

## Year 3 – Maths Teaching Overview



<b>Autumn 1</b>		
Mental addition and subtraction (MAS)	Use multiple of 5 and 10 bonds to 100 to solve additions and subtractions; add and subtract 1-digit numbers to and from 2-digit numbers	<ul style="list-style-type: none"> <li>recognise and use bonds to 10</li> <li>recognise and use multiple of 10 bonds to 100.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise and use bonds to 10 to help derive multiple of 5 bonds to 100</li> <li>understand that when you work out a 2-digit number ending in 5 bond to 100 the 10s numbers will need to total 90.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise and use number bonds and doubles to solve additions of three or four small numbers</li> <li>recognise and use bonds of numbers to 10.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise and use bonds to solve additions and subtractions of 1-digit numbers to and from 2-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise and use bonds to add and subtract a 1-digit number to and from a 2-digit number</li> <li>begin to spot number patterns and explain these using their knowledge of number bonds.</li> </ul>
Number and place value (NPV); Mental addition and subtraction (MAS)	Compare and order 2- and 3- digit numbers; count on and back in 10s and 1s; add and subtract 2-digit numbers	<ul style="list-style-type: none"> <li>read and write 3-digit numbers</li> <li>correctly identify the number of 100s, 10s and 1s in a 3-digit number</li> <li>begin to ‘zap’ digits by subtracting the 10s or the 100s or the 1s.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise 100s, 10s and 1s in 3-digit numbers and use them to compare and order numbers</li> <li>use greater than &gt; and less than &lt; signs correctly in a number sentence.</li> </ul>
		<ul style="list-style-type: none"> <li>add and subtract multiples of 10 by counting on and back in 10s or using number facts</li> <li>add and subtract near multiples of 10 by counting on and back in 10s or using number facts and correcting by adding or subtracting the extra 1.</li> </ul>
		<ul style="list-style-type: none"> <li>recognise and use bonds to solve additions and subtractions of 2-digit numbers</li> <li>add and subtract 2-digit numbers using number facts and counting on and back.</li> </ul>
		<ul style="list-style-type: none"> <li>add and subtract 2-digit numbers to and from 2-digit numbers</li> <li>work systematically</li> <li>show logical reasoning skills, deduction, discuss and share work.</li> </ul>
Mental multiplication and division (MMD)	Know multiplication and division facts for the 5, 10, 2, 4 and 3x tables; doubling and halving	<ul style="list-style-type: none"> <li>recall and use multiplication facts for the 5 and 10 times-tables immediately</li> <li>derive division facts really quickly.</li> </ul>
		<ul style="list-style-type: none"> <li>begin to know multiplication facts and derive division facts for the 4 times-table</li> <li>relate the 4 times-table to the 2 times-table.</li> </ul>
		<ul style="list-style-type: none"> <li>recall multiplication facts and derive division facts for the 3 times-table</li> <li>begin to relate the 6 times-table to the 3 times-table.</li> </ul>
		<ul style="list-style-type: none"> <li>recall doubles of numbers 1 to 20 and derive the related halves</li> <li>apply reasoning skills when choosing numbers that will give the longest chains.</li> </ul>
		<ul style="list-style-type: none"> <li>halve any even number up to 40 using partitioning</li> </ul>

		<ul style="list-style-type: none"> <li>• halve any odd number up to 20.</li> </ul>
Measurement (MEA); Geometry: properties of shapes (GPS)	Know and understand the calendar, including days, weeks, months, years; tell the time to the nearest 5 minutes on analogue and digital clocks; know the properties of 3D shapes	<ul style="list-style-type: none"> <li>• read simple calendars and understand how they work</li> <li>• find a time interval in months, and in weeks and days.</li> </ul>
		<ul style="list-style-type: none"> <li>• read the time to the quarter hour on analogue and digital clocks</li> <li>• write equivalent digital times when given analogue times, and vice versa.</li> </ul>
		<ul style="list-style-type: none"> <li>• read the time to the nearest five minutes (past and to the hour) on digital and analogue clocks.</li> </ul>
		<ul style="list-style-type: none"> <li>• classify and name 3D shapes</li> <li>• describe the properties of 3D shapes.</li> </ul>
		<ul style="list-style-type: none"> <li>• name and describe 3D shapes</li> <li>• understand and use the terms: faces, edges and vertices.</li> </ul>
Number and place value (NPV); Mental addition and subtraction (MAS)	Compare, order and understand place value of 2- and 3-digit numbers; subtract from 2- and 3-digit numbers; using prediction to estimate calculations	<ul style="list-style-type: none"> <li>• read and locate 2-digit numbers on a landmarked line</li> <li>• read and locate 3-digit numbers on a landmarked line.</li> </ul>
		<ul style="list-style-type: none"> <li>• read and write 3-digit numbers</li> <li>• say the 100s and 10s number any 3-digit number lies between</li> <li>• use ‘greater than’ and ‘less than’ signs correctly in a number sentence.</li> </ul>
		<ul style="list-style-type: none"> <li>• round 3-digit numbers to nearest 10</li> <li>• read and locate 3-digit numbers on a landmarked line.</li> </ul>
		<ul style="list-style-type: none"> <li>• subtract two 2-digit numbers (gaps under 12) by counting up</li> <li>• hop to next 10 then on.</li> </ul>
		<ul style="list-style-type: none"> <li>• use frog jumping to perform counting up subtractions</li> <li>• spot patterns, explain and predict ideas showing work as support, show logical reasoning skills and discuss and share work</li> </ul>
		<ul style="list-style-type: none"> <li>• think about the number system beginning to make generalisations.</li> </ul>
<b>Autumn 2</b>		
Mental multiplication and division (MMD); Fractions, ratio and proportion (FRP)	Double and halve numbers up to 100 using partitioning; understand fractions and fractions of numbers	<ul style="list-style-type: none"> <li>• double 2-digit numbers up to 50.</li> </ul>
		<ul style="list-style-type: none"> <li>• halve even numbers to 100, using partitioning</li> <li>• understand the relationship between doubling and halving.</li> </ul>
		<ul style="list-style-type: none"> <li>• understand the concept of a fraction, realising that each part must be equal</li> <li>• write unit fractions</li> <li>• realise that a unit fraction with a larger denominator is smaller than a unit fraction with a smaller denominator.</li> </ul>
		<ul style="list-style-type: none"> <li>• use strips to find <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math> and <math>\frac{1}{4}</math> of multiples of 2, 3 and 4</li> <li>• find several quarters and thirds of amounts.</li> </ul>
		<ul style="list-style-type: none"> <li>• look for patterns and relationships, and make predictions</li> <li>• begin to see the relationship between finding fractions of amounts and division.</li> </ul>
Mental addition and subtraction (MAS); Measurement (MEA)	Use money to add and subtract and record using the correct notation and place value; add and subtract 2-digit numbers using partitioning; add three 2-digit numbers by	<ul style="list-style-type: none"> <li>• read and write amounts of money using correct £.p. notation, (no zeros i.e. not £3.05)</li> <li>• make amounts of money using minimum coins</li> <li>• name and know value of all coins (1p–£2).</li> </ul>

	partitioning and recombining	<ul style="list-style-type: none"> <li>recognise £s/10ps/1ps in a given amount of money</li> <li>convert pounds to pence, i.e. know £2.83 = 283p</li> <li>use money notation</li> <li>add amounts of money using knowledge of place value</li> <li>subtract amounts of money using knowledge of place value.</li> </ul>
		<ul style="list-style-type: none"> <li>derive bonds to 100 from any number under 100</li> <li>use knowledge of bonds to add to the next multiple of 10 and then on to 100.</li> </ul>
		<ul style="list-style-type: none"> <li>add and subtract 2-digit numbers using partitioning and recombining</li> <li>partition 2-digit numbers into 1s and 10s</li> <li>recognise and use bonds to solve additions and subtractions of 2-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>add two 2-digit numbers using partitioning</li> <li>add three 2-digit numbers using partitioning.</li> </ul>
Measurement (MEA)	Choose an appropriate instrument to measure a length and use a ruler to estimate, measure and draw to the nearest centimetre; know 1 litre = 1000 ml; estimate and measure capacity in millilitres	<ul style="list-style-type: none"> <li>use a ruler to measure to the nearest cm</li> <li>recognise that a ruler, metre stick and tape measure are all used to measure length</li> <li>write measurements using the convention cm.</li> </ul>
		<ul style="list-style-type: none"> <li>use a ruler to measure to the nearest cm (or <math>\frac{1}{2}</math> cm or mm)</li> <li>estimate lengths to nearest cm</li> <li>understand relationship between mm, cm and m.</li> </ul>
		<ul style="list-style-type: none"> <li>draw a line to a given length in centimetres</li> <li>draw a line to a given length to half a centimetre</li> <li>draw a line to given length in millimetres.</li> </ul>
		<ul style="list-style-type: none"> <li>understand and know 1000 ml = 1 l</li> <li>read capacity to 100 ml</li> <li>read capacity to 50 ml.</li> </ul>
		<ul style="list-style-type: none"> <li>estimate and measure capacity to nearest 100 ml</li> <li>estimate and measure capacity to nearest 50 ml.</li> </ul>
Number and place value (NPV); Mental addition and subtraction (MAS)	Place 2- and 3-digit numbers on a number line; round 3-digit numbers to nearest 100; use counting up to do mental subtractions with answers between 10 and 20, 10 and 30, and either side of 100	<ul style="list-style-type: none"> <li>mark and identify numbers on an empty 0–100 line</li> <li>mark and identify numbers on an empty line marked with two consecutive multiples of 100.</li> </ul>
		<ul style="list-style-type: none"> <li>place 3-digit numbers between multiples of 100 on a line with reasonable accuracy</li> <li>round 3-digit numbers to the nearest 100, placing them on a line to help.</li> </ul>
		<ul style="list-style-type: none"> <li>use counting up to subtract a pair of 2-digit numbers where the answer is between 10 and 20</li> <li>spot and describe a pattern.</li> </ul>
		<ul style="list-style-type: none"> <li>use counting up to subtract a pair of 2-digit numbers where the answer is between 20 and 30</li> <li>use number facts and place value.</li> </ul>
		<ul style="list-style-type: none"> <li>subtract pair of numbers either side of 100 by counting up</li> <li>use number facts and place value to help.</li> </ul>
Mental addition and subtraction	Revise times-tables learned and derive division facts;	<ul style="list-style-type: none"> <li>use multiplication facts for the 2, 3, 4, 5 and 10 times-tables and can derive the</li> </ul>

(MAS); Mental multiplication and division (MMD)	perform division with remainders; choose a mental strategy to solve additions and subtractions; solve word problems	corresponding division facts
		<ul style="list-style-type: none"> <li>• use commutativity to derive multiplication facts using known facts</li> <li>• understand the relationship between multiplication and division.</li> </ul>
		<ul style="list-style-type: none"> <li>• understand that a remainder is the amount left over after a division</li> <li>• begin to understand the patterns of remainders</li> <li>• begin to relate remainders to multiples of a given number.</li> </ul>
		<ul style="list-style-type: none"> <li>• divide 2-digit numbers by 2, 3, 4, 5 and 10, finding a remainder</li> <li>• begin to understand the patterns of remainders</li> <li>• begin to relate remainders to multiples of a given number.</li> </ul>
		<ul style="list-style-type: none"> <li>• be secure with at least one mental strategy for each of addition and subtraction</li> <li>• choose a mental addition or subtraction strategy according to the numbers involved or personal preference.</li> </ul>
<ul style="list-style-type: none"> <li>• identify the calculation (addition or subtraction) needed to solve a word problem.</li> </ul>		
<b>Spring 1</b>		
Number and place value (NPV)	Rehearse place value in 3-digit numbers, order them on a number line and find a number in between; compare number sentences; solve additions and subtractions using place value; multiply and divide by 10 (whole number answers); count in steps of 10, 50 and 100	<ul style="list-style-type: none"> <li>• read and locate 3-digit numbers on a landmarked line</li> <li>• say what each digit in a 3-digit number represents.</li> </ul>
		<ul style="list-style-type: none"> <li>• compare pairs of 3-digit numbers and find a number in between</li> <li>• use the &gt; and &lt; sign when comparing numbers and place-value additions.</li> </ul>
		<ul style="list-style-type: none"> <li>• use place value and number facts to add and subtract multiples of 10 and 100 (not crossing 100s or 1000).</li> </ul>
		<ul style="list-style-type: none"> <li>• multiply and divide whole numbers by 10 (whole-number answers) and describe what happens to each digit.</li> </ul>
		<ul style="list-style-type: none"> <li>• count in steps of 10, 50 and 100 from 0, then other numbers</li> <li>• solve mathematical problems and spot patterns.</li> </ul>
Mental addition and subtraction (MAS); Mental multiplication and division (MMD)	Add pairs of 2-digit numbers using partitioning (crossing 10s, 100 or both) and then extend to add two 3-digit numbers (not crossing 1000); recognise and sort multiples of 2, 3, 4, 5, and 10; double the 4 times table to find the 8 times table; derive division facts for the 8 times table; multiply and divide by 4 by doubling or halving twice	<ul style="list-style-type: none"> <li>• add any pair of 2-digit numbers using partitioning (crossing 10s, 100 or both)</li> <li>• recognise and use bonds to solve additions of 2-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• use partitioning to add pairs of 3-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• recognise multiples of 2, 3, 4, 5 and 10</li> <li>• sort numbers according to whether they are multiples of a given number or not</li> <li>• understand that some numbers are multiples of several numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• begin to use the 4 times-table to work out the 8 times-table.</li> </ul>
		<ul style="list-style-type: none"> <li>• multiply 2-digit numbers by 4 by doubling twice</li> <li>• divide 2-digit numbers by 4 by halving twice (whole number answers).</li> </ul>
Fractions, ratio and proportion (FRP)	Identify 1/2s, 1/3s, 1/4s, 1/6s, and 1/8s; realise how many of each make a whole; find equivalent fractions; place fractions on a 0 to 1 line; find fractions of amounts	<ul style="list-style-type: none"> <li>• identify <math>\frac{1}{2}</math>s, <math>\frac{1}{3}</math>s, <math>\frac{1}{4}</math>s, <math>\frac{1}{6}</math>s and <math>\frac{1}{8}</math>s</li> <li>• say what is needed to make one whole.</li> </ul>
		<ul style="list-style-type: none"> <li>• identify equivalent fractions with visual support.</li> </ul>
		<ul style="list-style-type: none"> <li>• mark and identify simple fractions on 0 to 1 lines.</li> </ul>
		<ul style="list-style-type: none"> <li>• find fractions of amounts, using fraction strips to help.</li> </ul>

		<ul style="list-style-type: none"> <li>find fractions of amounts using arrays.</li> </ul>
<p>Geometry: properties of shapes (<b>GPS</b>); Geometry: position and direction (<b>GPD</b>); Measurement (<b>MEA</b>)</p>	<p>Recognise right angles and know they are 90°; understand angles are measured in degrees; recognise ° as the symbol for the measurement of degrees; name and list simple properties of 2D shapes; begin to understand and use the term perimeter to mean the length/distance around the edge (border) of a 2D shape; begin to calculate using a ruler; know a right angle is a quarter turn; know 360° is a full turn; begin to understand angles and identify size of angles in relation to 90°</p>	<ul style="list-style-type: none"> <li>identify and measure right angles using a right angle tester</li> <li>know a right angle is 90°.</li> </ul>
		<ul style="list-style-type: none"> <li>name and describe 2D shapes</li> <li>identify properties of 2D shapes including number of sides, straight and curved sides, number of angles (corners), right angles</li> <li>use the term polygon to describe all straight-sided 2D shapes</li> <li>use and understand the terms regular shapes and irregular shapes.</li> </ul>
		<ul style="list-style-type: none"> <li>begin to understand and use the term perimeter – meaning the length around the outside of a shape</li> <li>count centimetres to calculate the perimeter of simple shapes (rectangles and squares).</li> </ul>
		<ul style="list-style-type: none"> <li>understand what perimeter is</li> <li>measure the perimeter of simple polygons in centimetres using a ruler.</li> </ul>
		<ul style="list-style-type: none"> <li>identify a right angle and know this is 90°</li> <li>understand that a full turn is 360° and that a quarter turn is 90°</li> <li>estimate the size of angles in relation to right angles (i.e. more or less than a right angle).</li> </ul>
<p>Number and place value (<b>NPV</b>); Mental addition and subtraction (<b>MAS</b>)</p>	<p>Place 3-digit numbers on empty 100 number lines; begin to place 3-digit numbers on 0-1000 landmarked and empty number lines; round 3-digit numbers to the nearest ten and to the nearest hundred; use counting up as a strategy to perform mental subtraction (Frog); subtract pounds and pence from five pounds; use counting up (Frog) as a strategy to perform mental subtraction of amounts of money; subtract pounds and pence from ten pounds</p>	<ul style="list-style-type: none"> <li>place 3-digit numbers on an empty number line, between appropriate 100s</li> <li>place 3-digit numbers on a landmarked 0–1000 line</li> <li>begin to place 3-digit numbers on an empty 0–1000 number line.</li> </ul>
		<ul style="list-style-type: none"> <li>round 3-digit numbers to nearest 10, 100</li> <li>mark 3-digit numbers on empty 0–100 number lines</li> <li>mark 3-digit numbers on empty 0–1000 number lines.</li> </ul>
		<ul style="list-style-type: none"> <li>solve 3-digit – 2-digit subtractions using counting up, involving crossing 100</li> <li>begin to decide where counting back is a more appropriate method.</li> </ul>
		<ul style="list-style-type: none"> <li>count up in pence and pounds to calculate change from £5</li> <li>subtract amounts of money (multiples of ten pence) from £5 by counting up.</li> </ul>
		<ul style="list-style-type: none"> <li>count up in pence and pounds to calculate change from £10</li> <li>subtract amounts of money (multiples of five pence) from £10.</li> </ul>
<p><b>Spring 2</b></p>		
<p>Number and place value (<b>NPV</b>); Written addition and subtraction (<b>WAS</b>)</p>	<p>Understand place-value in 3-digit numbers; separate 3-digit numbers into hundreds, tens, and ones; add two 3-digit numbers using vertical written addition (expanded); add 2- and 3- digit numbers using vertical written addition (expanded)</p>	<ul style="list-style-type: none"> <li>read and write 3-digit numbers, understanding what each digit represents.</li> </ul>
		<ul style="list-style-type: none"> <li>begin to add using expanded vertical addition</li> <li>add two single-digit numbers, Add two 2-digit numbers, Add two 3-digit numbers</li> <li>partition 3-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>add two 3-digit numbers using expanded vertical addition where the tens or the ones may have answers greater than 10 or 100 (not both columns in same addition)</li> <li>add two single-digit numbers, add two 2-digit numbers, add two 3-digit numbers</li> <li>partition 3-digit numbers.</li> </ul>

		<ul style="list-style-type: none"> <li>• add 2- and 3-digit numbers using expanded vertical addition where the tens or the ones may have answers greater than 10 or 100</li> <li>• add several single-digit numbers, Add several 2-digit numbers, Add several 3-digit numbers</li> <li>• partition 3-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• add 2- and 3-digit numbers using expanded vertical addition where the tens or the ones may have answers greater than 10 or 100</li> <li>• add several single-digit numbers, Add several 2-digit numbers, Add several 3-digit numbers</li> <li>• partition 3-digit numbers.</li> </ul>
Mental addition and subtraction ( <b>MAS</b> ); Written addition and subtraction ( <b>WAS</b> )	Add two 2-digit numbers mentally; add 2-digit to 3-digit numbers mentally using place value and rounding; add two 3-digit numbers using expanded written method (answers under 1000); begin to move tens and hundreds moving towards formal written addition; add two 3-digit numbers using expanded column addition; investigate patterns in numbers when adding them; choose to solve addition using a mental method or expanded column addition (written method)	<ul style="list-style-type: none"> <li>• add two 2-digit numbers mentally using partitioning, counting on, rounding</li> <li>• add a 2-digit and a 3-digit number mentally using partitioning, counting on, rounding</li> <li>• confidently choose appropriate mental strategy to add two 2-digit numbers.</li> <li>• add using place-value</li> <li>• add numbers by rounding and correcting.</li> <li>• add two 3-digit numbers using expanded column addition</li> <li>• partition 3-digit numbers into hundreds, tens and ones.</li> <li>• add two three-digit numbers using expanded written addition</li> <li>• investigate number patterns in adding 3-digit numbers</li> <li>• begin to make predictions</li> <li>• begin to use a systematic approach to test their predictions</li> <li>• know what a palindromic number is.</li> <li>• begin to choose a mental or written method for solving addition</li> <li>• read and solve simple addition word problems.</li> </ul>
Measurement ( <b>MEA</b> )	Tell the time to the nearest minute on analogue and digital clocks (minutes past and minutes to); time events in minutes and seconds; find a time after a given interval (not crossing the hour); calculate time intervals; solve word problems involving time	<ul style="list-style-type: none"> <li>• tell the time to the nearest minute on analogue and digital clocks (minutes past).</li> <li>• tell the time to the nearest minute on analogue and digital clocks (minutes to).</li> <li>• time events in minutes and seconds</li> <li>• have sense of how long a minute is.</li> <li>• find the time after a given interval (not crossing the hour).</li> <li>• calculate time intervals (not crossing the hour).</li> </ul>
Mental addition and subtraction ( <b>MAS</b> ); Number and place value ( <b>NPV</b> )	Order 3-digit numbers and find numbers between; solve subtractions of 3-digit – 3-digit numbers using counting up (Frog); use counting up and counting back as strategies to perform mental subtractions; choose to solve a given subtraction by counting up or counting back	<ul style="list-style-type: none"> <li>• order three 3-digit numbers</li> <li>• find numbers between 3-digit numbers.</li> <li>• subtract 3-digit numbers by counting up from the smaller to the larger number. (Frog)</li> <li>• subtract 3-digit numbers in the 200s by counting up</li> <li>• add several numbers 1-digit and a 2-digit.</li> <li>• subtract 3-digit numbers using counting up (Frog)</li> <li>• create 3-digit subtractions with a set answer of 33 or 44 using Frog to count up 33 or 44 from any 3-digit number</li> </ul>

		<ul style="list-style-type: none"> <li>look for patterns in numbers by looking at the ones digits, the tens digits etc.</li> <li>subtract by counting back</li> <li>subtract by counting up (Frog)</li> <li>choose an appropriate method to subtract by counting up or back</li> </ul>
Mental multiplication and division (MMD); Number and place value (NPV)	Double and halve numbers up to 100 by partitioning; solve word problems involving doubling and halving; multiply numbers between 10 and 25 by 1-digit numbers using the grid method; divide multiples of 10 by 1-digit numbers using known tables facts; see the relation between multiplication and division	<ul style="list-style-type: none"> <li>use partitioning to double any two-digit number</li> <li>understand the relationship between doubling and halving.</li> <li>halve even two-digit numbers</li> <li>decide where halving or doubling is needed to solve word problems.</li> <li>begin to use the grid method to multiply numbers from 10 to 25 by single-digit numbers.</li> <li>use the grid method to multiply numbers between 10 and 25 by single-digit numbers.</li> <li>solve problems involving 3-digit multiples of ten divided by single digit numbers using relevant tables facts</li> <li>use mathematical reasoning in solving problems.</li> </ul>
<b>Summer 1</b>		
Mental addition and subtraction (MAS); Fractions, ratio and proportion (FRP)	Add 3-digit and 1-digit numbers mentally, using number facts; solve 3-digit number subtract 1-digit number subtractions mentally using number facts; add and subtract multiples of ten by counting on and back in tens and using number facts to cross 100s; compare and order fractions with the same denominator; begin to recognise equivalences of $\frac{1}{2}$ ; add and subtract fractions with the same denominator	<ul style="list-style-type: none"> <li>add 1-digit numbers to 3-digit numbers</li> <li>use number facts to add.</li> <li>subtract a single digit number from a 3-digit number</li> <li>use number facts to subtract 1-digit numbers by counting back in chunks.</li> <li>add and subtract multiples of ten to/from 3-digit numbers</li> <li>use number facts to solve mental additions and subtractions of multiples of ten to &amp; from 3-digit numbers.</li> <li>read and write fractions using correct notation e.g. <math>\frac{1}{2}</math> <math>\frac{1}{4}</math> etc.</li> <li>compare and order fractions with the same denominator.</li> <li>understand the concept of fractions as parts of numbers</li> <li>add and subtract fractions with the same denominator</li> <li>recognise equivalence of a half.</li> </ul>
Written multiplication and division (WMD); Mental multiplication and division (MMD)	Use function machines to multiply by 2, 3, 4, 5 and 8 and see the inverse; use scaling to multiply heights and weights by 2, 4, 8, 5 and 10; use known facts to multiply multiples of 10 by 2, 3, 4 and 5; multiply numbers between 10 and 30 by 2, 3, 4 and 5 using the grid method; multiply 2-digit numbers by 3, 4, 5 and 8 using the grid method	<ul style="list-style-type: none"> <li>multiply numbers by 2, 3, 4, 5 and 8, and understand the inverse.</li> <li>use scaling to multiply heights and weights by 2, 4, 8, 5 and 10.</li> <li>use times tables and place value to multiply multiples of 10 by 2, 3, 4 and 5.</li> <li>multiply numbers between 10 and 30 by 3, 4 and 5 using the grid method.</li> <li>multiply two-digit numbers by single-digit numbers using known <math>\times</math> facts, place value and commutativity.</li> </ul>
Mental multiplication and division (MMD); Written multiplication and division (WMD)	Divide without remainders, just beyond the 12 <sup>th</sup> multiple; division using chunking, with remainders; use the grid method to multiply 2-digit numbers by 3, 4, 5 and 8; begin to estimate products	<ul style="list-style-type: none"> <li>begin to use chunking to divide numbers just beyond the times tables.</li> <li>use chunking to divide numbers just beyond the times tables, no remainders.</li> <li>divide numbers above the 12th multiple of the divisor using chunking</li> <li>find remainders when dividing.</li> </ul>

		<ul style="list-style-type: none"> <li>multiply numbers up to two-digit numbers by 3, 4, 5 or 8 and use them to solve word problems.</li> <li>use the grid method to multiply two-digit numbers by 3, 4, 5 and 8</li> <li>begin to use rounding to estimate.</li> </ul>
Statistics (STA); Measurement (MEA)	Draw and interpret bar graphs and pictograms where one square/symbol represents two units; draw tally charts; compare and measure weights in multiples of 100g; know how many grams are in a kilogram; estimate and weigh objects to the nearest 100g; draw and interpret bar graphs where one square represents one hundred units	<ul style="list-style-type: none"> <li>draw a pictogram where one symbol represents two units.</li> <li>draw a pictogram where one symbol represents two units</li> <li>draw a bar chart where one step represents two units</li> <li>understand that we can also have scales of 5:1 or 10:1.</li> <li>have a feel for the weight of 100g</li> <li>measure weights to the nearest 50g</li> <li>know the relationship between grams and kilograms.</li> <li>begin to estimate weights in multiples of 100g</li> <li>weight items to the nearest 50g.</li> <li>draw and interpret tables and bar charts with an interval of 100g.</li> </ul>
Mental addition and subtraction (MAS); Written addition and subtraction (WAS)	Add 3-digit and 2-digit numbers using mental strategies; add two 3-digit numbers using mental strategies or by using column written addition	<ul style="list-style-type: none"> <li>add a 2-digit and a 3-digit number using a mental strategy.</li> <li>add 3-digit numbers using mental strategies, e.g. adding hundreds, tens and ones, rounding, using place-value, partitioning and adding the ones, then the tens, then the hundreds.</li> <li>add two 3-digit numbers using column addition</li> <li>use reasoning and systematic trial and error to investigate creating additions with a given total.</li> <li>add 3-digit numbers using column addition (making extra tens, hundreds or both).</li> <li>choose an appropriate method to solve addition of 3-digit numbers</li> <li>add 3-digit numbers using mental strategies</li> <li>add 3-digit numbers using column addition.</li> </ul>
<b>Summer 2</b>		
Written addition and subtraction (WAS); Mental addition and subtraction (MAS)	Use column addition to add three 2 and 3-digit numbers together and four 2 and 3-digit numbers together; subtract 3-digit numbers using counting up (Frog) with answers under 50 and then under 70; solve word problems choosing an appropriate method	<ul style="list-style-type: none"> <li>add 2-digit numbers in towers of 3 or 4 numbers accurately using column addition.</li> <li>add 3-digit numbers in towers of 3 accurately using column addition.</li> <li>add 2-digit numbers in towers of 3 or 4 accurately using column addition</li> <li>add 3-digit numbers in towers of 3 accurately using column addition.</li> <li>subtract 3-digit numbers using counting up (frog)</li> <li>add to the next ten and the next hundred.</li> <li>subtract 3-digit numbers using counting up (frog)</li> <li>add to the next ten and the next hundred</li> <li>add two 2-digit numbers using mental strategies.</li> <li>solve word problems using addition or subtraction</li> <li>use mental strategies to add numbers</li> <li>choose appropriate strategy to solve subtraction.</li> </ul>



Written addition and subtraction ( <b>WAS</b> ); Mental addition and subtraction ( <b>MAS</b> ); Measurement ( <b>MEA</b> )	Add 3-digit numbers using column addition; solve problems involving measures; solve subtractions of 3-digit numbers using counting up on a line (Frog); choose an appropriate strategy to solve addition or subtraction (either mentally, using column addition or counting up on a number line)	<ul style="list-style-type: none"> <li>• add 3-digit numbers using column addition</li> <li>• understand and use measures context when solving additions</li> </ul>
		<ul style="list-style-type: none"> <li>• add 3-digit numbers using column addition</li> <li>• understand and use measures context when solving additions.</li> </ul>
		<ul style="list-style-type: none"> <li>• solve subtractions of 3-digit numbers using counting up (Frog)</li> <li>• know bonds to ten and multiple of ten bonds to a hundred to solve the first two hops of a counting up (Frog) subtraction</li> <li>• use mathematical reasoning to explain patterns</li> <li>• use systematic thinking to generate all possible types of number.</li> </ul>
		<ul style="list-style-type: none"> <li>• solve subtractions of 3-digit numbers using counting up (Frog)</li> <li>• solve a problem in a measures context answering in a sentence using the appropriate unit.</li> </ul>
		<ul style="list-style-type: none"> <li>• choose the appropriate method to add (mental or column addition)</li> <li>• choose the appropriate method to subtract (mental or counting up using Frog).</li> </ul>
Measurement ( <b>MEA</b> ); Geometry: properties of shapes ( <b>GPS</b> )	Identify, name and draw: angles in 2D shapes and horizontal, vertical, parallel and perpendicular lines; identify horizontal, vertical, parallel, perpendicular and diagonal lines in 2D shapes; identify symmetry in 2D shapes; measure the perimeter of 2D shapes, including the use of counting and of measuring using a ruler; tell the time on analogue and digital clocks to the nearest minute; begin to tell time 5/10/20 minutes later; begin to recognise am and pm; tell the time on analogue and digital clocks to the nearest 5 minutes, begin to tell the time to the minute; begin to recognise 24 hour clock times	<ul style="list-style-type: none"> <li>• recognise and use the terms: horizontal, vertical, parallel, perpendicular and diagonal</li> <li>• draw horizontal, vertical, parallel, perpendicular and diagonal lines.</li> </ul>
		<ul style="list-style-type: none"> <li>• recognise angles in shapes and identify right angles (90°)</li> <li>• recognise parallel and perpendicular lines in shapes</li> <li>• begin to identify lines of symmetry in 2D shapes.</li> </ul>
		<ul style="list-style-type: none"> <li>• understand and use the term perimeter</li> <li>• measure simple rectilinear perimeters by counting the squares</li> <li>• begin to measure perimeter using a ruler to measure in centimetres and adding the lengths of the sides.</li> </ul>
		<ul style="list-style-type: none"> <li>• tell the time to the nearest minute</li> <li>• begin to use am and pm correctly and understand these terms.</li> </ul>
		<ul style="list-style-type: none"> <li>• tell the time to the nearest five minutes; Begin to tell the time to the nearest minute</li> <li>• begin to use am and pm correctly and understand these terms</li> <li>• realise that we can use a 24 hour clock.</li> </ul>
Written multiplication and division ( <b>WMD</b> ); Fractions, ratio and proportion ( <b>FRP</b> ); Decimals,	Use the grid method to multiply 2-digit numbers by 3, 4, 5, 6 and 8; estimate products; divide using chunking, with and without remainders; solve word problems, first	<ul style="list-style-type: none"> <li>• multiply two-digit numbers by single-digit numbers using known <math>\times</math> facts and commutativity</li> <li>• begin to estimate products.</li> </ul>

percentages and their equivalence to fractions ( <b>DPE</b> )	deciding whether they need multiplication or division to solve them; recognise tenths and equivalent fractions; find one tenth of multiples of ten, find several tenths of multiples of ten, find one tenth of 1-digit numbers	<ul style="list-style-type: none"> <li>• use chunking' to solve divisions by 3, 4, 5 and 8 with and without remainders (answers less than 20).</li> </ul>
		<ul style="list-style-type: none"> <li>• solve word problems involving 2-digit by single-digit multiplication or division</li> <li>• make sense of a word problem and write the relevant calculations.</li> </ul>
		<ul style="list-style-type: none"> <li>• recognise tenths and equivalent fractions.</li> </ul>
		<ul style="list-style-type: none"> <li>• find one tenth of multiples of ten (e.g. 1/10 of 30 and 1/10 of 240)</li> <li>• begin to find see that we can find one tenth of single-digit numbers (e.g. 1/10 of 4 is 4/10).</li> </ul>
Written addition and subtraction ( <b>WAS</b> ); Mental addition and subtraction ( <b>MAS</b> ); Written multiplication and division ( <b>WMD</b> )	Revise column written addition for adding three 3-digit numbers; revise mental strategies for addition; revise written subtraction (Frog); find change using counting up; check subtractions using addition; multiply numbers between 10 and 25 by 1-digit numbers using the grid method; solve division problems just above the tables facts	<ul style="list-style-type: none"> <li>• use a written column method of addition to add three-digit numbers</li> <li>• use mental strategies to add numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• subtract three-digit numbers</li> <li>• say which subtractions need to be written down and which can be done mentally</li> <li>• <u>begin to explain mathematical patterns.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• find change for amounts to £10 and £20.</li> </ul>
		<ul style="list-style-type: none"> <li>• use the grid method to multiply numbers between 10 and 40 by single-digit numbers.</li> </ul>
		<ul style="list-style-type: none"> <li>• divide numbers above the tables by subtracting ten times the divisor.</li> </ul>