Paget Primary School Mathematics Long Term Plan

Year 4

		Unit
Autumn 1	3 weeks	**Review of column addition and subtraction** 1 Pupils identify the addends and the sum in column addition 2 Pupils use their knowledge of place value to correctly lay out column addition 3 Pupils add a pair of 2-digit numbers using column addition 4 Pupils add using column addition 5 Pupils use their knowledge of column addition to solve problems 6 Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column 7 Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column 8 Pupils add using column addition with regrouping 9 Pupils use known facts and strategies to accurately and efficiently calculate and check column addition 10 Pupils use their knowledge of column addition to solve problems 11 Pupils identify the minuend and the subtrahend in column subtraction 12 Pupils subtract using column subtraction 13 Pupils subtract from a 2-digit number using column subtraction with exchanging from tens to ones 14 Pupils subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1) 15 Pupils subtract from a 3-digit number using a column subtraction with exchanging from hundreds to tens (2) 16 Pupils evaluate the efficiency of strategies for subtraction
	5 weeks	**Numbers to 10,000** 1 Pupils explain how many tens, hundreds and ones 1,000 is composed of 2 Pupils use knowledge of 1,000 to explain common measure conversions 3 Pupils use knowledge of 1,000 to solve problems 4 Pupils use different strategies to add multiples of 100 5 Pupils use different strategies to subtract multiples of 100 6 Pupils use knowledge of calculation and common measure conversions to solve problems 7 Pupils compose and decompose four-digit numbers in different ways 8 Pupils use strategies to make solving calculations more efficient 9 Pupils compare and order four-digit numbers 10 Pupils calculate efficiently by using knowledge of place value, addition and subtraction 11 Pupils explain what rounding is 12 Pupils round a four-digit number to the nearest thousand 13 Pupils round a four-digit number to the nearest hundred and ten 14 Pupils round a four-digit number to the nearest thousand, hundred and ten 15 Pupils add up to 3 four-digit numbers using a column addition 16 Pupils subtract four-digit numbers using a column subtraction 17 Pupils use strategies to make solving calculations more efficient 18 Pupils explain how many '100s' and '200s', 1,000 is composed of 19 Pupils explain how many '500s' and '250s', 1,000 is composed of
Autumn 2		**Numbers to 10,000** 1 A regular polygon has sides that are all the same length and interior angles that are all equal in size 2 Perimeter is the distance around the edge of a two-dimensional shape 3 Different shapes can have the same perimeter 4 Perimeter is measured in units of length and can be found by counting units 5 Perimeter can be calculated by adding together the side lengths of a 2D shape 6 The perimeter of a rectangle can be calculated by addition and multiplication 7 Unknown side lengths can be calculated from perimeter and known side lengths 8 The perimeter of a regular polygon can be calculated by multiplication 9 The side length of a regular polygon can be calculated by division where the perimeter is known
	2 weeks	**Perimeter** 1 A regular polygon has sides that are all the same length and interior angles that are all equal in size 2 Perimeter is the distance around the edge of a two-dimensional shape 3 Different shapes can have the same perimeter 4 Perimeter is measured in units of length and can be found by counting units 5 Perimeter can be calculated by adding together the side lengths of a 2D shape 6 The perimeter of a rectangle can be calculated by addition and multiplication

		7 Unknown side lengths can be calculated from perimeter and known side lengths 8 The perimeter of a regular polygon can be calculated by multiplication 9 The side length of a regular polygon can be calculated by division where the perimeter is known
	1 week	Flexible assessment and gap filling (to be moved where needed)
Spring 1	4 weeks	**3, 6, 9 times tables** 1 Pupils represent counting in threes as the three times table 2 Pupils explain the relationship between adjacent multiples of three 3 Pupils use knowledge of the three times table to solve problems 4 Pupils represent counting in sixes as the six times table 5 Pupils explain the relationship between adjacent multiples of six 6 Pupils use knowledge of the six times table to solve problems 7 Pupils use known facts from the five times table to solve problems involving the six times table 8 Pupils explain the relationship between multiples of three and multiples of six 9 Pupils use knowledge of the relationships between the three and six times tables to solve problems 10 Pupils represent counting in nines as the nine times table 11 Pupils explain the relationship between adjacent multiples of nine (1) 12 Pupils explain the relationship between adjacent multiples of nine (2) 13 Pupils use known facts from the ten times table to solve problems involving the nine times table 14 Pupils explain the relationship between multiples of three and multiples of nine 15 Pupils explain the relationship between pairs of three and nine times table facts that have the same product (1) 16 Pupils explain the relationship between pairs of three and nine times table facts that have the same product (2) 17 Pupils use the divisibility rules for divisors of three 18 Pupils use the divisibility rules for divisors of six (1) 19 Pupils use the divisibility rules for divisors of six (2)
	2 weeks	**7 times table** 1 Pupils represent counting in sevens as the 7 times table 2 Pupils explain the relationship between adjacent multiples of seven 3 Pupils use their knowledge of the 7 times table to solve problems 4 Pupils identify patterns of odd and even numbers in the times tables 5 Pupils represent a square number 6 Pupils use knowledge of divisibility rules to solve problems
	1 week	**Statistics – added in unit** 1. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs 2. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs 3. Understand and use a greater range of scales in representations
Spring 2	5 weeks	**Understanding and manipulating multiplicative relationships** 1 Pupils explain what each factor represents in a multiplication equation 2 Pupils explain how each part of a multiplication and division equation relates to a story 3 Pupils explain where zero can be part of a multiplication or division expression and the impact it has 4 Pupils partition one of the factors in a multiplication equation in different ways using representations (I) 5 Pupils partition one of the factors in a multiplication equation in different ways using representations (II) 6 Pupils explain which is the most efficient factor to partition to solve a multiplication problem 7 Pupils use knowledge of distributive law to solve two part addition and subtraction problems, efficiently 8 Pupils use knowledge of distributive law to calculate products beyond known times tables facts 9 Pupils explain the relationship between multiplying a number by 10 and multiples of 10 10 Pupils explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10 11 Pupils explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10 12 Pupils explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10 13 Pupils explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10 14 Pupils explain the relationship between multiplying a number by 100 and multiples of 100 15 Pupils explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100 16 Pupils explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100 17 Pupils explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100 18 Pupils explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100 19 Pupils use knowledge of the composition of 100 to multiply by 100 in different ways 20 Pupils use knowledge of the composition of 100 to divide by 100 in different ways 21 Pupils explain how making a factor 10 times the size affects the product 22 Pupils explain how making the dividend 10 times the size affects the quotient 23 Pupils explain how making a factor 100 times the size affects the product 24 Pupils explain how making the dividend 100 times the size affects the quotient 25 Pupils scale known multiplication facts by 100 26 Pupils scale division derived from multiplication facts by 100

	2 weeks	**Coordinates** 1 Pupils give directions from one position to another on a grid 2 Pupils move objects including polygons on a grid according to directions, and mark the new position 3 Pupils describe translations of polygons drawn on a square grid 4 Pupils draw polygons specified by translations 5 Pupils mark points specified as a translation from the origin 6 Pupils mark the position of points specified by coordinates in the first quadrant of a coordinate grid, and write coordinates for already-marked points 7 Pupils draw polygons specified by coordinates in the first quadrant 8 Pupils translate polygons in the first quadrant
	1 week	**Roman numerals** 1. Read roman numerals to 100 (Ito C) and know that over time, the numeral system changed to include the concept of zero and place value 2. Read time on roman numeral clocks
Summer 1	1 week	**Review of fractions** 1 Pupils identify a whole and the parts that make it up 2 Pupils explain why a part can only be defined when in relation to a whole 3 Pupils identify the number of equal or unequal parts in a whole 4 Pupils identify equal parts when they do not look the same 5 Pupils explain the size of the part in relation to the whole 6 Pupils construct a whole when given a part and the number of parts
	5 weeks	**Fractions greater than 1** 1 Pupils explain how to express quantities made up of both whole numbers and a fractional part 2 Pupils explain how a quantity made up of whole numbers and a fractional part is composed 3 Pupils compose and decompose quantities made of whole numbers and fractional parts 4 Pupils accurately label a range of number lines and explain the meaning of each part 5 Pupils identify numbers on marked but unlabelled number lines 6 Pupils estimate the position of numbers on a number line using fraction sense 7 Pupils compare and order mixed numbers using fraction sense 8 Pupils compare and order mixed numbers when the whole number is the same 9 Pupils compare and order mixed numbers when the whole number and the numerator of the fractional part is the same 10 Pupils make efficient choices about the order they solve an addition problem in 11 Pupils make efficient choices about the order they solve a subtraction problem in 12 Pupils express a quantity as a mixed number and an improper fraction (quarters) 13 Pupils convert a quantity from an improper fraction to a mixed number (quarters) 14 Pupils express and convert a quantity from an improper fraction to a mixed number (fifths) 15 Pupils explain how an improper fraction is converted into a mixed number (any unit) 16 Pupils explain how a mixed number is converted into an improper fraction 17 Pupils add mixed numbers 18 Pupils subtract a proper fraction from a mixed number (converting to an improper fraction first) 19 Pupils subtract a mixed number from a mixed number and explain which strategy is most efficient 20 Pupils use knowledge of subtraction to choose correct and efficient approaches when subtracting mixed numbers
Summer 2	2 weeks	**Symmetry** 1 Pupils complete a symmetrical pattern 2 Pupils compose symmetrical shapes from two congruent shapes 3 Pupils investigate lines of symmetry in 2D shapes by folding paper shape cut-outs 4 Pupils find lines of symmetry in 2D shapes using a mirror 5 Pupils reflect polygons in a line of symmetry 6 Pupils reflect polygons that are dissected by a line of symmetry
	1 week	**Time** 1. Read, write and convert time between analogue and digital 12- and 24-hour clocks 2. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
	2 weeks	**Division with remainders** 1 Pupils interpret a division story when there is a remainder and represent it with an equation (i) 2 Pupils interpret a division story when there is a remainder and represent it with an equation (ii) 3 Pupils interpret a division story when there is a remainder and represent it with an equation (iii) 4 Pupils explain how the remainder relates to the divisor in a division equation 5 Pupils explain when there will and will not be a remainder in a division equation 6 Pupils use knowledge of division equations and remainders to solve problems 7 Pupils interpret the answer to a division calculation to solve a problem (i)

		8 Pupils interpret the answer to a division calculation to solve a problem (ii)
	1 week	Flexible assessment and gap filling (to be moved where needed)