

St. Hugh's Catholic Primary School
Maths Progression Map

Area of Learning and Development	Aspect	Range 3	Range 4	Range 5	Range 6
Mathematics		<p>Responds to words like <i>lots</i> or <i>more</i></p> <p>Says some counting words May engage in counting-like behaviour, making sounds and pointing or saying some numbers in sequence</p> <p>Uses number words, like <i>one</i> or <i>two</i> and sometimes responds accurately when asked to give one or two things</p> <p>Enjoys filling and emptying containers</p> <p>Investigates fitting themselves inside and moving through spaces</p> <p>Pushes objects through different shaped holes, and attempts to fit shapes into spaces on inset boards and puzzles</p> <p>Beginning to select a shape for a specific space</p> <p>Enjoys using blocks to create their own simple structures and arrangements</p> <p>Becoming familiar with patterns in daily routines</p> <p>Joins in with and predicts what comes next in a story or rhyme</p> <p>Beginning to arrange items in their own patterns</p> <p>Shows an interest in size and</p>	<p>Beginning to compare and recognise changes in numbers of things, using words like <i>more</i>, <i>lots</i> or <i>same</i></p> <p>Begins to say numbers in order</p> <p>In everyday situations, takes or gives two or three objects from a group</p> <p>Beginning to notice numerals</p> <p>Beginning to count on their fingers</p> <p>Moves their bodies and toys around objects and explores fitting into spaces</p> <p>Begins to remember their way around familiar environments</p> <p>Responds to some spatial and positional language</p> <p>Explores how things look different from different viewpoints including things that are near or far away</p> <p>Chooses puzzle pieces and tries to fit them in</p> <p>Recognises that two objects have the same shape</p> <p>Makes simple constructions</p> <p>Joins in and anticipates repeated sound and action patterns</p>	<p>Compares two small groups of up to five objects, saying when there are the same number of objects in each group</p> <p>May enjoy counting verbally as far as they can go</p> <p>Points or touches each item, saying one number for each item, using the stable order of 1 2 3 4 5</p> <p>Uses some number names and number language within play, and may show fascination with large numbers</p> <p>Begin to recognise numerals 0 to 10</p> <p>Subitises one, two and three objects (without counting)</p> <p>Counts up to five items, recognising that the last number said represents the total counted so far</p> <p>Links numerals with amounts up to five and maybe beyond</p> <p>Explores using a range of their own marks and signs to which they ascribe mathematical meanings</p> <p>Through play and exploration, beginning to learn that numbers are made up of smaller numbers</p> <p>Beginning to use understanding of number to solve practical</p>	<p>Uses number names and symbols when comparing numbers, showing interest in large numbers</p> <p>Estimates numbers of things, showing understanding of relative size</p> <p>Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0</p> <p>Increasingly confident at putting numerals in order 0 to 10</p> <p>Engages in subitising numbers to four and maybe five</p> <p>Counts up to 10 objects from a larger group</p> <p>Matches the numeral with a group of items to show how many there are (up to 10)</p> <p>Shows awareness that numbers are made up of smaller numbers, exploring partitioning in different ways with a wide range of objects</p> <p>Begins to conceptually subitise larger numbers by subitising smaller groups within the number</p> <p>In practical activities, adds one and subtracts one with numbers to 10</p> <p>Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when</p>

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		<p>weight</p> <p>Explores capacity by selecting, filling and emptying containers</p> <p>Beginning to understand that things might happen now or at another time, in routines</p>	<p>Is interested in what happens next using the pattern of everyday routines</p> <p>Explores differences in size, length, weight and capacity</p> <p>Beginning to understand some talk about immediate past and future</p> <p>Beginning to anticipate times of the day such as mealtimes or home time</p>	<p>problems in meaningful activities</p> <p>Beginning to recognise that each counting number is one more than the one before</p> <p>Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same</p> <p>Responds to and uses language of position and direction</p> <p>Predicts, moves and rotates objects to fit the space or create the shape they would like</p> <p>Chooses items based on their shape which are appropriate for the child's purpose</p> <p>Responds to both informal language and common shape names</p> <p>Shows awareness of shape similarities and differences between objects</p> <p>Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes</p> <p>Attempts to create arches and enclosures when building, using trial and improvement to select blocks</p> <p>Creates their own spatial patterns showing some organisation or regularity</p> <p>Explores and adds to simple linear patterns of two or three repeating items</p>	<p>appropriate) standard numerals, tallies and + or –</p> <p>Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints</p> <p>Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look</p> <p>May enjoy making simple maps of familiar and imaginative environments, with landmarks</p> <p>Uses informal language and analogies as well as mathematical terms to describe shapes</p> <p>Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes</p> <p>Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build</p> <p>Spots patterns in the environment, beginning to identify the pattern 'rule'</p> <p>Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat</p> <p>Enjoys tackling problems involving prediction and</p>
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				<p>Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next</p> <p>In meaningful contexts, find the longer or shorter, heavier or lighter and more/less full of two items</p> <p>Recall a sequence of events in everyday life and stories</p>	<p>discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy</p> <p>Becomes familiar with measuring tools in everyday experiences and play</p> <p>Is increasingly able to order and sequence events using everyday language related to time</p> <p>Beginning to experience measuring time with timers and calendars</p>
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Early Learning Goal:

Number: Children have a deep understanding of number to 10, including the composition of each number; subitise up to 5; automatically recall (without reference to rhymes, counting or other aids) number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns: Children verbally count beyond 20, recognising the pattern of the counting system; compare quantities up to 10 in different contexts, recognising when on 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.

Statutory Educational Programme: In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

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Key Stages 1 and 2

This progression of objectives is based on the DfE's ready-to-progress criteria, as outlined in 'Mathematics guidance: key stages 1 and 2' (June 2020). References such as 1NPV-1 denote that the given objective is a ready-to-progress criterion and so has been placed in that year group accordingly. Objectives in blue have been taken directly from the National Curriculum.

Strand	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and place value (NPV)	1NPV-1: Count within 100, forwards and backwards, starting with any number. →		3NPV-1: Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. →	4NPV-1: Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. →	5NPV-1: Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. →	6NPV-1: Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
		2NPV-1: Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. →	3NPV-2: Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. →	4NPV-2: Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning. →	5NPV-2: Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. →	6NPV-2: Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning.
	1NPV-2: Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = →	2NPV-2: Reason about the location of any twodigit number in the linear number system, including identifying the previous and next multiple of 10. →	3NPV-3: Reason about the location of any threedigit number in the linear number system, including identifying the previous and next multiple of 100 and 10. →	4NPV-3: Reason about the location of any fourdigit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. →	5NPV-3: Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. →	6NPV-3: Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.
			3NPV-4: Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples	4NPV-4: Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples	5NPV-4: Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines	6NPV-4: Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read

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			of 100 with 2, 4, 5 and 10 equal parts. <div>→</div>	of 1,000 with 2, 4, 5 and 10 equal parts. <div>→</div>	marked in units of 1 with 2, 4, 5 and 10 equal parts. <div>→</div>	scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
					5NPV-5: Convert between units of measure, including using common decimals and fractions.	
			To read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value (A Year 4 objective to be taught alongside the Year 3 history topic, 'The Romans').			
Number facts (NF)	1NF-1: Develop fluency in addition and subtraction facts within 10. <div>→</div>	2NF-1: Secure fluency in addition and subtraction facts within 10, through continued practice. <div>→</div>	3NF-1: Secure fluency in addition and subtraction facts that bridge 10, through continued practice.			
	1NF-2: Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. <div>→</div>		3NF-2: Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. <div>→</div>	4NF-1: Recall multiplication and division facts up to 12 x 12, and recognise products in multiplication tables as multiples of the corresponding number. <div>→</div>	5NF-1: Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	
				4NF-2: Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret		

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				remainders appropriately according to the context.		
			3NF-3: Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). →	4NF-3: Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) →	5NF-2: Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	
Addition and subtraction (AS)	1AS-1: Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. →	2AS-1: Add and subtract across 10. →	3AS-1: Calculate complements to 100 →			6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
	1AS-2: Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. →	2AS-2: Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?". →	3AS-2: Add and subtract up to three-digit numbers using columnar methods. →			6AS/MD-2: Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
		2AS-3: Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a twodigit number.	3AS-3: Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.			6AS/MD-3: Solve problems involving ratio relationships.

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		→	→			
		2AS-4: Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers. →				6AS/MD-4: Solve problems with 2 unknowns.
Multiplication and division (MD)		2MD-1: Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. →	3MD-1: Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. →	4MD-1: Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. →	5MD-1: Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. →	For year 6, MD ready-to-progress criteria are combined with AS ready-to-progress criteria (please see above).
		2MD-2: Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). →		4MD-2: Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. →	5MD-2: Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	
				4MD-3: Understand and apply the distributive property of multiplication. →	5MD-3: Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	
					5MD-4: Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	
Fractions (F)		To recognise, find and name a half as one of two	3F-1: Interpret and write proper fractions to			6F-1: Recognise when fractions can be

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		<p>equal parts of an object, shape or quantity</p> <p>To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity NC: To recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity</p> <p>To write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$</p>	<p>represent 1 or several parts of a whole that is divided into equal parts. →</p>			<p>simplified, and use common factors to simplify fractions.</p>
			<p>3F–2: Find unit fractions of quantities using known division facts (multiplication tables fluency). →</p>		<p>5F–1: Find non-unit fractions of quantities. →</p>	<p>6F–2: Express fractions in a common denomination and use this to compare fractions that are similar in value.</p>
			<p>3F–3: Reason about the location of any fraction within 1 in the linear number system. →</p>	<p>4F–1: Reason about the location of mixed numbers in the linear number system. →</p>		<p>6F–3: Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy</p>
				<p>4F–2: Convert mixed numbers to improper fractions and vice versa. →</p>	<p>5F–2: Find equivalent fractions and understand that they have the same value and the same position in the linear number system.</p>	
			<p>3F–4: Add and subtract fractions with the same denominator, within 1. →</p>	<p>4F–3: Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. →</p>	<p>5F–3: Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions.</p>	
Geometry (G)	<p>1G–1: Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. →</p>	<p>2G–1: Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. →</p>	<p>3G–1: Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. →</p>		<p>5G–1: Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.</p>	

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					5G-2: Compare areas and calculate the area of rectangles (including squares) using standard units.	
1G-2: Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. →		3G-2: Draw polygons by joining marked points, and identify parallel and perpendicular sides. →	4G-1: Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. →			6G-1: Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
			4G-2: Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.			
			4G-3: Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry .			
To describe position, direction and movement, including whole, half, quarter and three quarter turns	To order and arrange combinations of mathematical objects in patterns and sequences To use mathematical vocabulary to describe position, direction and movement, including					

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		movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)				
Measure including money (where not already integrated into number and calculations units)		<p>To recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p> <p>To find different combinations of coins that equal the same amounts of money</p> <p>To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</p> <p>To 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</p> <p>To compare and order lengths, mass, volume/capacity and record the results using >, < and =</p>				

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Time	<p>To sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <p>To recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p>To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</p>	<p>To compare and sequence intervals of time</p> <p>To 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</p> <p>To know the number of minutes in an hour and the number of hours in a day</p>	<p>To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <p>To know the number of seconds in a minute and the number of days in each month, year and leap year</p> <p>To compare durations of events [for example to calculate the time taken by particular events or tasks]</p>	<p>To convert between different units of measure [for example, hour to minute]</p> <p>To read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</p>		
Statistics		<p>To interpret and construct simple pictograms, tally charts, block diagrams and simple tables</p> <p>To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</p> <p>To ask and answer questions about totalling and comparing categorical data</p>	<p>To interpret and present data using bar charts, pictograms and tables</p> <p>To solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables</p>	<p>To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</p>	<p>To solve comparison, sum and difference problems using information presented in a line graph</p> <p>To complete, read and interpret information in tables, including timetables</p>	<p>To interpret and construct pie charts and line graphs and use these to solve problems</p> <p>To calculate and interpret the mean as an average</p>

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