Curriculum Map for Year 2 2018-2019

WITH FLUENCY, REASONING, PROBLEM SOLVING

Autumn Term 14 weeks 6 + 8		Spring Term 12 weeks 6 + 6		Summer Term 12 weeks 5 + 7	
2 weeks	Place value and the number system	1 week	Place value and the number system	2 weeks	Place value and the number system
4 weeks	Additive thinking – mental methods – focus on teaching strategies then to be reviewed throughout term Calculating + and -	1 week	Calculating + and -	2 weeks	Calculating x and /
		2 weeks	Fractions		
		1 week	Geometry - shape	1 weeks	Calculating + and -
HALF TERM		HALF TERM		HALF TERM	
1 week	Geometry – position and direction **Could combine with time – half turns, etc**	2 weeks	Calculating x and /	2 weeks	Fractions
2 weeks	Place value and the number system –	2 weeks	Measure- time	2 week	Calculating + and – Any other key topic revision needed
3 weeks	Calculating x and /	1 week	Geometry - shape	2 weeks	Statistics
2 weeks	Measure – money, length, capacity, temp and weight	1 week	Statistics	1 week	Fractions

Year 2 Curriculum Map

AUTUMN TERM

Week	Objective	
Aut 1 **1** **2**	**Place value and the number system** •count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward •recognise the place value of each digit in a two-digit number (tens, ones) •identify, represent and estimate numbers using different representations, including the number line •compare and order numbers from 0 up to 100; use <, > and = signs •read and write numbers to at least 100 in numerals and in words •use place value and number facts to solve problems. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Counting on and back in 1s and explore going beyond 100 Halving (this supports number line work by estimating where half way is). Discuss finding 'half of' the number line and 'half way between' two points etc.	Year 1 Review Explore the story of each number from 1-10 using different representations: counters, dominoes, straws, pegs, Numicon, Cuisenaire and bar modelled whole-part relationships. Big emphasis of bonds to 10 and play games like ping pong which help to memorise bonds to 10. Investigate teen numbers and how they are ten and 1, ten and 2 etc. show this with Numicon tiles, Cuisenaire, base ten and place value cards. Ensure that children are not writing 14 and 41 because of how the number 'sounds'. Understanding the partitioning of teens numbers is a crucial step. Go over it in as many ways as possible Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13, partitioning 8 in different ways, partitioning 15 as 10 and 5, but also 6 and 9 etc) to support subtraction. Ensure ALL chn confident with numbers upto 20 – any that are not need to focus on this before moving on. Use number lines: place all numbers on number lines to show relative value and size, fill in missing numbers on number lines, what is the nearest multiple of 10. Represent TU numbers in different ways: Numicon, straws, ten frames, place value cards – when we add tens the units don't change. Use Numicon activities from teaching guides to match objectives. Ensure chn are USING and APPLYING these skills in a range of contexts – use Testbase for ideas of how to structure questions, problems and puzzles. Use games and activities that allow the same objective to be repeated in different ways – repetition should lead to fluency – use dice, number cards, counters, place value counters etc. Calculating skills like adding 10, adding units to multiples of 10 need to be practiced / secured. Empty box / missing number problems, balancing problems with = in different places e.g. .? + 5 = 35, is 20 + 10 > or < than 40 – 10 – ones that emphasise place value For high attainers, don't work on larger and larger numbers – ensure depth of understanding through applying and manipulating numbers
Aut 1 **3** **4** **5** **6**	**Additive thinking skills and recall** •recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 **Calculating + and –** •solve problems with addition and subtraction:	*** see Camden Think Piece – Sum It Up! Fluency in Addition and Subtraction Facts*** **Resources in Maths folder and JPD Additive Thinking google drive (might need to paste in goo.gl/iVGCSf)** Assess children using grid and see which strategies are still gaps. Teach gaps from year 1 then the year 2 strategies in the order listed in the resources. Lots of visuals and then supporting games and quizzes are in the google drive folder and in the maths folder under Additive Thinking It is crucial that children are calculating not counting on in ones. Chn extend their understanding of the language of addition and subtraction to include sum and difference.

	-using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods •add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and ones -a two-digit number and tens -two two-digit numbers -adding three one-digit numbers •show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Play games such as Totality and Don't roll a 6! And be explicit about which facts you could use to add without counting on in ones. Find rules and missing numbers in additive sequences.	They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, 5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5). This establishes commutativity and associativity of addition. Recording addition and subtraction vertically or horizontally? Chn with arithmetical difficulties frequently find it difficult to: - Add 10 to a number without counting - Use number bonds to e.g. go from 36 to 40 without counting - Add units to a multiple of 10 without counting These skills should be taught specifically – before even starting to use a number line to calculate. Don't just do 'word problems' – use past papers and Testbase for ideas on different formats Improving efficiency needs to be taught explicitly: 'if I know… I know…' e.g. if I know 4 + 6 = 10, 24 + 6 = 30. If I know 5 + 5= 10, 5 + 6 = 11 -Quick adds e.g. 20 + 7 then 23 + 6 'because I know 3 + 6 = 9' -Partitioning single digit numbers in different ways to bridge 10 e.g. 27 + 5 = 27 + 3 + 2 -Adding strings of numbers by making bonds or finding doubles (law of commutativity explored and flexibility encouraged e.g. we would do 7 + 5 + 3 by adding 7 and 3 to make 10 then 5 more is 15. Use a number line to count on or back in 10s and 1s from a two digit number. Ensure that your calculations suit this strategy because you are adding a nearly number e.g. 36 + 21 or 74 – 31 Use base ten blocks to represent partitioning and then adding two two-digit numbers. Ensure you use intelligent practice to first not bridge a ten, then bridge tens, then bridge 100. 96 + 10 is usually a nice sticking point for reasoning. Use base ten blocks to represent partitioning then subtracting two two-digit numbers which don't bridge 10. Begin slowly with the concept of difference. E.g. which numbers have a difference of 1, 2, 5 or 10? Use Numicon tiles to show 'difference' and then pictorial representation as a bar model showing whole-part relationships. Find the difference on a number line by counting up or, preferably, using known number facts to calculate. NB numbers that are close together lend themselves better to 'find the difference' and numbers that are far apart lend themselves to 'take away'. Children need to spend lots of time understanding these concepts and your calculations need to be intelligently designed to suit one strategy at a time before allowing the children to choose which is best. Solve word problems that require mental addition and subtraction using strategies taught. Check subtractions with the inverse. Write calculations in different ways e.g. 23 = ? + 12; 43 + 25 = ? – 2; and 12 + 15 < ? + 2

Year 2 Curriculum Map

HALF TERM		
Aut 2 1	**Geometry – position and direction** •order and arrange combinations of mathematical objects in patterns and sequences •use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	Pupils should work with patterns of shapes, including those in different orientations. Pupils use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).

Year 2 Curriculum Map

Aut 2 **2** **3**	**Place value and the number system** •count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward •recognise the place value of each digit in a two-digit number (tens, ones) •identify, represent and estimate numbers using different representations, including the number line •compare and order numbers from 0 up to 100; use <, > and = signs •read and write numbers to at least 100 in numerals and in words •use place value and number facts to solve problems. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Counting on and back in 1s and explore going beyond 100 Halving (this supports number line work by estimating where half way is). Discuss finding 'half of' the number line and 'half way between' two points etc.	Year 1 Review Explore the story of each number from 1-10 using different representations: counters, dominoes, straws, pegs, Numicon, Cuisenaire and bar modeled whole-part relationships. Big emphasis of bonds to 10 and play games like ping pong which help to memorise bonds to 10. Investigate teen numbers and how they are ten and 1, ten and 2 etc. show this with Numicon tiles, Cuisenaire, base ten and place value cards. Ensure that children are not writing 14 and 41 because of how the number 'sounds'. Understanding the partitioning of teens numbers is a crucial step. Go over it in as many ways as possible Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13, partitioning 8 in different ways, partitioning 15 as 10 and 5, but also 6 and 9 etc) to support subtraction. Ensure ALL chn confident with numbers upto 20 – any that are not need to focus on this before moving on. Use number lines: place all numbers on number lines to show relative value and size, fill in missing numbers on number lines, what is the nearest multiple of 10. Represent TU numbers in different ways: Numicon, straws, ten frames, place value cards – when we add tens the units don't change. Use Numicon activities from teaching guides to match objectives. Ensure chn are USING and APPLYING these skills in a range of contexts – use Testbase for ideas of how to structure questions, problems and puzzles. Use games and activities that allow the same objective to be repeated in different ways – repetition should lead to fluency – use dice, number cards, counters, place value counters etc. Calculating skills like adding 10, adding units to multiples of 10 need to be practiced / secured. Empty box / missing number problems, balancing problems with = in different places e.g. .? + 5 = 35, is 20 + 10 > or < than 40 – 10 – ones that emphasise place value For high attainers, don't work on larger and larger numbers – ensure depth of understanding through applying and manipulating numbers
Aut 2 **4** **5** **6**	**Calculating x and /** •recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers •calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs •show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	***There is no emphasis in the Y2 Curriculum on doubling but time should be spent on doubling numbers to 10, or 12, and then relating this to the 2X table. Similarly, halving should be related to division facts.*** Look at doubling as 'two groups of' which is based on the idea of 'unitisation' where you count in 'groups of' a number. Numicon tiles are very useful for this and you can also use balance scales to show that 4 X 2 = 2 X 4, exploring the law of commutativity. Chant the 5 X table and the 10X times tables for several days (or weeks) each but then make links between them, drawing explicit attention to the doubling. Reason about 'all multiples of 10 are multiples of 5; are all multiples of 5 multiples of 10?' Investigate patterns in the digits of multiples of 5 and multiples of 10. Create arrays for multiples of 5 and 10… show inverse relationship and write X and division facts. Use bar models to show the same relationships. Use Cuisenaire rods to show 'how many 5s make 25'. Represent this with a bar model showing whole-equal parts. Show counting in groups of 5 and 10 on a number line.

Year 2 Curriculum Map

	•solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Solve problems by creating arrays, using Cuisenaire rods to show 'how many 5s make 20', counting on a number line (repeated addition) or using known and related facts. Represent this with a bar model showing whole-equal parts. Children should always be encouraged to use facts they know to link to solutions. Solve missing number equations, including ones which mix operations e.g. 8 X 5 = ? + 10 Explore such ideas with Numicon and Cuisenaire rods. Really focus on solving word problems that relate to multiplying and division. ***This is not in the NC but using the 2 times table is and this is an important big idea: partitioning and recombining!*** ***Double and halve two digit numbers*** Double and halve two digit numbers where the ones won't bridge ten. Use base ten blocks and draw pictures of doubling the tens and the ones then recombining them.
Aut 2 **7** **8**	**Measure** •choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels •compare and order lengths, mass, volume/capacity and record the results using >, < and = •recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value •find different combinations of coins that equal the same amounts of money •solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Comparing measures includes simple multiples such as 'half as high'; 'twice as wide'. They read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately. Use measures as contexts for problems with all 4 operations – practice calculating skills Apply number skills into measure – link scales to number lines *GARDEN* Count in steps of 5p, 20p and 10p etc. to support money work. Rehearse number bonds to 100 Money, specifically finding change, is a wonderful context for this. Counting up to find change from £1 is the best method of 'subtraction'. Solve word problems that require mental addition and subtraction using strategies taught. Check subtractions with the inverse. ***Recognise and use the symbols for millilitres and litres; grams and kilograms.*** Discuss how kilo means 1,000 but milli does not mean a million!

Year 2 Curriculum Map

SPRING TERM

Week	Objective	Non statutory Guidance	Additional information
Spr 1 **1**	**Place value and the number system** •count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward •recognise the place value of each digit in a two-digit number (tens, ones) •identify, represent and estimate numbers using different representations, including the number line •compare and order numbers from 0 up to 100; use <, > and = signs •read and write numbers to at least 100 in numerals and in words •use place value and number facts to solve problems. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Counting on and back in 1s and explore going beyond 100 Halving (this supports number line work by estimating where half way is). Discuss finding 'half of' the number line and 'half way between' two points etc.	Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13, partitioning 8 in different ways, partitioning 15 as 10 and 5, but also 6 and 9 etc) to support subtraction. Ensure ALL chn confident with numbers upto 20 – any that are not need to focus on this before moving on. Use number lines: place all numbers on number lines to show relative value and size, fill in missing numbers on number lines, what is the nearest multiple of 10. Represent TU numbers in different ways: Numicon, straws, ten frames, place value cards – when we add tens the units don't change. Use Numicon activities from teaching guides to match objectives. Ensure chn are USING and APPLYING these skills in a range of contexts – use Testbase for ideas of how to structure questions, problems and puzzles. Use games and activities that allow the same objective to be repeated in different ways – repetition should lead to fluency – use dice, number cards, counters, place value counters etc. Calculating skills like adding 10, adding units to multiples of 10 need to be practiced / secured. Empty box / missing number problems, balancing problems with = in different places e.g. .? + 5 = 35, is 20 + 10 > or < than 40 – 10 – ones that emphasise place value For high attainers, don't work on larger and larger numbers – ensure depth of understanding through applying and manipulating numbers	

Year 2 Curriculum Map

Spr 1 2	**Calculating + and -** •solve problems with addition and subtraction: -using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods •recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 •add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and ones -a two-digit number and tens -two two-digit numbers -adding three one-digit numbers •show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Play games such as Totality and Don't roll a 6! And be explicit about which facts you could use to add without counting on in ones. Find rules and missing numbers in additive sequences.	***Recall and use addition and subtraction facts to 10 (Y1 review) 20 and 100: fluently up to 20; related facts to 100*** Review number bonds and work on fluency with recall, plus understanding by drawing whole-part relationship bar models. It is crucial that children are calculating not counting on in ones. So do lots of work to make connections from work on place value to the rest of the number system 'if I know… I know…' e.g. if I know 4 + 6 = 10, 24 + 6 = 30. If I know 5 + 5= 10, 5 + 6 = 11 and I know that 25 + 6 = 31 Look at common misconceptions such as 42 + 68 = 100 and really examine bonds to 100 by drawing bar models, modelling with base ten blocks (exchanging the 10 ones for a 10 rod and laying them out on a 100 block) and by looking at them on a 0-100 number line. Add several coins together, or amounts of money which support mental addition and subtraction e.g. 1p + 5p + 4p + 5p using bonds; 50p – 20p ***Solve problems with addition and subtraction a) using concrete objects and pictorial representations including those involving numbers, quantities and measures; and b) applying their increasing knowledge of mental and written methods.*** ***Add and subtract numbers using concrete objects, pictorial representations and mentally including:*** ***a) A two digit number and ones; b) A two digit number and tens; and c) Adding three one-digit numbers;*** Write calculations horizontally (we tend to in KS1 but it's worth saying) and tell children to discuss the numbers in relation to each other. Are they far apart or close together? Which is the biggest? Smallest? Which number should we begin with? Calculate don't count on in 1s: -Quick adds and takeaways e.g. 20 + 7 then 23 + 6 'because I know 3 + 6 = 9' or 24 – 5 because 24 – 4 = 20 then take one more away to make 19 -Partitioning single digit numbers in different ways to bridge 10 e.g. 27 + 5 = 27 + 3 + 2 -Adding strings of numbers by making bonds or finding doubles (law of commutativity explored and flexibility encouraged e.g. we would do 7 + 5 + 3 by adding 7 and 3 to make 10 then 5 more is 15. This is the expected level of mental addition in Y2. -Add 10 to numbers using spider counting (reinforced with Numicon tiles as concrete) and multiples of 10. Can children add nearly numbers such as 9 by adding 10 and subtracting 1? The 100 square is the key image for this. Use a number line to count on or back in 10s and 1s but in bigger jumps e.g. adding 30 in one jump, from a two digit number. Ensure that your calculations suit this strategy because you are adding a nearly number e.g. 36 + 21 or 74 – 31 or 47 + 29. Use money as a context for adding in this way. Use base ten blocks to represent partitioning and then adding two two-digit numbers. Ensure you use intelligent practice to first not bridge a ten, then bridge tens, then bridge 100. 96 + 10 is usually a nice sticking point for reasoning. Relate this to expanded columnar addition only if children are adding three digit numbers. They should always be able to add two digit numbers mentally. Use money – bonds to £1 – as a context for this. ***Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction, and use this to check calculations and solve missing number problems.*** Represent whole-part relationships using bar models and discuss how the parts can be added in any order. Write fact families (+ and -) based on these pictorial representations. Autumn review: concept of difference. E.g. which numbers have a difference of 1, 2, 5 or 10? Use bar models showing whole-part relationships to explore the concept of 'difference'. Find the difference on a number line by counting up from one two digit number to another, first bridging one ten then several tens. Use 'the story of' numbers to count to the nearest multiple of ten etc.. Use intelligent practice to ensure your calculations use numbers that are not too far apart or lend themselves to 'taking away'. You could slip in things like 100 – 1 though to make sure they use 'take away' when it's appropriate! Money, and specifically finding change, is a wonderful context for this. Counting up to find change from £1 is the best method of 'subtraction'. Solve word problems that require mental addition and subtraction using strategies taught. Check subtractions with the inverse. Write calculations in different ways e.g. 25p = ? + 12p ; 43p + 25p = ? – 2p; and £1.20 + 15p < ? +2p

Year 2 Curriculum Map

Spr 3 4	**Fractions** •recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity •write simple fractions for example, $\frac{1}{2}$ of 6 = 3 •recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line Use a counting stick to count in 1/4s beyond 1 whole! Discuss equivalence… how else could we say 2/4? Find rules and missing fractions in sequences. Find doubles and halves.	***Y1 Review: Recognise, find and name a half as one of two equal parts of an object, shape or quantity.*** ***Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.*** Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping. Link to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. Explore equal and unequal pieces. Find fractions of shapes linking to equivalence e.g. If you have 3/6 shaded on a shape, this is the same as ½ Explore the idea that fractional pieces must have the same area but don't need to be congruent. Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line. **Count in steps of 3.** Chant the 3X table (this is in the Y3 curriculum but will be useful for this unit of work)
Spr 1 5	**Geometry – properties of shapes** •identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line •identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces •identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] •compare and sort common 2-D and 3-D shapes and everyday objects.	Include quadrilaterals and polygons, and cuboids, prisms and cones Pupils draw lines and shapes using a straight edge. Chn need to use and apply this knowledge – not just count sides / faces etc Start using visualisation activities.
HALF TERM		
Spr 2 1 2	**Calculating x and /** •recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	***There is no emphasis in the Y2 Curriculum on doubling but time should be spent on doubling numbers to 10, or 12, and then relating this to the 2X table. Similarly, halving should be related to division facts.*** Look at doubling as 'two groups of' which is based on the idea of 'unitisation' where you count in 'groups of' a number. Numicon tiles are very useful for this and you can also use balance scales to show that 4 X 2 = 2 X 4, exploring the law of commutativity.

	•calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs •show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot •solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	***Recall and use multiplication and division facts for the 2 and 4 times tables NB children do not need to memorise 4 X table facts this year but it is good to explore the link between these times tables.*** ***Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.*** ***Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in context.*** Chant the 2 X table and the 4X times tables for several days (or weeks) each but then make links between them, drawing explicit attention to the doubling and doubling again of numbers. Reason about 'all multiples of 4 are multiples of 2; are all multiples of 2 multiples of 4?' Investigate patterns in the digits of multiples of 2 and multiples of 4. Explore and review what even numbers are and *why* they are even (divisible by 2). Create arrays for multiples of 2 and 4… show inverse relationship and write X and division facts. Use bar models to show the same relationships. Use Cuisenaire rods to show 'how many 2s make 12'. Represent this with a bar model showing whole-equal parts. Show counting in groups of 2 and 4 on a number line. Solve problems by creating arrays, using Cuisenaire rods to show 'how many 2s make 12', counting on a number line (repeated addition) or using known and related facts. Represent this with a bar model showing whole-equal parts. Children should always be encouraged to use facts they know to link to solutions. Solve missing number equations, including ones which mix operations e.g. 8 X 2 = ? + 10 Explore such ideas with Numicon and Cuisenaire rods. Really focus on solving word problems that relate to multiplying and division. ***This is not in the NC for Y2 but using the 2 times table is and this is an important big idea: partitioning and recombining! Double and halve two digit numbers*** Double and halve two digit numbers where the ones won't bridge ten and then where it does! Use base ten blocks and draw pictures of doubling the tens and the ones then recombining them.
Spr 2 **3** **4**	**Measure - time** •compare and sequence intervals of time •tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times •know the number of minutes in an hour and the number of hours in a day. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Count in 5s and 15s	They become fluent in telling the time on analogue clocks and recording it.

Year 2 Curriculum Map

Spr 2 **5**	**Geometry – properties of shapes** •identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line •identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces •identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] •compare and sort common 2-D and 3-D shapes and everyday objects.	Include quadrilaterals and polygons, and cuboids, prisms and cones Pupils draw lines and shapes using a straight edge. Chn need to use and apply this knowledge – not just count sides / faces etc Start using visualisation activities.
Spr 2 **6**	**Statistics** •interpret and construct simple pictograms, tally charts, block diagrams and simple tables •ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity •ask and answer questions about totalling and comparing categorical data.	Use statistics to apply calculating skills – how many more/ how many altogether etc –blocks on a block graph are like a vertical number line Pictograms with many to one representation of 2s, 5s and 10s *GARDEN* Counting in 10s 5s and 2s Tally in 5s

Summer Term

Week	Objective	Non statutory Guidance	Additional information
Sum 1 **1** **2**	**Place value and the number system** •count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward •recognise the place value of each digit in a two-digit number (tens, ones) •identify, represent and estimate numbers using different representations, including the number line •compare and order numbers from 0 up to 100; use <, > and = signs •read and write numbers to at least 100 in numerals and in words •use place value and number facts to solve problems. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward Counting on and back in 1s and explore going beyond 100 Halving (this supports number line work by estimating where half way is). Discuss finding 'half of' the number line and 'half way between' two points etc.	Pupils should partition numbers in different ways (for example, 23 = 20 + 3 and 23 = 10 + 13, partitioning 8 in different ways, partitioning 15 as 10 and 5, but also 6 and 9 etc) to support subtraction. Ensure ALL chn confident with numbers upto 20 – any that are not need to focus on this before moving on. Use number lines: place all numbers on number lines to show relative value and size, fill in missing numbers on number lines, what is the nearest multiple of 10. Represent TU numbers in different ways: Numicon, straws, ten frames, place value cards – when we add tens the units don't change. Use Numicon activities from teaching guides to match objectives. Ensure chn are USING and APPLYING these skills in a range of contexts – use Testbase for ideas of how to structure questions, problems and puzzles. Use games and activities that allow the same objective to be repeated in different ways – repetition should lead to fluency – use dice, number cards, counters, place value counters etc. Calculating skills like adding 10, adding units to multiples of 10 need to be practiced / secured. Empty box / missing number problems, balancing problems with = in different places e.g. .? + 5 = 35, is 20 + 10 > or < than 40 – 10 – ones that emphasise place value For high attainers, don't work on larger and larger numbers – ensure depth of understanding through applying and manipulating numbers	

Year 2 Curriculum Map

Sum 1 **3** **4**	**Calculating x and /** •recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers •calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs •show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot •solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Double and halve two digit numbers (not NC) Double and halve two digit numbers where the ones won't bridge ten and then where it does! Use base ten blocks and draw pictures of doubling the tens and the ones then recombining them. Recall and use multiplication and division facts for the 2 and 4 times tables; the 5 and 10 X tables, including recognising even numbers NB children do not need to memorise 4 X table facts this year but it is good to explore the link between these times tables. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and facts, including problems in context. Explore and investigate odd and even numbers. Solve problems by creating arrays, using Cuisenaire rods to show 'how many 2s make 12', counting on a number line (repeated addition) or using known and related facts. Represent this with a bar model showing whole-equal parts. Children should always be encouraged to use facts they know to link to solutions. Solve missing number equations, including ones which mix operations e.g. 8 X 2 = ? + 10 Really focus on solving word problems that relate to multiplying and division. You could look at what happens when you divide a number like 21 by 2… the beginning of reasoning about remainders. The book *Remainder of One* is great for this.
Sum 1 **5**	**Calculating + and -** •solve problems with addition and subtraction: -using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods •recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 •add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and ones -a two-digit number and tens -two two-digit numbers -adding three one-digit numbers	Recall and use addition and subtraction facts to 10 (Y1 review) 20 and 100: fluently up to 20; related facts to 100 Review number bonds and work on fluency with recall, plus understanding by drawing whole-part relationship bar models. It is crucial that children are calculating not counting on in ones. So do lots of work to make connections from work on place value to the rest of the number system 'if I know… I know…' e.g. if I know 4 + 6 = 10, 24 + 6 = 30. If I know 5 + 5= 10, 5 + 6 = 11 and I know that 25 + 6 = 31 Look at common misconceptions such as 42 + 68 = 100 and really examine bonds to 100 by drawing bar models, modelling with base ten blocks (exchanging the 10 ones for a 10 rod and laying them out on a 100 block) and by looking at them on a 0-100 number line. Can they extend this to numbers to 1,000? Add several amounts together, which support mental addition and subtraction and explores rules of commutativity Calculate don't count on in 1s: -If I know….5+5, then I know 5+6 etc -Quick adds and takeaways e.g. 20 + 7 then 23 + 6 'because I know 3 + 6 = 9' or 24 – 5 because 24 – 4 = 20 then take one more away to make 19 -Partitioning single digit numbers in different ways to bridge 10 e.g. 27 + 5 = 27 + 3 + 2 -Adding strings of numbers by making bonds or finding doubles (law of commutativity explored and flexibility encouraged e.g. we would do 7 + 5 + 3 by adding 7 and 3 to make 10 then 5 more is 15. This is the expected level of mental addition in Y2. -Add 10 to numbers using spider counting (reinforced with Numicon tiles as concrete) and multiples of 10. Can children add nearly numbers such as 9 by adding 10 and subtracting 1? The 100 square is the key image for this.

	•show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Use a number line to count on or back in 10s and 1s but in bigger jumps e.g. adding 30 in one jump, from a two digit number. Ensure that your calculations suit this strategy because you are adding a nearly number e.g. 36 + 21 or 74 – 31 or 47 + 29. Use money as a context for adding in this way. Use base ten blocks to represent partitioning and then adding two two-digit numbers. Ensure you use intelligent practice to first not bridge a ten, then bridge tens, then bridge 100. 96 + 10 is usually a nice sticking point for reasoning. Relate this to expanded columnar addition only if children are adding three digit numbers. They should always be able to add two digit numbers mentally. Use mass and capacity as a context for this. Represent whole-part relationships using bar models and discuss how the parts can be added in any order. Write fact families (+ and -) based on these pictorial representations. Concept of difference. E.g. which numbers have a difference of 1, 2, 5 or 10? Use bar models showing whole-part relationships to explore the concept of 'difference'. Find the difference on a number line by counting up from one number to another, first bridging one ten then several tens Use intelligent practice to ensure your calculations use numbers that are not too far apart or lend themselves to 'taking away'. You could slip in things like 100 – 1 though to make sure they use 'take away' when it's appropriate! Write calculations in different ways e.g. 23 = ? + 12; 43 + 25 = ? – 2; and 12 + 15 < ? + 2
		HALF TERM
Sum 2 **1** **2**	**Fractions** •recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity •write simple fractions for example, $\frac{1}{2}$ of 6 = 3 •recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line Use a counting stick to count in 1/4s beyond 1 whole! Discuss equivalence… how else could we say 2/4? Find rules and missing fractions in sequences. Find doubles and halves.	***Y1 Review: Recognise, find and name a half as one of two equal parts of an object, shape or quantity.*** ***Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.*** Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping. Link to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. Explore equal and unequal pieces. Find fractions of shapes linking to equivalence e.g. If you have 3/6 shaded on a shape, this is the same as ½ Explore the idea that fractional pieces must have the same area but don't need to be congruent. Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line. **Count in steps of 3.** Chant the 3X table (this is in the Y3 curriculum but will be useful for this unit of work)

Year 2 Curriculum Map

Sum 2 **3** **4**	**Calculating + and – (and any other topic revision needed)** •solve problems with addition and subtraction: -using concrete objects and pictorial representations, including those involving numbers, quantities and measures -applying their increasing knowledge of mental and written methods •recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 •add and subtract numbers using concrete objects, pictorial representations, and mentally, including: -a two-digit number and ones -a two-digit number and tens -two two-digit numbers -adding three one-digit numbers •show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot •recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	*If 2 weeks on addition and subtraction not needed at this point, then use 1 week for revision of other key areas* Recall and use addition and subtraction facts to 10 (Y1 review) 20 and 100: fluently up to 20; related facts to 100 Review number bonds and work on fluency with recall, plus understanding by drawing whole-part relationship bar models. It is crucial that children are calculating not counting on in ones. So do lots of work to make connections from work on place value to the rest of the number system 'if I know… I know…' e.g. if I know 4 + 6 = 10, 24 + 6 = 30. If I know 5 + 5= 10, 5 + 6 = 11 and I know that 25 + 6 = 31 Look at common misconceptions such as 42 + 68 = 100 and really examine bonds to 100 by drawing bar models, modelling with base ten blocks (exchanging the 10 ones for a 10 rod and laying them out on a 100 block) and by looking at them on a 0-100 number line. Can they extend this to numbers to 1,000? Add several amounts together, which support mental addition and subtraction and explores rules of commutativity Calculate don't count on in 1s: -If I know….5+5, then I know 5+6 etc -Quick adds and takeaways e.g. 20 + 7 then 23 + 6 'because I know 3 + 6 = 9' or 24 – 5 because 24 – 4 = 20 then take one more away to make 19 -Partitioning single digit numbers in different ways to bridge 10 e.g. 27 + 5 = 27 + 3 + 2 -Adding strings of numbers by making bonds or finding doubles (law of commutativity explored and flexibility encouraged e.g. we would do 7 + 5 + 3 by adding 7 and 3 to make 10 then 5 more is 15. This is the expected level of mental addition in Y2. -Add 10 to numbers using spider counting (reinforced with Numicon tiles as concrete) and multiples of 10. Can children add nearly numbers such as 9 by adding 10 and subtracting 1? The 100 square is the key image for this. Use a number line to count on or back in 10s and 1s but in bigger jumps e.g. adding 30 in one jump, from a two digit number. Ensure that your calculations suit this strategy because you are adding a nearly number e.g. 36 + 21 or 74 – 31 or 47 + 29. Use money as a context for adding in this way. Use base ten blocks to represent partitioning and then adding two two-digit numbers. Ensure you use intelligent practice to first not bridge a ten, then bridge tens, then bridge 100. 96 + 10 is usually a nice sticking point for reasoning. Relate this to expanded columnar addition only if children are adding three digit numbers. They should always be able to add two digit numbers mentally. Use mass and capacity as a context for this. Represent whole-part relationships using bar models and discuss how the parts can be added in any order. Write fact families (+ and -) based on these pictorial representations. Concept of difference. E.g. which numbers have a difference of 1, 2, 5 or 10? Use bar models showing whole-part relationships to explore the concept of 'difference'. Find the difference on a number line by counting up from one number to another, first bridging one ten then several tens Use intelligent practice to ensure your calculations use numbers that are not too far apart or lend themselves to 'taking away'. You could slip in things like 100 – 1 though to make sure they use 'take away' when it's appropriate! Write calculations in different ways e.g. 23 = ? + 12; 43 + 25 = ? – 2; and 12 + 15 < ? + 2

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Sum 2 **5** **6**	**Statistics** •interpret and construct simple pictograms, tally charts, block diagrams and simple tables •ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity •ask and answer questions about totalling and comparing categorical data.	Use statistics to apply calculating skills – how many more/ how many altogether etc –blocks on a block graph are like a vertical number line Pictograms with many to one representation of 2s, 5s and 10s *GARDEN* Counting in 10s 5s and 2s Tally in 5s
Sum 2 **7**	**Fractions** •recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity •write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and •recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	***Y1 Review: Recognise, find and name a half as one of two equal parts of an object, shape or quantity.*** ***Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.*** Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping. Link to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. Explore equal and unequal pieces. Find fractions of shapes linking to equivalence e.g. If you have 3/6 shaded on a shape, this is the same as ½ Explore the idea that fractional pieces must have the same area but don't need to be congruent. Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line. Count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line Use a counting stick to count in 1/4s beyond 1 whole! Discuss equivalence… how else could we say 2/4? Find rules and missing fractions in sequences. Find doubles and halves. **Count in steps of 3.** Chant the 3X table (this is in the Y3 curriculum but will be useful for this unit of work) Find rules and missing numbers in fractional sequences. (Not always horizontally… show sequences with circles and arrows between, for example.)