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Maths





	I	Year	4 Maths Lo	ong Term Plan	I		
Autumn	Multiplication and Divis x tables (3 weeks)	ion N	Number and Place Value Addition and Subtraction (5 weeks) (4 weeks)		tion	Statistics (2 weeks)	
Spring	Multiplication ar (4 week		Fractions (5 weeks)		Decir	nals and Money (3 weeks)	
Summer	Decimals and Money (2 weeks)	Geometry: : (3 week		_	Measure: Perimeter and Area ion and Direction (5 weeks)		Measure: Time (2 weeks)



		Block 2	
	Ν	lumber and Place Value	
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
National Curriculum			
Count in multiples of 25 and 1,000 NB multiples of 6, 7 and 9 will be covered in the multiplication unit.		• Can count in multiples of 25 and 100 and explain the link between the two amounts	*Introduction to resources *Counting in 1,000s *Composing 4-digit numbers and discussing column value of each digit of these numbers
Find 1,000 more or less than a given number		 Can find 1,000 more than a given number and explain which digit changes Can find 1,000 less than a given number and explain which digit changes 	 (including the role of 0 in a number) *Standard and non-standard partitioning *Recognising that there are 10 hundreds in a thousand, 100 tens in 1,000, 1,000 ones in 1,000 and using this to represent a 4-digit
Count backwards through zero to include negative numbers		 Can count backwards in a range of multiples to include negative numbers and understand the value of the digits 	 Finding 1,000 more or less than a given number
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	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 4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using	 Can identify the number of thousands, hundreds, tens and ones in a 4-digit number 	 * Comparing numbers beyond 1,000 *Ordering Numbers beyond 1,000 *Counting in 1,000s, 500s, 100s, 50s and 25s * Positioning numbers on a blank and scaled number lines with a variety of starting and ending points and a range of increments. *Substantial problem solving
Order and compare numbers beyond 1,000	standard and non-standard partitioning 4NPV–3 Reason about the location of any four-digit 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. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts	 Can identify the larger of two 4-digit numbers and explain reasoning Can position 4-digit numbers on a number line and explain reasoning about where they are positioned 	*Rounding numbers to the nearest 10, 100 and 1,000 *Problem Solving *Reading and representing numbers on a number line to include negative numbers * Reading and writing Roman numerals up to 100



Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 or 1,000	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 4NPV–3 Reason about the location of any four-digit number in the linear number system, including identifying the previous	 Can use equipment to represent numbers and to explain reasoning about the size of numbers Can round numbers to the nearest 10 Can round numbers to the nearest 100 Can round numbers to the nearest 1,000
	and next multiple of 1,000 and 100, and rounding to the nearest of each.	Can explain the rules of rounding
Solve number and practical problems that involve all of the above and with increasingly large positive numbers		 Solve problems involving place value, including word problems and problems linked to money and measure
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.		 Can read Roman numerals to 100 Can understand how the numeral system developed over time



		Block 3	
	-	Addition and Subtraction	
Substantive Knowledge National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100),	 Can use place value to calculate mentally Can add and subtract multiples of 1, 10, 100 and 1,000 Can subtract by finding the difference Can calculate mentally by reordering Can calculate mentally by compensating Can use a written methods to add two 4-digit numbers, including bridging 10 and 100 Can use a written methods to subtract two 4- digit numbers, including bridging 10 and 100 Can use a written methods to add and 3 and 4-digit number together, including bridging 10 and 100 Can use a written methods to subtract a 3- digit number from a 4-digit number, including bridging 10 and 100 Can reflect on when it is appropriate to use a standard written method in an addition or subtraction calculation with up to 4 digits 	 *Scaling known facts by 10 and 100 to create related facts *Adding and Subtracting Using Place Value *Adding Using Partitioning *Adding multiples of 1, 10, 100 and 1,000 to a number with no bridging *Adding 1 digit to a 3 or 4-digit number using bridging *Adding a multiple of 10 to a 3 or 4-digit number using bridging *Adding a multiple of 100 to a 4-digit number using bridging *Subtracting multiples of 1, 10, 100 and 1,000 from a number with no bridging *Subtracting 1 digit from a 3 or 4-digit number using bridging *Subtracting a multiple of 100 from a 3 or 4-digit number using bridging *Subtracting a multiple of 100 from a 4-digit number using bridging *Subtracting a multiple of 100 from a 4-digit number using bridging *Subtracting a multiple of 100 from a 4-digit number using bridging *Using the concept of 'finding the difference' within subtraction *Understanding the inverse relationship between addition and subtraction and generating fact families *Using inverse operations within addition and subtraction to check
Estimate and use inverse operations to check answers to a calculation		 Can estimate the answer of an addition or subtraction up to 4 digits Can use addition and subtraction to calculate the inverse 	calculations *Reordering calculations to look for known facts and aid efficiency * Compensating *Estimation
Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.		 Can identify whether a word problem needs to be solved using addition, subtraction or combination of both Can identify the most appropriate method of calculation to use to solve a problem Can use a calculation skill in a problem using units of measure (km, m, cm, mm, kg, g, l, ml, hours, minutes and seconds) 	*Standard written method of addition *Standard written method of subtraction *Adjusting (consider which children can grasp and retain this method) *Reflecting on the most efficient strategy *Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.



	Block 4				
		Statistics			
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview		
Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	No specific Ready to Progress statements for statistics but use the opportunity to consolidate prior statements as appropriate e.g 4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and	 Understands which is the best method of recording data <i>e.g. compare data presented in a bar chart and line graph and reason as to which is the most effective</i> Can use an appropriate scale when representing data Can answer questions from a range of different graphs <i>e.g. In which months was the temperature below 10°C</i>? 	*Draw and interpret pictograms *Draw and interpret bar charts *Answer questions from a range of different graphs – using discrete data *Solve comparison, sum and difference problems using information presented in charts *Introduce continuous data and discuss how this is different to discreet *Represent continuous data as a line graph (link to		
Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts	 Can answer questions from a bar chart that involve comparison, sum and difference Can answer questions from a pictogram that involve comparison, sum and difference Can answer questions from a table that involve comparison, sum and difference Can answer questions from a line graph that involve comparison, sum and difference 	science/topic) *Read and interpret a range of line graphs and answer questions on the data * Answer questions from a range of different graphs – using discrete data *Collect continuous data and choose how to present this and with what scale *Problem solving		

	Blocks 1 & 5					
	Multiplication and Division					
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview			
National Curriculum			3			



Recall multiplication and division facts for multiplication tables up to 12 × 12	4NF–1 Recall multiplication and division facts up to 12x12 and recognise products in multiplication tables as multiples of the corresponding number.	 Can explain how to use known facts to derive others Can recall the 2x 5x 10x tables from Year 2 Can recall the 3x 4x 8x tables from Year 3 Can recall the 6x table Can recall the 7x table Can recall the 11x table Can recall the 12x table Can derive related division facts Understands that division cannot be done in any order 	*Recap 2, 5 and 10 times tables including patterns and generalisations *Recap 4, 8 and 3 times tables including patterns and generalisations *Teach 6, 12, 9, 11 and 7 times tables *Links and the development of multiplication *Commutative, inverse and fact families. Solve missing box calculations using known facts and inverse operations *Multiplying by 10 and 100
Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	 4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 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. 4MD–3 Understand and apply the distributive property of multiplication 	 Understands how a multiplication fact can be used to multiply by a multiple of 10 Understands how a multiplication fact can be used to multiply by a multiple of 100 Understands how to multiply 3 one-digit numbers together Understands the effect of multiplying by 1 and 0 Understands the effect of dividing by 1 Understands how a multiplication fact can be used to solve a division calculation 	*Dividing by 1, 10 and 100 *Using scaling numbers by 10 and 100 to solve calculations using known facts *Doubling and halving *Compensating *Distributive Law *Multiplying 3 numbers using the most efficient strategy *Additional mental strategies *Find factors of numbers using a systematic approach *Factorising *Solving problems including using scaling and correspondence *Written strategy for multiplication (Check school calculation policy) * Division if stated in school calculation policy
Recognise and use factor pairs and commutativity in mental calculations	4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	 Can identify factors of a 2-digit number Understands that multiplication can be done in any order 	*Solve a range of problems using multiplication and division using an efficient strategy. *Solve multi-step problems involving all 4 operations. Choose an efficient



Multiply two-digit and three- digit numbers by a one-digit number using formal written layout	4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a	 Can use a formal written method to multiply TU by O Can use a formal written method to multiply HTO by O 	method for calculating and explain which methods have been used.
Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	number 10 or 100 times the size. 4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders	 Can solve word problems involving multiplication Can solve word problems involving division Can solve scaling problems involving measures Can solve correspondence problems <i>e.g. There are 3 starters, mains and desserts on a menu, how many possible meals could you have?</i> 	



		Block 6				
	Fractions					
Substantive Knowledge	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview			
Recognise and show, using diagrams, families of common equivalent fractions	 4F–1 Reason about the location of mixed numbers in the linear number system 4F–2 Convert mixed numbers to improper fractions and vice versa. 	 Can use multiplication to generate equivalent fractions. Can simplify fractions using common factors 	*Recapping children's prior knowledge of fractions *Investigating using pictorial or practical resources how to make a whole *Placing fractions on a 0-1 number line			
Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number		 Can use unit fractions to solve a problem. Can use non-unit fractions to solve a problem. 	*Placing mixed numbers and improper fractions on a number line Converting mixed numbers and improper fractions *Equivalent fractions using multiplication *Finding fractions of an amount (unit			
Add and subtract fractions with the same denominator	4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers	 Can add and subtract fractions with a common denominator 	 *Finding fractions of an amount (unit and non-unit fractions) *Adding fractions with the same denominator (total may exceed one whole) *Subtracting fractions with the same denominator (start number may be more than one whole) 			



		Block 7			
	Decimals and Money				
Substantive Knowledge National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview		
Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.		 Understands hundredths are dividing an object or a number into 100 equal parts. Understand tenths are dividing an object or a number into 10 equal parts. Understands hundredths can be made by dividing tenths into 10 equal parts. Can find and place hundredths on a number line. Can use hundredths in money and measure Can compare and order numbers to 2dp 	*Recap year 3 decimals unit and look at counting in tenths *Using money, base 10 or a bead string investigate a hundredth as a fraction and a decimal (1 out of 100 beads is $\frac{1}{100}$ or 0.01 because we have 1 in the hundredth column *Count up and down in		
Recognise and write decimal equivalents of any number of tenths or hundredths		 Can identify and calculate ¹/₁₀ as a decimal Can identify the pattern when finding other tenths. Can identify and calculate ¹/₁₀₀ as a decimal Can identify the pattern when finding other hundredths. 	hundredths *Compare and order decimals *Positioning hundredths on a number line and using this to order and compare decimals		
Recognise and write decimal equivalents to ¼, ½ and ¾		 Can recall decimal equivalent to ¹/₂ Can recall decimal equivalent to ¹/₄ Can recall decimal equivalent to ³/₄ 	 to 2 dp *Rounding Decimals *Dividing a 1 or 2-digit number by 10 or 100 and reading the 		
Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	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.	 Can explain the effect of dividing a one-digit number by 10 Can explain the effect of dividing a two-digit number by 10 Can explain the effect of dividing a one-digit number by 100 Can explain the effect of dividing a two-digit number by 100 	answer as ones, tenths and hundredths *Identifying where 0.5, 0.25 and 0.75 would be on a number line and discussing that these are positioned at ¹ $\frac{1}{4}$ and $\frac{3}{4}$ *Solve problems involving		
Round decimals with one decimal place to the nearest whole number		Can identify the nearest whole number to a one decimal place number.	money		



Compare numbers with the same number of decimal places up to two decimal	Can compare and order 1 dp numbers on a number line. Can compare 2dp numbers on a number line
places	
Estimate, compare and	 Can use decimal place value knowledge to compare
calculate different measures,	different measures.
including money in pounds	 Can calculate with measures
and pence	
Solve simple measure and	Knows how many 10ps are in a £1
money problems involving	 Knows how many 1ps are in a £1
fractions and decimals to two	 Knows how many centimetres are in a metre.
decimal places.	 Can solve problems involving money to 2dp
	 Can solve problems involving length to 2dp



Block 8					
Geometry					
Substantive Knowledge National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview		
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	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.	 Can recall and recognise in a variety of shapes that: an equilateral triangle has three equal sides and three equal angles isosceles triangles have two equal sides and two equal angles right angled triangles have one right angle scalene triangles have no equal sides and no equal angles triangles cannot have more than one obtuse angle squares have four equal sides and four right angles rectangles have two pairs of equal and parallel sides and four right angles parallelograms have two pairs of equal and parallel sides rhombuses have four equal sides, two pairs of parallel sides trapeziums have one pair of parallel sides kites have two pairs of equal sides which are adjacent, two equal angles 	 *Recap 2D shape – names and properties of shapes (regular and irregular shapes) *Recognising angles (obtuse, acute and right angles) *Comparing angles *Identifying angles in shapes *Investigating triangles, classifying and sorting *Investigating quadrilaterals, classifying and sorting *Investigating symmetrical patterns (one line of symmetry, 2 lines of symmetry, line of symmetry at an angle to the gridlines) *Exploring symmetry in shapes *Complete a simple symmetric figure with respect to a specific line of symmetry *Using coordinates to position 		
Identify acute and obtuse angles and compare and order angles up to two right angles by size		 Can identify acute angles on their own and within shapes Can identify obtuse angles on their own and within shapes Can compare two or more angles up to 180° 	points and to read the position of points using the language of x and y axis *Can use knowledge of properties of shapes to plot a missing coordinate of a given polygon		



Identify lines of symmetry	4G–3 Identify line symmetry in	Can recall and recognise in different shapes that:	*Can use the language of
in 2-D shapes presented in	2D shapes presented in	 A square has four lines of symmetry 	coordinates and positional language
different orientations	different orientations. Reflect	• A rectangle has two lines of symmetry	to describe how a shape has been
	shapes in a line of symmetry	• A rhombus has two lines of symmetry	translated
	and complete a symmetric	 A parallelogram has no lines of symmetry 	*Can translate a shape when given
	figure or pattern with respect to	• A trapezium may or may not have a line of symmetry	coordinates and positional language
	a specified line of symmetry.	• A kite has one line of symmetry	*Substantial problem solving
		 An equilateral triangle has three lines of symmetry 	
		 An isosceles triangle has one line of symmetry 	
		 A regular polygon has the same of lines of symmetry as 	
		it has sides	
Complete a simple		Can complete a pattern drawn on a square grid with:	
symmetric figure with		 one line of symmetry drawn parallel to the gridlines 	
respect to a specific line of		 one line of symmetry drawn at an angle to the gridlines 	
symmetry		two lines of symmetry	
Describe positions on a 2-D		 Can distinguish between the x and y axis. 	
grid as coordinates in the		 Can draw a pair of axes in one quadrant with equal 	
first quadrant		scales and integer labels.	
Describe movements	4G–1 Draw polygons, specified	Can describe position of a vertex of a 2D shape in the	
between positions as	by coordinates in the first	first quadrant using a pair of coordinates.	
translations of a given unit	quadrant, and translate within	• Can translate a shape using left/right and up/down	
to the left/right and	the first quadrant		
up/down			
Plot specified points and		• Can use properties of shape to complete the vertices of	
draw sides to complete a		a simple shape.	
given polygon			



		Block 9				
	Measure – Length, Perimeter, Area, Capacity & Mass					
Substantive Knowledge National Curriculum	Ready to Progress	Key Performance Indicators	Sequence of learning Detailed in Planning Overview			
Convert between different units of measure [for example, kilometre to metre; hour to minute]	No specific Ready to Progress statements for Length and Perimeter but use the opportunity to consolidate prior statements as appropriate e.g. 4NPV–3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the	 Knows and understands the relationships between familiar units of measurement Can use multiplication and division to aid conversion. Can convert km into m and vice versa. Can convert l into ml and vice versa. Can convert g into kg and vice versa Can suggest the most appropriate unit of measure. 	 *Recap tools and language of measure. *Recap units of measure and which units are used to measure different things. *Convert between different units of measure [for example, kilometre to metre, mm to cm] *Convert between different units of measure [g to kg] *Convert between different units of measure [l to ml] *Estimate, compare and calculate different measures *Problem solving around the concepts covered *Calculate the perimeter of a regular shape *Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. *Find the area of rectilinear shapes by counting 			
Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	nearest of each. NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts 4MD-1 Multiply and divide whole	 Can measure sides of a rectangle to calculate the perimeter. Can generalise about the perimeter of a rectangle using words and symbols. Can use the formulae 2(L+W) to calculate perimeter of a rectangle. Can work out the perimeter of irregular shapes. 				
Find the area of rectilinear shapes by counting squares	numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	 Can relate area to arrays and multiplication. Can find the area of a rectangle by counting squares. Can generalise about the area of a rectangle using words and symbols. 	squares			
Estimate, compare and calculate different measures, including money in pounds and pence		 Can use decimal place value knowledge to compare different measures. Can calculate with measures This is covered within Decimals & Money Block 				



Block 10 Measure – Time					
Convert between different units of measure [for example, kilometre to metre; hour to minute]		 Knows and understands the relationships between familiar units of measurement Can use multiplication and division to aid conversion Can convert an hour into minutes and vice versa Can suggest the most appropriate unit of measure 	*Reading and writing time on analogue clocks *Reading and writing time on digital clocks and converting time between analogue and digital 12- hour clocks *Reading and writing time on 24-hour clocks and converting from 12-hour to 24-hour digital clocks and analogue clocks *Solve problems involving converting from hours to minutes; minutes to seconds; years to months;		
Read, write and convert time between analogue and digital 12- and 24-hour clocks		 Can read and understand 24-hour time Can relate 24 hr notation to am and pm Can covert 12 hr into 24 hour and vice versa 	weeks to days *Making links and consolidation		

