Mathematics Curriculum Progression – Year 4

When	Unit	National Curriculum Coverage	Progressive small steps of learning	Vocabulary to be recalled from prior learning	New Vocabulary
Autumn	Review of addition and subtraction	Addition & Subtraction	Pupils identify the addends and the sum in column addition Pupils use their knowledge of place value to correctly lay out column addition Pupils add a pair of 2-digit numbers using column addition Pupils add using column addition Pupils use their knowledge of column addition to solve problems Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column Pupils add using column addition with regrouping Pupils use known facts and strategies to accurately and efficiently calculate and check column addition Pupils use their knowledge of column addition to solve problems Pupils identify the minuend and the subtrahend in column subtraction Pupils subtract using column subtraction Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1) Pupils subtract from a 3-digit number using a column subtraction with exchanging from hundreds to tens (2) Pupils evaluate the efficiency of strategies for subtraction	Addend Minuend Subtrahend Sum Commutative	
	Numbers to 10,000	Number & Place value Number Facts	Pupils explain how many tens, hundreds and ones 1,000 is composed of Pupils use knowledge of 1,000 to explain common measure conversions Pupils use knowledge of 1,000 to solve problems Pupils use different strategies to add multiples of 100 Pupils use different strategies to subtract multiples of 100 Pupils use knowledge of calculation and common measure conversions to solve problems Pupils compose and decompose four-digit numbers in different ways Pupils use strategies to make solving calculations more efficient Pupils compare and order four-digit numbers Pupils calculate efficiently by using knowledge of place value, addition and subtraction Pupils explain what rounding is Pupils round a four-digit number to the nearest thousand Pupils round a four-digit number to the nearest hundred and ten Pupils round a four-digit number to the nearest thousand, hundred and ten Pupils add up to 3 four-digit numbers using a column addition Pupils subtract four-digit numbers using a column subtraction Pupils use strategies to make solving calculations more efficient Pupils explain how many '100s' and '200s', 1,000 is composed of Pupils explain how many '500s' and '250s', 1,000 is composed of	Thousands, Hundreds, Tens, Ones Millimetre, Metre Millilitre, Litre Gram, Kilogram Multiples, Boundary, Convert Addend, Increase, decrease Largest place value digit < less than, >Greater than Next multiple, Previous multiple, Nearest ten, Nearest hundred	Milli Kilo Commutative Decompose Compose Rounding Efficient Scale
	Perimeter	Geometry	A regular polygon has sides that are all the same length and interior angles that are all equal in size Perimeter is the distance around the edge of a two-dimensional shape Different shapes can have the same perimeter Perimeter is measured in units of length and can be found by counting units Perimeter can be calculated by adding together the side lengths of a 2D shape The perimeter of a rectangle can be calculated by addition and multiplication Unknown side lengths can be calculated from perimeter and known side lengths The perimeter of a regular polygon can be calculated by multiplication The side length of a regular polygon can be calculated by division where the perimeter is known	Polygon Length Equal to Length Millimetres Centimetres Metres Kilometres	Regular polygon Irregular polygon Interior angles Perimeter
Spring	Understanding and manipulating multiplicative relationships	Multiplication & Division Number facts	Pupils explain the relationship between multiplying a number by 10 and multiples of 10 Pupils explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10 Pupils explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10 Pupils explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10 Pupils explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10 Pupils explain the relationship between multiplying a number by 100 and multiples of 100 Pupils explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100 Pupils explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100 Pupils explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100 Pupils explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100 Pupils use knowledge of the composition of 100 to multiply by 100 in different ways Pupils use knowledge of the composition of 100 to divide by 100 in different ways	Multiples Digit Factor Product	Placeholder Magnitude Scaling Dividend Divisor Quotient Scaling

			Pupils explain how making a factor 10 times the size affects the product Pupils explain how making the dividend 10 times the size affects the quotient Pupils explain how making a factor 100 times the size affects the product Pupils explain how making the dividend 100 times the size affects the quotient Pupils scale known multiplication facts by 100 Pupils scale division derived from multiplication facts by 100 Pupils multiply a two-digit number by a single-digit number using partitioning and representations (no regroups) Pupils multiply a two-digit number by a single-digit number using partitioning and representations (one regroup) Pupils multiply a two-digit number by a single-digit number using partitioning and representations (two regroups) Pupils multiply a two-digit number by a single-digit number using partitioning Pupils multiply a two-digit number by a single-digit number using expanded multiplication (no regroups) Pupils multiply a two-digit number by a single-digit number using short multiplication (no regroups) Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens) Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens) Pupils multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds) Pupils multiply a two-digit number by a single-digit number using short multiplication (regrouping tens to hundreds) Pupils multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroups) Pupils use estimation to support accurate calculation Pupils multiply a three-digit number by a single-digit number using partitioning and representations Pupils multiply a three-digit number by a single-digit number using partitioning Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroups) Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup) Pupils multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroups) Pupils use estimation to support accurate calculation		
	Coordinates	Geometry	Pupils give directions from one position to another on a grid Pupils move objects including polygons on a grid according to directions, and mark the new position Pupils describe translations of polygons drawn on a square grid Pupils draw polygons specified by translations Pupils mark points specified as a translation from the origin Pupils mark the position of points specified by coordinates in the first quadrant of a coordinate grid, and write coordinates for already marked points Pupils draw polygons specified by coordinates in the first quadrant Pupils translate polygons in the first quadrant	**Polygon Parallel Perpendicular Quadrilateral Compound shape**	**Translate Translation Origin Horizontal axis Vertical axis Vertices Vertex**
Summer	**Fractions greater than 1**	Fractions	Pupils explain how to express quantities made up of both whole numbers and a fractional part Pupils explain how a quantity made up of whole numbers and a fractional part is composed Pupils compose and decompose quantities made of whole numbers and fractional parts Pupils accurately label a range of number lines and explain the meaning of each part Pupils identify numbers on marked but unlabelled number lines Pupils estimate the position of numbers on a number line using fraction sense Pupils compare and order mixed numbers using fraction sense Pupils compare and order mixed numbers when the whole number is the same Pupils compare and order mixed numbers when the whole number and the numerator of the fractional part is the same Pupils make efficient choices about the order they solve an addition problem in Pupils make efficient choices about the order they solve a subtraction problem in Pupils express a quantity as a mixed number and an improper fraction (quarters) Pupils convert a quantity from an improper fraction to a mixed number (quarters) Pupils express and convert a quantity from an improper fraction to a mixed number (fifths) Pupils explain how an improper fraction is converted into a mixed number (any unit) Pupils explain how a mixed number is converted into an improper fraction Pupils add mixed numbers Pupils subtract a proper fraction from a mixed number (converting to an improper fraction first) Pupils subtract a mixed number from a mixed number and explain which strategy is most efficient Pupils use knowledge of subtraction to choose correct and efficient approaches when subtracting mixed numbers	**Whole Part Numerator Denominator Equal Parts**	**Fractional part Mixed Number Equation Addend Subtrahend Minuend Greater than > Less than < Equal to = Compare Commutative Improper fraction Quarters Fifths Convert**

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Symmetry in 2D shapes	Geometry	Pupils complete a symmetrical pattern Pupils compose symmetrical shapes from two congruent shapes Pupils investigate lines of symmetry in 2D shapes by folding paper shape cut-outs Pupils find lines of symmetry in 2D shapes using a mirror Pupils reflect polygons in a line of symmetry Pupils reflect polygons that are dissected by a line of symmetry	Symmetrical line of symmetry mirror line reflection	Identical Polygon kite
Time	Time	Pupils read, write and convert time between analogue and digital 12- and 24-hour clocks Pupils solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.		
Division with remainders	Number facts	Pupils interpret a division story when there is a remainder and represent it with an equation (i) Pupils interpret a division story when there is a remainder and represent it with an equation (ii) Pupils interpret a division story when there is a remainder and represent it with an equation (iii) Pupils explain how the remainder relates to the divisor in a division equation Pupils explain when there will and will not be a remainder in a division equation Pupils use knowledge of division equations and remainders to solve problems Pupils interpret the answer to a division calculation to solve a problem (i) Pupils interpret the answer to a division calculation to solve a problem (ii)		