

Canon Popham C of E Primary Academy Teaching for Maths Mastery Approach Facts and Methods Progression

Specific Facts and Methods Progression taught in Autumn Term

Specific Facts and Methods Progression taught in Spring Term

Specific Facts and Methods taught in Summer Term

	Number and Place Value	Addition and subtraction	Multiplication and division	Fractions, decimals and percentages	Measurement	Statistics	Ratio and proportion	Algebra	Properties of shape, position and direction
Year 1	<ul style="list-style-type: none"> •Represent, compare and explore numbers within 10 •One more and one less •Doubling and halving •Identify, represent, compare and order numbers to 20 •Doubling and halving •One more and one less •2-digit numbers – represent, sequence, explore, compare. •Count in 2s, 5s and 10s •Describe and complete number patterns 	<ul style="list-style-type: none"> •Represent and explain addition and subtraction •Commutativity •Addition and subtraction facts •Represent and explain addition and subtraction strategies including ‘Make Ten’ •Use known facts to add and subtract •Model, explain and choose addition and subtraction strategies •Illustrate, explain and link addition and subtraction with equations •Apply ‘Make Ten’ strategy 	<ul style="list-style-type: none"> •Doubling and halving •Share equally into groups •Doubling •Link halving to fractions •Add equal groups •Explore arrays 	<ul style="list-style-type: none"> •Identify $\frac{1}{2}$ and $\frac{1}{4}$ of a shape or object •Find $\frac{1}{2}$ and $\frac{1}{4}$ of a quantity 	<ul style="list-style-type: none"> •Read, write and tell the time to o’clock and half past on analogue clock •Sequencing daily activities •Whole and half turns linked to time •Compare and measure lengths and mass using cm and kg •Name coins and notes and understand their value •Represent the same value using different coins •Find change •Compare capacities, volumes and lengths 				<ul style="list-style-type: none"> •Identify, describe, sort and classify 2-D and 3-D shapes •Investigate repeating patterns •Use and follow instructional and positional language including whole, half, quarter & three-quarter turns

	<ul style="list-style-type: none"> •Count, read, write, represent, compare and order numbers to 100 •One more / fewer, ten more / fewer •Identify number patterns 	<ul style="list-style-type: none"> •Use language to quantify and compare difference •Explore addition and subtraction involving 2-digit numbers and ones •Represent and explain addition and subtraction with regrouping •Investigate number bonds within 20 			<ul style="list-style-type: none"> •Explore litres •Apply understanding of fractions to capacity 				
Year 2	<ul style="list-style-type: none"> •Read, write, represent, partition, compare and order numbers to 100 •Explore patterns including, odds and evens, tens and ones •Represent in different ways •Compare using symbols •Read scales 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •Part-whole relationships •Fractions as part of a whole or a whole set •Relate to division •Equivalent fractions 	<ul style="list-style-type: none"> •Draw and measure lengths in centimetres •Use and = to compare and order lengths in metres and centimetres •Tell the time on an analogue clock: quarter past, quarter to and five minute intervals •Calculate durations of time in minutes 	<ul style="list-style-type: none"> •Represent and interpret: pictograms, block diagrams, tables and tally charts. 			<ul style="list-style-type: none"> •Explore, sort and describe 2-D shapes •Lines of symmetry in 2-D shapes •Identify 2-D shapes on 3-D shapes •Compare and sort 2-D and 3-D shapes •Use language to describe position, direction and rotation to follow a route

		<ul style="list-style-type: none"> •Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies •Apply addition and subtraction strategies to solve equations •Illustrate and explain addition and subtraction using column method 	<p>doubling the 2 times tables</p> <ul style="list-style-type: none"> •Describe, interpret and represent using arrays and bar models •Recognise inverse relationship 		<p>and seconds</p> <ul style="list-style-type: none"> •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 •Weigh and compare masses in kilograms and grams •Read and measure temperature •Estimate, measure and understand litres and millilitres •Compare and order capacities 				
Year 3	<ul style="list-style-type: none"> •Read, write, order and compare numbers to 100 •Calculate mentally using known facts, 	<ul style="list-style-type: none"> •Develop and use a range of mental calculation strategies •Illustrate and explain formal 	<ul style="list-style-type: none"> •Multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10 •Multiplicative structures: equal 	<ul style="list-style-type: none"> •Part-whole relationships •Fractions as part of a whole or a whole set and as a number 	<ul style="list-style-type: none"> •Measure, draw and compare lengths •Add and subtract lengths 	<ul style="list-style-type: none"> •Collect, interpret and present data using charts and tables 			<ul style="list-style-type: none"> •Identify angles including right angles and recognise as a quarter of a turn •Identify and draw

	<p>round and adjust, near doubles, adding on to find the difference</p> <ul style="list-style-type: none"> •Derive new facts from a known fact •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 •Add and subtract mentally •Find 10, 100 and 1000 more or less •Order and compare beyond 1000 •Round numbers 	written methods – column method	<p>groups/parts, change and comparison, correspondence problems</p> <ul style="list-style-type: none"> •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 •Recall and use multiplication and division facts for 6 and 8 times table 	<ul style="list-style-type: none"> •Add, subtract, compare and order fractions 	<ul style="list-style-type: none"> •Calculate perimeter •Tell, record, write and order the time analogue and digital •12-hour, a.m., p.m. •Measure, calculate and compare durations •Read scales with different intervals when measuring mass and volume •Weigh and compare masses and capacities with mixed units •Estimate mass and capacity 				<p>parallel and perpendicular lines</p> <ul style="list-style-type: none"> •Draw/make, classify and compare 2-D and 3-D shapes •Measure the perimeter
Year 4	<ul style="list-style-type: none"> •4-digit place value - read, write, represent, order and compare •Find 10, 100 or 1000 more 	<ul style="list-style-type: none"> •Select appropriate strategies to add and subtract •Illustrate and explain appropriate 	<ul style="list-style-type: none"> •Distributive property including multiplying three 1-digit numbers •Mental multiplication 	<ul style="list-style-type: none"> •Explore different interpretations and representations of fractions •Equivalent fractions 	<ul style="list-style-type: none"> •Analogue to digital, 12-hour and 24-hour •Convert between units of time 	<ul style="list-style-type: none"> •Read, interpret and construct pictograms, bar charts and time graphs 			<ul style="list-style-type: none"> •Classify, compare and order angles •Compare and classify 2-D shapes •Identify lines of symmetry

	<ul style="list-style-type: none"> •Round numbers to the nearest 10, 100 or 1000 •Roman numerals up to 100 •Place value of other number systems •Number sequences and patterns 	<p>addition and subtraction strategies including column method with regrouping</p>	<p>and division strategies using place value and known and derived facts</p> <ul style="list-style-type: none"> •Short multiplication and division •Identify and explore patterns in multiplication tables including 7 and 9 	<ul style="list-style-type: none"> •Represent fractions greater than one as mixed number and improper fractions •Add and subtract fractions with the same denominator including fractions greater than one •Decimal equivalents to tenths, quarters and halves •Compare and order numbers with same number of decimal places •Multiply and divide by 10 and 100 including decimals 	<ul style="list-style-type: none"> •Perimeter of rectangles and rectilinear figures •Area of rectangles and rectilinear and compare •Investigate area and perimeter •Convert units of measure •Select appropriate units to measure •Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically 	<ul style="list-style-type: none"> •Compare tables, pictograms and bar charts 			<ul style="list-style-type: none"> •Describe and plot using coordinates •Describe translations •Use understanding of 3-D shapes •Identify 3-D shapes from 2-D representations
Year 5	<ul style="list-style-type: none"> •Read, write, order and compare numbers up to one million •Round numbers within 	<ul style="list-style-type: none"> •Use rounding to estimate •Use a range of mental calculation strategies to add and 	<ul style="list-style-type: none"> •Identify multiples and factors •Investigate prime numbers •Multiply and divide by 10, 	<ul style="list-style-type: none"> •Read, write, order and compare decimals •Round decimals to the nearest whole 	<ul style="list-style-type: none"> •Investigate area and perimeter of rectilinear shapes •Estimate area of non- 	<ul style="list-style-type: none"> •Complete, read and interpret data presented in line graphs 			<ul style="list-style-type: none"> •Classify, compare and order angles •Measure a draw angles with a protractor

	<p>one million to the nearest multiple of powers of ten</p> <ul style="list-style-type: none"> •Read Roman numerals up to M •Negative numbers and calculating intervals across zero •Calculating the mean •Interpret remainders •Investigate numbers: consecutive, palindromic, multiples 	<p>subtract integers</p> <ul style="list-style-type: none"> •Illustrate and explain the written method of column addition and subtraction •Select efficient calculation strategies •Mental strategies to add and subtract involving decimals •Formal written strategies to add and subtract involving decimals 	<p>100 and 1000 (integers)</p> <ul style="list-style-type: none"> •Derived facts •Illustrate and explain formal multiplication and division strategies such as short and long •Use a range of mental calculation strategies •Formal written strategies to multiply involving decimals •Multiply and divide by 10, 100 and 1000 involving decimals •Derive multiplication facts involving decimals 	<p>number</p> <ul style="list-style-type: none"> •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, fractions equivalence 	<p>rectilinear shapes</p> <ul style="list-style-type: none"> •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 	<ul style="list-style-type: none"> •Read and interpret timetables including calculating intervals 			<ul style="list-style-type: none"> •Understand and use angle facts to calculate missing angles •Coordinates in all four quadrants •Translation and reflection •Calculate intervals across zero as a context for negative numbers •Classify 2-D shapes and reason about regular and irregular polygons •Properties of diagonals of quadrilaterals •Classify 3-D shapes •2-D representations of 3-D shapes
Year 6	<ul style="list-style-type: none"> •Represent, read, write, order and compare numbers up to ten million •Round numbers, make 	<ul style="list-style-type: none"> •Solve multi-step problems involving addition and subtraction 	<ul style="list-style-type: none"> •Identify and use properties of number, focusing on primes •Multiply larger integers and decimal 	<ul style="list-style-type: none"> •Deepen understanding of equivalence •Order, simplify and compare fractions, including those 	<ul style="list-style-type: none"> •Use, read, write and convert between standard units of measures; length, mass, time, money 	<ul style="list-style-type: none"> •Construct and interpret lines graphs and pie charts •Compare pie charts 	<ul style="list-style-type: none"> •Use fractions to express proportion •Identify ratio as a relationship between 	<ul style="list-style-type: none"> •Understand the use of brackets •Use knowledge of the order of operations 	<ul style="list-style-type: none"> •Compare and classify a range of geometric shapes •Use angle facts to find unknown angles

	<p>estimates and use this to solve problems in context</p>		<p>numbers using a range of strategies</p> <ul style="list-style-type: none"> •Divide integers by 1-digit and 2-digit numbers representing remainders appropriately •Illustrate and explain formal multiplication and division strategies 	<p>greater than one</p> <ul style="list-style-type: none"> •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 •Calculate and compare percentages of amounts •Connect percentages with fractions •Explore the equivalence of fractions, decimals and percentages •Calculate the mean 	<p>and volume as well as imperial units</p> <ul style="list-style-type: none"> •Calculate the area of parallelograms and triangles •Calculate, estimate and compare the volume of cuboids 		<p>quantities and as a scale factor</p> <ul style="list-style-type: none"> •Unequal sharing involving ratio 	<p>to carry out calculations</p> <ul style="list-style-type: none"> •Generate and describe linear number sequences •Express missing number problems algebraically •Solve equations with unknown values 	<ul style="list-style-type: none"> •Draw a range of geometric shapes using given dimensions and angles •Describe, draw, translate and reflect shapes on a co-ordinate plane •Recognise and construct 3-D shapes •Name and illustrate parts of a circle
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