure temperature • Can choose and use appropriate standard units to measure capacity • Can compare and order two or more different measurements • Can use the symbol p for pence and £ for pounds when combining amounts to make a particular value • Can solve simple problems in a practical context involving addition of money of the same unit • Can solve simple problems in a practical context involving subtraction of money of the same unit, including giving change including giving change • Can tell the time on an analogue clock using o' clock, half past, quarter to and quarter past • Can tell the time on an analogue clock to five minutes

Geometry **Property of Shapes**	**3 and 4 years** • Talk about and explore 2D and 3D shapes • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc. • Talk about and identify the patterns around them. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. **Reception** • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. • Continue, copy and create repeating patterns.	• Can recognise and name 2D shapes • Can recognise and name 3D shapes	• Can identify and describe 2D shapes using knowledge of properties including number of sides • Can identify a line of symmetry in 2D shapes • Can identify and describe 3D shapes using knowledge of properties including number of faces, edges and vertices • Can compare and sort 2D & 3D shapes including everyday objects using knowledge of properties

Geometry Position and Direction	**<u>3 and 4 years</u>** • Understand position through words alone. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind'.	• Can describe position, direction and movement, including whole, half, quarter and three-quarter turns	• Can describe position, direction and movement in terms of right angles for quarter, half and three-quarter turns
Statistics			• Can interpret pictograms where one symbol represents one or more than one • Can interpret a block diagram where the scale goes up in ones, fives or tens • Can interpret tally charts • Can interpret tables • Can solve one step problems such as adding amounts • Can answer questions about totalling data • Can answer questions about comparing data



In lessons, we use concrete apparatus and visual representations to help children visualise and internalise mathematical concepts. Through the use of apparatus and representations, our pupils gain confidence as independent learners to use resources and solve problems. This is known as the CPA (concrete – pictorial - abstract) approach.

A variety of manipulatives or apparatus can be used whenever needed, including place value counters, ten frames, number lines, Numicon and Diennes.

Year 2 Mathematics Curriculum Map 2022-23

Term	W1	W2	W3	W4	W5	W6	W7
	Autumn 1 – 6 Weeks & 4 days						
Autumn	**Number & Place Value** **4 Weeks**				**Addition & Subtraction** **6 Weeks**		
	Spring 1 – 6 Weeks & 3 days						
Spring	**Multiplication** **3 Weeks**			**Money** **2 Weeks**		**Statistics** **1 Week**	

W1	W2	W3	W4	W5	W6	W7	W8
Autumn 2 – 8 Weeks							
Addition & Subtraction **6 Weeks**			**Properties of Shape** **2 Weeks**		**Money** **2 Weeks**		**Consolidation/ Assessment**
Spring 2 – 5 Weeks							
Division **3 Weeks**			**Position 1 Week**	**Consolidation/ Assessment**			

Summer 1 – 6 Weeks			
Summer	Fractions 3 Weeks	Time 2 Weeks	Consolidation/ Assessment

Summer 2 – 5 Weeks & 4 days	
Time 1 Week	Mass, Capacity and Temperature 3 Weeks

Year 1 Mathematics Curriculum Map 2022-23

Term	W1	W2	W3	W4	W5	W6	W7
	Autumn 1 – 6 Weeks & 4 days						
Autumn	Baseline	Place Value (Within 10) 4 Weeks				Addition and Subtraction (Within 10) 4 Weeks	
	Spring 1 – 6 Weeks & 3 days						
Spring	Multiplication 3 Weeks		Money 2 Weeks			Statistics 1 Week	

W1	W2	W3	W4	W5	W6	W7	W8
Autumn 2 – 8 Weeks							
Addition & Subtraction 6 Weeks			Properties of Shape 2 Weeks		Money 2 Weeks		Consolidation/ Assessment
Spring 2 – 5 Weeks							
Division 3 Weeks			Position 1 Week	Consolidation/ Assessment			

Summer 1 – 6 Weeks			
Summer	Fractions 3 Weeks	Time 2 Weeks	Consolidation/ Assessment

Summer 2 – 5 Weeks & 4 days	
Time 1 Week	Mass, Capacity and Temperature 3 Weeks

Church Hill Infant School

Foundation Stage Long Term Maths Planning 2022 – 2023

Autumn 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Maths	Baseline	Baseline	Baseline	Matching	Making comparisons	Patterns	1, 2, 3

Autumn 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Maths	1, 2, 3	1, 2, 3	4	5	2D Shape	6	7	Consolidation

Spring 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Maths	Positioning	8	9	10	Combining Groups	Measuring	11

Spring 2	Week 1	Week 2	Week 3	Week 4	Week 5
Maths	12	13	14	15, 16, 17	18, 19, 20

Summer 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Maths	Subtraction	Subtraction	Odd and Even	Doubling	Sharing	Number bonds to 5

Summer 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Maths	2D and 3D Shape	Teen Numbers	Weight and Capacity	Addition	Subtraction	Consolidation