

Paget Primary School Mathematics Long Term Plan

Year 3

		Unit
Autumn 1	2 weeks	<p align="center"><b>Adding and subtracting across 10</b></p> <ol style="list-style-type: none"> <li><i>Pupils add 3 addends</i></li> <li><i>Pupils use a 'First.. Then... Now" story to add 3 addends</i></li> <li><i>Pupils explain that addends can be added in any order</i></li> <li><i>Pupils add 3 addends efficiently</i></li> <li><i>Pupils add 3 addends efficiently by finding two addends that total 10</i></li> <li><i>Pupils add two numbers that bridge through 10</i></li> <li><i>Pupils subtract two numbers that bridge through 10</i></li> </ol>
	10 weeks	<p align="center"><b>Numbers to 1000</b></p> <ol style="list-style-type: none"> <li><i>Pupils explain that 100 is composed of ten tens and one hundred ones</i></li> <li><i>Pupils explain that 100 is composed of 50s 25s and 20s</i></li> <li><i>Pupils use known facts to find multiples of ten that compose 100</i></li> <li><i>Pupils will use known facts to find a two-digit number and a one- or two-digit number that compose 100</i></li> <li><i>Pupils use known facts to find correct complements to 100</i></li> <li><i>Pupils use known facts to find complements to 100 accurately and efficiently</i></li> <li><i>Pupils represent a three-digit number which is a multiple of ten using their numerals and names</i></li> <li><i>Pupils use place value knowledge to write addition and subtraction equations</i></li> <li><i>Pupils bridge 100 by adding or subtracting in multiples of ten</i></li> <li><i>Pupils use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems</i></li> <li><i>Pupils count across and on from 100</i></li> <li><i>Pupils represent a three-digit number up to 199 in different ways</i></li> <li><i>Pupils bridge 100 by adding or subtracting a single-digit number</i></li> <li><i>Pupils find ten more or ten less than a given number</i></li> <li><i>Pupils cross the hundreds boundary when adding and subtracting any two-digit multiple of ten</i></li> <li><i>Pupils become familiar with a metre ruler (marked and unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)</i></li> <li><i>Pupils measure length and height from zero using whole metres and cm</i></li> <li><i>Pupils measure length and height from zero using cm</i></li> <li><i>Pupils convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa)</i></li> <li><i>Pupils become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm)</i></li> <li><i>Pupils measure length from zero using mm / whole cm and mm</i></li> <li><i>Pupils convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa)</i></li> <li><i>Pupils estimate a length/height, measure a length/height and record in a table</i></li> <li><i>Pupils use knowledge of place value to represent a three-digit number in different ways</i></li> <li><i>Pupils represent a three-digit number up to 1000 in different ways</i></li> <li><i>Pupils use knowledge of the additive relationship to solve problems</i></li> <li><i>Pupils count in hundreds and tens on a number line</i></li> <li><i>Pupils identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten</i></li> <li><i>Pupils position three-digit numbers on number lines</i></li> <li><i>Pupils estimate the position of three-digit numbers on unmarked number lines</i></li> <li><i>Pupils compare one-, two- and three-digit numbers</i></li> <li><i>Pupils compare two three-digit numbers</i></li> <li><i>Pupils order sets of three-digit numbers</i></li> <li><i>Pupils use known facts to add or subtract multiples of 100 within 1000</i></li> <li><i>Pupils write a three-digit multiple of 10 as a multiplication equation</i></li> <li><i>Pupils partition three-digit numbers in different ways</i></li> <li><i>Pupils use known facts to solve problems involving partitioning numbers</i></li> <li><i>Pupils use known facts to add or subtract to/from multiples of 100 in tens</i></li> <li><i>Pupils use known facts to add or subtract to/from multiples of 100 in ones</i></li> <li><i>Pupils add/subtract multiples of ten bridging 100</i></li> <li><i>Pupils add/subtract to/from a three-digit number in ones bridging 100</i></li> <li><i>Pupils find 10 more or less across any hundreds boundary</i></li> <li><i>Pupils use knowledge of adding or subtracting to/from three-digit numbers to solve problems</i></li> <li><i>Pupils count forwards and backwards in multiples of 2, 20, 5, 50 and 25</i></li> <li><i>Pupils use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems</i></li> <li><i>Pupils become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g)</i></li> <li><i>Pupils become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml)</i></li> <li><i>Pupils measure mass from zero up to 1kg using grams</i></li> <li><i>Pupils measure mass from zero above 1kg using whole kg and grams</i></li> <li><i>Pupils measure volume from zero up to 1 litre using ml</i></li> </ol>
Autumn 2		

		<p>51 Pupils measure volume from zero above 1 litre using whole litres and ml</p> <p>52 Pupils estimate mass in grams and volume in ml</p> <p>53 Pupils estimate a mass/volume, measure a mass/volume and record in a table</p>
	1 week	<p style="text-align: center;"><b>Statistics – added in unit</b></p> <ol style="list-style-type: none"> <li>1. Interpret and present data using bar charts, pictograms and tables</li> <li>2. Solve one-step and two-step questions (how many more and how many fewer?) using information presented in scaled bar charts and pictograms and tables</li> </ol>
	1 week	Flexible week for assessment and/or gaps in learning
Spring 1	2 weeks	<p style="text-align: center;"><b>Right angles</b></p> <ol style="list-style-type: none"> <li>1 Pupils rotate two lines around a fixed point to make different sized angles</li> <li>2 Pupils draw triangles and quadrilaterals and identify vertices</li> <li>3 Pupils learn that a right angle is a 'square corner' and identify them in the environment</li> <li>4 Pupils learn that a rectangle is a 4-sided polygon with four right angles</li> <li>5 Pupils learn that a square is a rectangle in which the four sides are equal length</li> <li>6 Pupils cut rectangles and squares on the diagonal and investigate the shapes they make</li> <li>7 Pupils join four right angles at a point using different right-angled polygons</li> <li>8 Pupils investigate and draw other polygons with right angles</li> </ol>
	4 weeks	<p style="text-align: center;"><b>Manipulating the additive relationship and securing mental calculation</b></p> <ol style="list-style-type: none"> <li>1 Pupils add two 3-digit numbers using partitioning</li> <li>2 Pupils add two 3-digit numbers using adjusting</li> <li>3 Pupils add a pair of 2- or 3-digit numbers using redistribution</li> <li>4 Pupils subtract a pair of 2- or 3-digit numbers, bridging a multiple of 10, using partitioning</li> <li>5 Pupils subtract a pair of 2-digit numbers, crossing a ten or hundreds boundary, by finding the difference between them</li> <li>6 Pupils subtract a pair of three-digit multiples of 10 within 1000 by finding the difference between them</li> <li>7 Pupils evaluate the efficiency of strategies for subtracting from a 3-digit number</li> <li>8 Pupils explain why the order of addition and subtraction steps in a multi-step problem can be chosen</li> <li>9 Pupils accurately and efficiently solve multi-step addition and subtraction problems</li> <li>10 Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (2-digit numbers)</li> <li>11 Pupils understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (3-digit numbers)</li> <li>12 Pupils use knowledge of the additive relationship to rearrange equations</li> <li>13 Pupils use knowledge of the additive relationship to identify what is known and what is unknown in an equation</li> <li>14 Pupils use knowledge of the additive relationship to rearrange equations before solving</li> </ol>
Spring 2	2 weeks	<p style="text-align: center;"><b>Column addition</b></p> <ol style="list-style-type: none"> <li>1 Pupils identify the addends and the sum in column addition</li> <li>2 Pupils use their knowledge of place value to correctly lay out column addition</li> <li>3 Pupils add a pair of 2-digit numbers using column addition</li> <li>4 Pupils add using column addition</li> <li>5 Pupils use their knowledge of column addition to solve problems</li> <li>6 Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column</li> <li>7 Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column</li> <li>8 Pupils add using column addition with regrouping</li> <li>9 Pupils use known facts and strategies to accurately and efficiently calculate and check column addition</li> <li>10 Pupils use their knowledge of column addition to solve problems</li> </ol>
	3 weeks	<p style="text-align: center;"><b>2, 4, 8 times table</b></p> <ol style="list-style-type: none"> <li>1 Pupils represent counting in fours as the 4 times table</li> <li>2 Pupils use knowledge of the 4 times table to solve problems</li> <li>3 Pupils explain the relationship between adjacent multiples of four</li> <li>4 Pupils explain the relationship between multiples of 2 and multiples of 4</li> <li>5 Pupils use knowledge of the relationships between the 2 and 4 times tables to solve problems</li> <li>6 Pupils represent counting in eights as the 8 times table</li> <li>7 Pupils explain the relationship between adjacent multiples of eight</li> <li>8 Pupils explain the relationship between multiples of 4 and multiples of 8</li> <li>9 Pupils use knowledge of the relationships between the 4 and 8 times tables to solve problems</li> <li>10 Pupils explain the relationship between multiples of 2, 4 and multiples of 8</li> <li>11 Pupils use knowledge of the relationships between the 2, 4 and 8 times tables to solve problems</li> <li>12 Pupils use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems</li> <li>13 Pupils use knowledge of the divisibility rules for divisors of 8 to solve problems</li> </ol>

		<p>14 Pupils scale known multiplication facts by 10</p> <p>15 Pupils scale division derived from multiplication facts by 10</p>
	1 week	<p style="text-align: center;"><b>Column subtraction</b></p> <p>1 Pupils identify the addends and the sum in column addition</p> <p>2 Pupils use their knowledge of place value to correctly lay out column addition</p> <p>3 Pupils add a pair of 2-digit numbers using column addition</p> <p>4 Pupils add using column addition</p> <p>5 Pupils use their knowledge of column addition to solve problems</p> <p>6 Pupils add a pair of 2-digit numbers using column addition with regrouping in the ones column</p> <p>7 Pupils add a pair of 2-digit numbers using column addition with regrouping in the tens column</p> <p>8 Pupils add using column addition with regrouping</p> <p>9 Pupils use known facts and strategies to accurately and efficiently calculate and check column addition</p> <p>10 Pupils use their knowledge of column addition to solve problems</p>
Summer 1	5 weeks	<p style="text-align: center;"><b>Unit fractions</b></p> <p>1 Pupils identify a whole and the parts that make it up</p> <p>2 Pupils explain why a part can only be defined when in relation to a whole</p> <p>3 Pupils identify the number of equal or unequal parts in a whole</p> <p>4 Pupils identify equal parts when they do not look the same (i)</p> <p>5 Pupils explain the size of the part in relation to the whole</p> <p>6 Pupils construct a whole when given a part and the number of parts</p> <p>7 Pupils identify how many equal parts a whole has been divided into</p> <p>8 Pupils use fraction notation to describe an equal part of the whole</p> <p>9 Pupils represent a unit fractions in different ways</p> <p>10 Pupils identify parts and wholes in different contexts (i)</p> <p>11 Pupils identify parts and wholes in different contexts (ii)</p> <p>12 Pupils identify equal parts when they do not look the same (ii)</p> <p>13 Pupils compare and order unit fractions by looking at the denominator</p> <p>14 Pupils identify when unit fractions cannot be compared</p> <p>15 Pupils construct a whole when given one part and the fraction that it represents</p> <p>16 Pupils use knowledge of the relationship between parts and wholes in unit fractions to solve problems</p> <p>17 Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction</p> <p>18 Pupils quantify the number of items in each part and connect to the unit fraction operator</p> <p>19 Pupils calculate the value of a part by using knowledge of division and division facts</p> <p>20 Pupils calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity</p> <p>21 Pupils find fractions of quantities using knowledge of division facts with increasing fluency</p>
	1 week	<p style="text-align: center;"><b>Roman numerals – added in unit</b></p> <p>1. Recognise and use roman numerals up to XX</p> <p>2. Tell and write the time using roman numerals I to XII</p>
Summer 2	4 weeks	<p style="text-align: center;"><b>Non-unit fractions</b></p> <p>1 Pupils explain that non-unit fractions are composed of more than one unit fraction</p> <p>2 Pupils identify non-unit fractions</p> <p>3 Pupils identify the number of equal or unequal parts in a whole</p> <p>4 Pupils use knowledge of non-unit fractions to solve problems</p> <p>5 Pupils use knowledge of unit fractions to find one whole</p> <p>6 Pupils place fractions between 0 and 1 on a numberline</p> <p>7 Pupils use repeated addition of a unit fraction to form a non-unit fraction</p> <p>8 Pupils use repeated addition of a unit fraction to form 1</p> <p>9 Pupils compare using knowledge of non-unit fractions equivalent to one</p> <p>10 Pupils compare non-unit fractions with the same denominator</p> <p>11 Pupils compare unit fractions</p> <p>12 Pupils compare fractions with the same numerator</p> <p>13 Pupils add up fractions with the same denominator</p> <p>14 Pupils add on fractions with the same denominator</p> <p>15 Pupils add fractions with the same denominator using a generalised rule</p> <p>16 Pupils subtract fractions with the same denominator</p> <p>17 Pupils identify the whole, the number of equal parts and the size of each part as a unit fraction</p> <p>18 Pupils explain that addition and subtraction of fractions are inverse operations</p> <p>19 Pupils subtract fractions from a whole by converting the whole to a fraction</p> <p>20 Pupils represent a whole as a fraction in different ways and use this to solve problems involving subtraction</p>
	2 weeks	<p style="text-align: center;"><b>Parallel and perpendicular sides in polygons</b></p> <p>1 Pupils make compound shapes by joining two polygons in different ways (same parts, different whole)</p> <p>2 Pupils investigate different ways of composing and decomposing a polygon (same whole, different parts)</p> <p>3 Pupils draw polygons on isometric paper</p> <p>4 Pupils use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides</p> <p>5 Pupils make and draw compound shapes with and without parallel and perpendicular sides</p> <p>6 Pupils learn to extend lines and sides to identify parallel and perpendicular lines</p>

		<p>7 Pupils make and draw triangles on circular geoboards</p> <p>8 Pupils make and draw quadrilaterals on circular geoboards</p> <p>9 Pupils draw shapes with given properties on a range of geometric grids</p>
1 week		<p style="text-align: center;">Time</p> <p>1. Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>2. Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <p>3. Know the number of seconds in a minute and the number of days in each month, year and leap year</p> <p>4. Compare durations of events [for example to calculate the time taken by particular events or tasks].</p> <p>5. Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in Year 4</p>