

St Mary's Catholic Primary School

Mathematics Skills Progression Map

	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number & Place Value	- Count and represent the numbers 1 to 3 - Count up to 15 objects - Order numbers 1 –15 - Conservation of numbers within six - Estimate and check by counting	- Identify, represent, compare and order numbers to 20 - Doubling and halving - One more and one less	- Read, write, represent, partition, compare and order numbers to 100 - Explore patterns including, odds and evens, tens and ones - Represent numbers within 1000 in different ways - Compare them using symbols - Read scales	- Read, write, order and compare numbers to 100 - Read, write, represent, partition, order and compare 3-digit numbers - Find 10 and 100 more or less - Round to the nearest multiple of 10 and 100 - Order and compare beyond 1000 - Calculate mentally using known facts, round and adjust, near doubles, adding on to find the difference - Derive new facts from a known fact	4-digit place value. Read, write, represent, order and compare - Find 10, 100 or 1000 more or less - Round numbers to the nearest 10, 100 or 1000 - Decimal equivalents to tenths, quarters and halves - Compare and order numbers with same number of decimal places	- Read, write, order and compare numbers up to one million - Round numbers within one million to the nearest multiple of powers of ten - Read Roman numerals up to M - Read, write, order and compare decimals - Round decimals to the nearest whole number - Investigate numbers: consecutive, palindromic, multiples	- Represent, read, write, order and compare numbers up to ten million - Round numbers, make estimates and use this to solve problems in context

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Addition & Subtraction	• One more or one fewer • One greater or one fewer • Explore addition as counting on and subtraction as taking away • Comparing two amounts	• Represent and explain addition and subtraction strategies including 'Make Ten' • Use known facts to add and subtract • Illustrate, explain and link addition and subtraction with equations • Apply 'Make Ten' strategy • Use language to quantify and compare difference • Explore addition and subtraction involving 2-digit numbers and ones • Represent and explain addition and subtraction	• Apply number bonds to add and subtract • Represent and explain addition and subtraction of two 2-digit numbers. • Add three 1-digit numbers • Introduction to bar models as a representation • Create, label and sketch bar models • Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies	• Develop and use a range of mental calculation strategies • Illustrate and explain formal written methods – column method	• Select appropriate strategies to add and subtract • Illustrate and explain appropriate addition and subtraction strategies including column method with regrouping	• Use rounding to estimate • Use a range of mental calculation strategies to add and subtract integers • Illustrate and explain the written method of column addition and subtraction • Select efficient calculation strategies	• Solve multi-step problems involving addition and subtraction
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		with regrouping					
		Investigate number bonds within 20					
Multiplication & Division	- Relationships between doubling and halving - Counting and sharing in equal groups - Grouping into fives and tens - Relationship between grouping and sharing	- Share equally into groups - Doubling - Link halving to fractions - Add equal groups - Explore arrays	- Calculate the times tables of 2, 5, and 10 by skip counting - Relate the 2 times table to doubling - Explore representations of multiplication and division - Commutativity - Multiplication and division facts for 3 and 4 - Relate 4 times table to doubling the 2 times tables - Describe, interpret and represent using arrays and bar models	- Multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10 - Multiplicative structures: equal groups/parts, change and comparison, correspondence problems - Relationships: commutativity and inverse - Multiply and divide by 10 and 100 - Multiply a 2-digit number by 2, 3, 4, 5 and corresponding division situations - Divide 2-digit by a 1-digit	- Distributive property including multiplying three 1-digit numbers - Mental multiplication and division strategies using place value and known and derived facts - Short multiplication and division - Multiply and divide by 10 and 100 including decimals	- Identify multiples and factors - Investigate prime numbers - Multiply and divide by 10, 100 and 1000 (integers) - Derived facts - Illustrate and explain formal multiplication and division strategies such as short and long - Use a range of mental calculation strategies - Interpret remainders	- Identify and use properties of number, focusing on primes - Multiply larger integers and decimal numbers using a range of strategies - Divide integers by 1-digit and 2-digit numbers representing remainders appropriately - Illustrate and explain formal multiplication and division strategies

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			Recognise inverse relationship				
Fractions		- Identify $\frac{1}{2}$ and $\frac{1}{4}$ of a shape or object - Find $\frac{1}{2}$ and $\frac{1}{4}$ of a quantity	- Part-whole relationships - Fractions as part of a whole or a whole set - Relate to division - Equivalent fractions	- Part-whole relationships - Fractions as part of a whole or a whole set and as a number - Add, subtract, compare and order fractions	- Explore different interpretations and representations of fractions - Equivalent fractions - Represent fractions greater than one as mixed number and improper fractions - Add and subtract fractions with the same denominator including fractions greater than one	- Represent, identify, name, write, order and compare fractions (including improper and mixed numbers) - Calculate fractions of amounts - Add, subtract fractions with denominators that are multiples of the same number - Multiply fractions (and mixed numbers) by a whole number - Explore percentage, decimal,	- Deepen understanding of equivalence - Order, simplify and compare fractions, including those greater than one - Recall equivalence between common fractions and decimals - Find decimal quotients using short division - Add and subtract fractions - Represent multiplication involving fractions - Multiply two proper fractions - Divide a fraction by an integer

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						fractions equivalence	- Calculate and compare percentages of amounts - Connect percentages with fractions - Explore the equivalence of fractions, decimals and percentages
Measurement	- Estimate, order compare, discuss and explore capacity, weight and lengths - Days of the week, seasons - Sequence daily events - Coin recognition and values - Combinations to total 20p - Change from 10p	- Compare and measure lengths and mass using cm and kg - Compare capacities, volumes and lengths - Explore litres - Apply understanding of fractions to capacity - Read, write and tell the time to o'clock and half past on analogue clock	- Draw and measure lengths in centimetres - Use and = to compare and order lengths in met - Read and measure temperature - Estimate, measure and understand litres and millilitres - Compare and order capacities	- Measure, draw and compare lengths - Add and subtract lengths - Calculate perimeter - Read scales with different intervals when measuring mass and volume - Weigh and compare masses and capacities with mixed units - Estimate mass and capacity	- Convert units of measure - Select appropriate units to measure - Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically - Analogue to digital, 12- hour and 24-hour	- Convert between metric units of length, mass and capacity and units of time - Know and use approximate conversion between imperial and metric - Use cube numbers and notation - Estimate volume - Convert units of volume	- Use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial units - Calculate, estimate and compare the volume of cuboids

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		- Sequencing daily activities - Whole and half turns linked to time - Name coins and notes and understand their value - Represent the same value using different coins - Find change	- Weigh and compare masses in kilograms and grams - Tell the time on an analogue clock: quarter past, quarter to and five minute intervals - Calculate durations of time in minutes and seconds - Sequence daily events - Minutes in an hour and hours in a day - Recognise coins and notes - Use £ and p accurately - Add and subtract amounts - Calculate change	- Tell, record, write and order the time analogue and digital 12-hour, a.m., p.m. - Measure, calculate and compare durations	Convert between units of time		
Properties of Shape and Pattern	Recognise, describe, copy and extend	Identify, describe, sort	Explore, sort and describe 2-D shapes	Identify angles including right angles and	Classify, compare and order angles	Investigate area and perimeter of	Compare and classify a range

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	colour and size patterns Describe and sort 2-D & 3-D shapes	and classify 2-D and 3-D shapes Investigate repeating patterns	- Lines of symmetry in 2-D shapes - Identify 2-D shapes on 3-D shapes - Compare and sort 2-D and 3-D shapes	recognise as a quarter of a turn - Identify and draw parallel and perpendicular lines - Draw/make, classify and compare 2-D and 3-D shapes	- Compare and classify 2-D shapes - Identify lines of symmetry - Perimeter of rectangles and rectilinear figures - Area of rectangles and rectilinear and compare - Investigate area and perimeter	rectilinear shapes Estimate area of nonrectilinear shapes	of geometric shapes - Use angle facts to find unknown angles - Draw a range of geometric shapes using given dimensions and angles - Recognise and construct 3-D shapes - Name and illustrate parts of a circle - Calculate the area of parallelograms and triangles
Position & Direction	Describe position accurately	Use and follow instructional and positional language	Use language to describe position, direction and rotation to follow a route		- Describe and plot using coordinates - Describe translations	- Coordinates in all four quadrants - Translation and reflection - Calculate intervals across zero as a context for negative numbers	Describe, draw, translate and reflect shapes on a co-ordinate plane

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Statistics			Represent and interpret: pictograms, block diagrams, tables and tally charts	Collect, interpret and present data using charts and tables	- Read, interpret and construct pictograms, bar charts and time graphs - Compare tables, pictograms and bar charts	- Complete, read and interpret data presented in line graphs - Read and interpret timetables including calculating intervals - Negative numbers and calculating intervals across zero - Calculating the mean	- Calculate the mean - Construct and interpret lines graphs and pie charts - Compare pie charts
Ration & Proportion							- Use fractions to express proportion - Identify ratio as a relationship between quantities and as a scale factor - Unequal sharing involving ratio
Algebra							- Understand the use of brackets - Use knowledge of the order of

							operations to carry out calculations • Express missing number problems algebraically • Solve equations with unknown values • Generate and describe linear number sequences
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