

Maths medium term plan: autumn term

Year 3

Mental Maths objectives to be covered:

Number - Number and place value:

Read and write numbers up to 1000 in numerals and in words.

Compare and order numbers up to 1000.

Count on from and back to 0 in multiples of 1, 4, 8, 10, 50 and 100; find 10 or 100 more or less than a given number.

Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones.

Number – Addition and Subtraction:

Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.

Add and subtract numbers mentally, including:

-a three-digit number and one;

-a three-digit number and tens;

-a three-digit number and hundreds.

Number – Multiplication and division:

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Recognise multiples of 2, 5 or 10 up to 1000 and recall odd and even numbers.

Derive doubles of whole numbers to 20 and their corresponding halves.

Number – Fractions:

Count up and down in tenths.

Measurement:

Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks.










Know the number of seconds in a minute and the number of days in each month, year and leap year;



Compare durations of events [for example to calculate the time taken by particular events or tasks].

Geometry – Properties of shape








Identify whether angles are greater than or less than a right angle.

Year Three Medium Term Plan Term One

Week	Domain	National Curriculum Objectives	Reasoning, Conjecturing and Generalising Strategies	Small Step Objectives
Week 1	Number and place value	<p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Find 10 or 100 more or less than a given number.</p> <p>Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones and different ways.</p> <p>Compare and order numbers up to 1000 and position them on a number line. Count on from and back to zero in multiples of 1, 4, 8, 10, 50 and 100.</p> <p>Identify, represent and estimate numbers using different representations, such as the number line and dienes.</p> <p>Solve number problems and practical problems involving these ideas.</p>	<p>Spot the mistake: 50,100,115,200 What is wrong with this sequence of numbers?</p> <p>True or False? 38 is a multiple of 8?</p> <p>What comes next? 936-10= 926 926 - 10 = 916 916- 10= 906</p> <p>Do, then explain 835 535 538 388 508 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers.</p> <p>Do, then explain Show the3 value of the digit 3 in these numbers? 341 503 937 Explain how you know.</p> <p>Make up an example Create numbers where the digit sum is three. Eg 120, 300, 210 What is the largest/smallest number?</p>	<p>Can I place two and three-digit numbers on a line?</p> <p>Can I order and compare three-digit numbers?</p> <p>Do I understand place value in three-digit numbers?</p> <p>Can I understand and use place value with money?</p>
Week 2	Number - addition and subtraction	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? 597 + 7 = 614 804 – 70 = 744 768 + 140 = 908 Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 = Explain why you think the hard questions are hard?</p> <p>Other possibilities  +  +  = 14 What single digit numbers could go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences: 80  20  100 100  70  30 87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this:</p>	<p>Do I know the number bonds to 20?</p> <p>Can I use the number bonds to 20 in addition?</p> <p>Can I use the number bonds to 20 in subtraction?</p> <p>Can I use = to represent equality?</p> <p>Can I add 1-digit to 2-digit numbers?</p> <p>Can I subtract 1-digit from 2-digit numbers?</p>

<p>Week 3</p>	<p>Number - Addition and Subtraction Money</p>	<p>Add or subtract combinations of one-digit and two-digit numbers using the using formal written methods of columnar addition and subtraction.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction in a range of contexts, including money and measures.</p> <p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p>	<p>87 = 100 – 13 what other facts do you know?</p> <p>Convince me What digits could go in the boxes?</p> <p>7 <input type="text"/> 2 <input type="text"/> = 46</p> <p>Try to find all of the possible answers. How do you know you have got them all? Convince me</p>	<p>Can I understand and use place value with money?</p> <p>Can I add pairs of two-digit numbers by partitioning?</p> <p>Can I subtract pairs of two-digit numbers by counting up?</p> <p>Can I find change from £1?</p>
<p>Week 4</p>	<p>Geometry</p>	<p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> <p>Describe, visualise and classify 2D and 3D shapes according to their properties (including length of lines, acute and obtuse angles, symmetrical and non-symmetrical polygons and polyhedra).</p> <p>Identify patterns and relationships involving shapes, and use these to solve problems.</p>	<p>What's the same, what's different? What is the same and different about these three 2-D shapes?</p> <p></p> <p>Visualising I am thinking of a 3-dimensional shape which has faces that are triangles and squares. What could my shape be?</p> <p>Other possibilities</p> <p>One face of a 3-D shape looks like this.</p> <p></p> <p>What could it be? Are there any other possibilities?</p> <p>Always, sometimes, never Is it always, sometimes or never that all sides of a hexagon are the same length.</p> <p>Other possibilities Can you find shapes that can go with the set with this label? "Have straight sides that are different lengths."</p> <p>Convince me Which capital letters have perpendicular and / or parallel lines?</p>	<p>Can I recognise lines of symmetry and complete symmetrical drawings?</p> <p>Can I describe, name and sort 2D shapes?</p> <p>Can I describe, name and sort 3D shapes?</p> <p>Can I learn and use correct vocabulary?</p>

<p>Week 5</p>	<p>Number - Mental Multiplication and Mental Division</p>	<p>Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</p> <p>Understand that multiplication is commutative and associative (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$).</p> <p>Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.</p> <p>Solve problems, including missing number problems, involving multiplication and division in a range of contexts, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p> <p>Identify patterns and relationships involving numbers.</p>	<p>Missing numbers $24 = \square \times \square$</p> <p>Which pairs of numbers could be written in the boxes?</p> <p>Use a fact Alter this to suitable numbers</p> <p>$20 \times 3 = 60$ Use this fact to work out $21 \times 3 =$ $22 \times 3 =$ $23 \times 3 =$ $24 \times 3 =$</p> <p>Making links</p> <p>Write the multiplication number sentences to describe this array</p> <table border="1" data-bbox="1205 507 1520 555"> <tbody> <tr> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table> <p>What do you notice? Write the division sentences.</p> <p>Making links $4 \times 6 = 24$ How does this fact help you to solve these calculations? $40 \times 6 =$ $20 \times 6 =$ $24 \times 6 =$</p>	X	X	X	X	X	X	<p>Can I double 2-digit numbers?</p> <p>Can I halve small even numbers?</p> <p>Do I know \times and \div facts for 2, 5 and 10 times tables?</p> <p>Do I understand that multiplication is commutative?</p> <p>Can I recognise multiples of 2, 5 and 10?</p>
X	X	X								
X	X	X								
<p>Week 6</p>	<p>Number Place Value Money</p>	<p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Find 10 or 100 more or less than a given number.</p> <p>Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones and different ways.</p> <p>Compare and order numbers up to 1000 and position them on a number line.</p> <p>Count on from and back to zero in multiples of 1, 4, 8, 10, 50 and 100.</p> <p>Identify, represent and estimate numbers using different representations, such as the number line and dienes.</p> <p>Solve number problems and practical problems involving these ideas.</p>	<p>Spot the mistake: 50,100,115,200 What is wrong with this sequence of numbers?</p> <p>True or False? 38 is a multiple of 8?</p> <p>What comes next? $936 - 10 = 926$ $926 - 10 = 916$ $916 - 10 = 906$</p> <p>Do, then explain 835 535 538 388 508 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers.</p> <p>Do, then explain Show the 3 value of the digit 3 in these numbers? 341 503 937 Explain how you know.</p> <p>Make up an example Create numbers where the digit sum is three. Eg 120, 300, 210</p> <p>What is the largest/smallest number?</p>	<p>Can I understand and use place value to add?</p> <p>Can I understand and use place value to subtract?</p> <p>Can I use place value in money to add?</p> <p>Can I use place value in money to subtract?</p> <p>Can I add 1, 10 and 100 to any 3-digit number?</p> <p>Can I subtract 1, 10 and 100 from any 3-digit number?</p>						

<p>Week 7</p>	<p>Mental Addition Mental Subtraction</p>	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? $597 + 7 = 614$ $804 - 70 = 744$ $768 + 140 = 908$ Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? $323 + 10 =$ $393 + 10 =$ $454 - 100 =$ $954 - 120 =$ Explain why you think the hard questions are hard?</p> <p>Other possibilities  = 14 What single digit numbers could go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences:</p> <p>80  20  100</p> <p>100  70  30</p> <p>87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this: $87 = 100 - 13$ what other facts do you know?</p>	<p>Can I use place value to add 1s, 10s, 100s to 2 and 3-digit numbers?</p> <p>Can I use place value to subtract 1s, 10s, 100s from 2 and 3-digit numbers?</p> <p>Can I add and subtract near multiples of 10 from 3-digit numbers.</p>
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Week 8	Mental Addition Subtraction	<p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p><u>Convince me</u></p> <p></p> <p>The total is 201 Each missing digit is either a 9 or a 1. Write in the missing digits. Is there only one way of doing this or lots of ways? Convince me</p>	<p>Do I know pairs of multiples of 5 totalling 100?</p> <p>Do I know pairs of 2-digit numbers totalling 100?</p> <p>Can I subtract numbers on either side of 100 by counting up?</p>						
Week 9	Measures Statistics	<p>Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks including using Roman numerals from I to XII.</p> <p>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>Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.</p>	<p>Y3 Top Tips Put these measurements in order starting with the largest. Half a litre, Quarter of a litre, 300 ml Explain your thinking</p> <p>Y3 Position the symbols (Change to required measure) Place the correct symbol between the measurements > or <</p> <p>306cm Half a metre</p> <p>930 ml 1 litre Explain your thinking</p> <p>Y3 examples If there are 630ml of water in a jug. How much water do you need to add to end up with a litre of water? What if there was 450 ml to start with? Make up some more questions like this</p>	<p>Can I tell the time to five minutes using analogue, digital and Roman numeral clocks?</p> <p>Do I understand and use am and pm times appropriately?</p> <p>Do I collect data and display using bar graphs and pictograms?</p>						
Week 10	Number - Mental Multiplication and Mental Division	<p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 \times 6 = 3$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 \times 6 = 3$), using mental and informal written methods.</p> <p>Understand that multiplication is commutative and associative (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$).</p> <p>Solve problems, including missing number problems, involving multiplication and division in a range of contexts, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects and where remainders need to be rounded up and down.</p>	<p><u>Missing numbers</u> $24 = \square \times \square$</p> <p>Which pairs of numbers could be written in the boxes?</p> <p><u>Use a fact</u> Alter this to suitable numbers $20 \times 3 = 60$. Use this fact to work out $21 \times 3 =$ $22 \times 3 =$ $23 \times 3 =$ $24 \times 3 =$</p> <p><u>Making links</u> Write a multiplication number sentences to describe this array</p> <table border="1" data-bbox="1205 1090 1518 1137"> <tbody> <tr> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table> <p>What do you notice? Write the division sentences. <u>Making links</u> $4 \times 6 = 24$ How does this fact help you to solve these calculations? $40 \times 6 =$ $20 \times 6 =$ $24 \times 6 =$</p> <p><u>Prove it</u> Which four number sentences link these numbers? 3, 5, 15? Prove it.</p> <p><u>How close can you get?</u></p> <p></p> <p>Using the digits 2, 3 and 4 in the calculation above how close can you get to 100? What is the largest product? What is the smallest product?</p> <p><u>True or false?</u></p>	X	X	X	X	X	X	<p>Do I know multiplication facts for the 3 and 4 times tables up to the 12th multiple?</p> <p>Can I derive corresponding division facts?</p> <p>Can I divide by 2, 3, 4, 5 and 10, including giving remainders?</p>
X	X	X								
X	X	X								

			All the numbers in the two times table are even. There are no numbers in the 3 times table that are also in the 2 times table.	
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Week 11	Fractions	<p>Find unit fractions of numbers, quantities and shapes.</p> <p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p> <p>Solve problems involving fractions in the context of quantities, measures and shape.</p> <p>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <p>Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.</p>	<p>Y3 Counting in Tenths</p> <p>Spot the mistake six tenths, seven tenths, eight tenths, nine tenths, eleven tenths ... and correct it.</p> <p>What comes next? 6/10, 7/10, 8/10,, 12/10, 11/10,,</p> <p>True or false? 2/10 of 20cm = 2cm 4/10 of 40cm = 4cm 3/5 of 20cm = 12cm</p>	Do I understand the concept of a fraction of a shape and quantity?
				Can I find fractions of a quantity: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{3}{5}$?
Week 12	Measurement	<p>Solve one-step and two-step problems involving measures, choosing and carrying out appropriate calculations.</p> <p>Measure, compare, add and subtract: lengths (m/cm/mm)</p> <p>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy.</p> <p>Know the relationships between kilometres and metres: choose and use appropriate units to estimate, measure and record measurements.</p>		
Week 13 -	Assessment			
Week 14	Revision of topics based on results of assessment			

Maths medium term plan: spring term

Year 3

Mental Maths objectives to be covered:

Number objectives should be covered at least 4 times a term.

Measurement/ geometry objectives should be covered at least 2 times a term.

Number - Number and place value:

Count on from and back to 0 in multiples of 1, 4, 8, 10, 50 and 100;

find 10 or 100 more or less than a given number

recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones

compare and order numbers up to 1000

Round 2 or 3 digit numbers to the nearest 10.

Number – Addition and Subtraction:

Find pairs of numbers that total 100.

Add and subtract numbers mentally, including:

- a. a three-digit number and ones
- b. a three-digit number and tens
- c. a three-digit number and hundreds

Number – Multiplication and division:

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Recognise multiples of 2, 5 or 10 up to 1000 and recognise odd and even numbers (Venn and Carroll).

Derive doubles of whole numbers to 20 and corresponding halves. Derive doubles of multiples of 5 to 100.

Number - fractions:

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.

Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.

Measurement:

Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.

Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks








Use Roman numerals from I to XII














Geometry – Properties of shape




Identify whether angles are greater than or less than a right angle

Classify 2D and 3D shapes according to their properties (Venn and Carroll)

Year Three Medium Term Plan Term Two

Week	Domain	National Curriculum Objectives	Reasoning, Conjecturing and Generalising Strategies	Small Step Objectives
Week 1	Number Place value	<p>Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones and different ways.</p> <p>Identify, represent and estimate numbers using different representations, such as the number line and dienes solve number problems and practical problems involving these ideas.</p> <p>Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences.</p>	<p>Spot the mistake: 50,100,115,200 What is wrong with this sequence of numbers?</p> <p>True or False? 38 is a multiple of 8?</p> <p>What comes next? 936-10= 926 926 -10 = 916 916- 10= 906</p> <p>Do, then explain 835 535 538 388 508 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers.</p> <p>Do, then explain Show the 3 value of the digit 3 in these numbers? 341 503 937 Explain how you know.</p> <p>Make up an example Create numbers where the digit sum is three. Eg 120, 300, 210 What is the largest/smallest number?</p>	<p>Can I place 3-digit numbers on a line?</p> <p>Can I order and compare 3-digit numbers?</p> <p>Can I find a number between two 3-digit numbers?</p> <p>Do I understand place value in 3-digit numbers?</p>
Week 2	Number - Mental Addition and Mental Subtraction	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? Give your reasons. 597 + 7 = 614 804 - 70 = 744 768 + 140 = 908</p> <p>Hard and easy questions Which questions are easy / hard? Explain why you think the hard questions are hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 =</p> <p>Other possibilities  = 14 What single digit numbers could go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences: 80  20  100 100  70  30 87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this what other facts do you know? 87 = 100 - 13</p>	<p>Can I add pairs of 2-digit numbers, including near multiples?</p> <p>Can I subtract pairs of 2-digit numbers, including near multiples?</p> <p>Can I add three 2-digit numbers?</p>

<p>Week 3</p>	<p>Number - Written Addition and Mental Subtraction Money</p>	<p>Add or subtract combinations of one-digit and two-digit numbers using the using formal written methods of columnar addition and subtraction.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction in a range of contexts, including money and measures.</p> <p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract amounts of money to give change, using both £ and p in practical contexts.</p>	<p>True or false? Are these number sentences true or false? 597 + 7 = 614 804 - 70 = 744 768 + 140 = 908 Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 = Explain why you think the hard questions are hard?</p> <p>Other possibilities  +  +  = 14 What single digit numbers could go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences: 80  20  100 100  70  30 87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this: 87 = 100 - 13 what other facts do you know?</p> <p>Convince me What digits could go in the boxes? 7  - 2  = 46 Try to find all of the possible answers. How do you know you have got them all? Convince me</p>	<p>Can I add three-digit numbers using expanded addition (one 'carry')? Can I count up to subtract two-digit numbers from three-digit numbers? Can I use addition to check subtraction?</p>
<p>Week 4</p>	<p>Length Weight Data Handling</p>	<p>Solve one-step and two-step problems involving measures, choosing and carrying out appropriate calculations.</p> <p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g).</p> <p>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy.</p> <p>Know the relationships between kilometres and metres, kilograms and grams: choose and use appropriate units to estimate, measure and record measurements.</p>	<p>Y3 Top Tips Put these measurements in order starting with the largest. Half a litre, Quarter of a litre, 300 ml Explain your thinking</p> <p>Y3 Position the symbols (Change to required measure) Place the correct symbol between the measurements > or <</p> <p>306cm  Half a metre</p> <p>930 ml  1 litre Explain your thinking</p> <p>Y3 examples If there are 630ml of water in a jug. How much water do you need to add to end up with a litre of water? What if there was 450 ml to start with? Make up some more questions like this</p>	<p>Can I measure/convert lengths in cm and m? Can I measure/convert weight in kg and g? Can I estimate, measure objects and record in tables? Can I represent and interpret data in bar charts?</p>

Week 5	Fractions	<p>Find unit fractions of numbers, quantities and shapes.</p> <p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p> <p>Solve problems involving fractions in the context of quantities, measures and shape.</p> <p>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <p>Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.</p>	<p>Y3 Counting in Tenths Spot the mistake six tenths, seven tenths, eight tenths, nine tenths, eleven tenths ... and correct it.</p> <p>What comes next? 6/10, 7/10, 8/10, ..., ..., ... 12/10, 11/10, ..., ..., ...</p> <p>True or false? 2/10 of 20cm = 2cm 4/10 of 40cm = 4cm 3/5 of 20cm = 12cm</p>	<p>Can I count in 1/4s and 1/2s?</p> <p>Do I understand concept of fractions?</p> <p>Can I begin to understand eighths?</p> <p>Can I add fractions with a total of 1: $\frac{1}{4} + \square = 1$, $\frac{2}{3} + \square = 1$, $\frac{5}{8} + \square = 1$?</p>
Week 6	Number Place Value Money	<p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Find 10 or 100 more or less than a given number.</p> <p>Multiply 1 digit and 2 digit numbers by 10 and 100 and describe the effect.</p> <p>Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones and different ways.</p> <p>Compare and order numbers up to 1000 and position them on a number line.</p> <p>Count on from and back to zero in multiples of 1, 4, 8, 10, 50 and 100.</p> <p>Identify, represent and estimate numbers using different representations, such as the number line and dienes.</p> <p>Solve number problems and practical problems involving these ideas.</p>	<p>Spot the mistake: 50,100,115,200 What is wrong with this sequence of numbers?</p> <p>True or False? 38 is a multiple of 8?</p> <p>What comes next? 936-10= 926 926 -10 = 916 916- 10= 906</p> <p>Do, then explain 835 535 538 388 508 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers.</p> <p>Do, then explain Show the value of the digit 3 in these numbers? 341 503 937 Explain how you know.</p> <p>Make up an example Create numbers where the digit sum is three. Eg 120, 300, 210 What is the largest/smallest number?</p>	<p>Do I understand place value in 3-digit numbers, including money?</p> <p>Can I multiply and divide numbers by 10 and 100 and understand the effect?</p> <p>Do I understand that division is the inverse of multiplication?</p>
Week 7	Written Addition Mental Subtraction	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the using formal written methods of columnar addition and subtraction.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? 597 + 7 = 614 804 - 70 = 744 768 + 140 = 908 Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 = Explain why you think the hard questions are hard?</p> <p>Other possibilities  +  +  = 14 What single digit numbers could go in the boxes? How many different ways can you do this?</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this: 87 = 100 - 13 what other facts do you know?</p>	<p>Can I add & subtract 1-digit numbers to and from 3-digit?</p> <p>Can I add & subtract multiples of 10 and 100 to and from 3-digit numbers?</p>

<p>Week 8</p>	<p>Written Addition Subtraction</p>	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the using formal written methods of columnar addition and subtraction.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>Convince me What digits could go in the boxes? 7 <input type="text"/> - 2 <input type="text"/> = 46</p> <p>Try to find all of the possible answers. How do you know you have got them all?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences:</p> <p>80 <input type="text"/> 20 <input type="text"/> 100 100 <input type="text"/> 70 <input type="text"/> 30 87 <input type="text"/> 13 <input type="text"/> 100</p> <p>Convince me</p> <p><input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/></p> <p>The total is 201 Each missing digit is either a 9 or a 1. Write in the missing digits. Is there only one way of doing this or lots of ways?</p>	<p>Can I add 3-digit numbers using expanded and compact addition? Can I subtract by counting up to find the difference?</p>						
<p>Week 9</p>	<p>Measures Time Position Direction</p>	<p>Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks including using Roman numerals from I to XII.</p> <p>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>Solve one-step and two-step problems involving time, choosing and carrying out appropriate calculations.</p>	<p>Y3 Undoing A programme lasting 45 minutes finishes at 5.20. At what time did it start? Draw the clock at the start and finish time.</p> <p>Y3 Explain thinking Salha says that 100 minutes is the same as 1 hour. Is Salha right? Explain why.</p>	<p>Can I read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock? Can I convert time between analogue and digital? Can I begin to calculate time intervals in hours and minutes? Do I understand angles as degrees of turn and right angles as quarter turns? Do I understand clockwise and anticlockwise? Do I understand that four right angles make a complete turn and two make half a turn?</p>						
<p>Week 10</p>	<p>Mental Multiplication Division</p>	<p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.</p> <p>Understand that multiplication is commutative and associative (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$).</p> <p>Identify patterns and relationships involving numbers. Recognise multiples of 2, 5, 10 up to 1000.</p>	<p>Prove it Which four number sentences link these numbers? 3, 5, 15? Prove it.</p> <p>True or false?</p> <p>All the numbers in the two times table are even.</p> <p>There are no numbers in the three times table that are also in the two times table.</p>	<p>Can I use the 4 times table to learn the 8 times table? Can I recall $\times 2$, 3, 4, 5, 8, 10 tables? Can I use times tables to divide with remainders?</p>						
<p>Week 11</p>	<p>Mental Multiplication and division</p>	<p>Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 \times 2 = 4$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$), using mental and informal written methods.</p> <p>Understand that multiplication is commutative and associative (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$).</p> <p>Solve problems, including missing number problems, involving multiplication and division in a range of contexts, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects and where remainders need to be rounded up and down.</p>	<p>Prove it What goes in the missing box?</p> <table border="1" data-bbox="1205 1082 1518 1121"> <tr> <td>x</td> <td>?</td> <td>?</td> </tr> <tr> <td>4</td> <td>80</td> <td>12</td> </tr> </table> <p>How close can you get?</p> <p>_____ \times _____ = _____</p> <p>Using the digits 2, 3 and 4 in the calculation above how close can you get to 100? What is the largest product? What is the smallest product?</p>	x	?	?	4	80	12	<p>Can I multiply & divide by 4 by doubling or halving twice?</p>
x	?	?								
4	80	12								

Week 12	Fractions	<p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p> <p>Solve problems involving fractions in the context of quantities, measures and shape.</p> <p>Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.</p> <p>Recognise and show, using diagrams, equivalent fractions with small denominators</p>	<p>Y3 Counting in Tenths Spot the mistake six tenths, seven tenths, eight tenths, nine tenths, eleven tenths ... and correct it.</p> <p>What comes next? 6/10, 7/10, 8/10,, 12/10, 11/10,,,</p> <p>True or false? 2/10 of 20cm = 2cm 4/10 of 40cm = 4cm 3/5 of 20cm = 12cm</p>	Can I find fractions of a quantity: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{3}{4}$, $\frac{3}{8}$?
Week 13 - Assessment	Measurement	<p>Solve one-step and two-step problems involving measures, choosing and carrying out appropriate calculations.</p> <p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</p> <p>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy.</p> <p>Know the relationships between kilometres and metres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements.</p>		Can I find unit and non-unit fractions of numbers using $\times 2$, 3, 4, 5, 8, 10?
				Can I add three or four 2-digit numbers using compact addition?
				Can I estimate answers?
				Can I use column addition to add three 3-digit numbers?
				Can I use column addition to add two amounts of money?

Maths medium term plan: summer term

Year 3

Mental Maths objectives to be covered:

Number - Number and place value:

Count on from and back to 0 in multiples of 1, 4, 8, 10, 50 and 100.

Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones.

Compare and order numbers up to 1000 and position them on a number line.

Round 2 or 3 digit numbers to the nearest 10 or 100.

Number – Addition and Subtraction:

State subtraction fact corresponding to addition fact and vice versa.

Add and subtract numbers mentally, including:

- a. a three-digit number and ones
- b. a three-digit number and tens
- c. a three-digit number and hundreds
- d. near multiples of 10 e.g. 9, 19, 21

Number – Multiplication and division:

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Recognise multiples of 2, 5 or 10 up to 1000.

Number - fractions:

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.

Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.

Measurement:

Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.












Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks.

Use Roman numerals from I to XII.










Know the number of seconds in a minute and the number of days in each month, year and leap year.

Geometry – Properties of shape

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Week 3	Number - Multiplication Division	<p>Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13×3, 50÷4); round remainders up or down, depending on the context.</p> <p>Solve problems, including missing number problems, involving multiplication and division in a range of contexts, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p> <p>Identify patterns and relationships involving numbers.</p> <p>Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.</p>	<p>Use the inverse Use the inverse to check if the following calculations are correct 23 × 4 = 82 117 ÷ 9 = 14</p> <p>Size of an answer Will the answer to the following calculations be greater or less than 80 23 × 3 = 32 × 3 = 42 × 3 = 36 × 2 =</p>	<p>Can I double numbers to 50 using partitioning? Can I halve numbers to 100 using partitioning? Do I know times tables and division facts (1x, 2x, 3x, 4x, 5x, 8x, 10x)? Can I begin to use the grid method to multiply 2-digit numbers (<30) by 1-digit numbers?</p>
Week 4	Length Weight Data Handling	<p>Solve one-step and two-step problems involving measures, choosing and carrying out appropriate calculations.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction in the context of money.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers</p> <p>Measure, compare, add and subtract; volume/capacity (l/ml).</p> <p>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy.</p> <p>Know the relationships between litres and millilitres; choose and use appropriate units to estimate, measure and record measurements.</p>	<p>Y3 Top Tips (Change to required measure) Put these measurements in order starting with the largest. Half a litre, Quarter of a litre, 300 ml Explain your thinking</p> <p>Y3 Position the symbols (Change to required measure) Place the correct symbol between the measurements > or <</p> <p>306cm  Half a metre</p> <p>930 ml  1 litre Explain your thinking</p> <p>Y3 examples (You may choose to consider this practically) If there are 630ml of water in a jug. How much water do you need to add to end up with a litre of water? What if there was 450 ml to start with?</p>	<p>Can I measure in litres and millilitres? Can I convert between whole/half litres and millilitres? Can I understand am and pm? Can I measure in m, cm and mm? Can I draw a bar chart where one square represents 2 units? Can I measure perimeters of 2D shapes? Can I tell the time to nearest minute? Can I compare time durations?</p>
Week 5	Addition Subtraction	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? 597 + 7 = 614 804 - 70 = 744 768 + 140 = 908 Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 = Explain why you think the hard questions are hard?</p> <p>Other possibilities  +  +  = 14 What single digit numbers go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences:</p> <p>80  20  100</p> <p>100  70  30</p> <p>87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this: 87 = 100 - 13 what other facts do you know?</p>	<p>Can I add three or four 2-digit numbers using expanded then compact written addition? Can I find and test rules? Can I find change from £5, £10 and £20 by counting on or back? Can I find a difference between amount of money by counting on or counting back?</p>

Week 6	Number Patterns Place Value	<p>Read and write numbers up to 1000 in numerals and in words.</p> <p>Find 10 or 100 more or less than a given number.</p> <p>Multiply 1 digit and 2 digit numbers by 10 and 100 and describe the effect.</p> <p>Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones and different ways.</p> <p>Compare and order numbers up to 1000 and position them on a number line.</p> <p>Count on from and back to zero in multiples of 1, 4, 8, 10, 50 and 100.</p> <p>Identify, represent and estimate numbers using different representations, such as the number line and dienes.</p> <p>Solve number problems and practical problems involving these ideas.</p>	<p>Spot the mistake: 50,100,115,200 What is wrong with this sequence of numbers?</p> <p>True or False? 38 is a multiple of 8?</p> <p>What comes next? 936-10= 926 926 -10 = 916 916- 10= 906</p> <p>Do, then explain 835 535 538 388 508 If you wrote these numbers in order starting with the smallest, which number would be third? Explain how you ordered the numbers.</p> <p>Do, then explain Show the 3 value of the digit 3 in these numbers? 341 503 937 Explain how you know.</p> <p>Make up an example Create numbers where the digit sum is three. Eg 120, 300, 210 What is the largest/smallest number?</p>	<p>Can I count in steps of 50 and 100?</p> <p>Can I count in steps of 4 and 8?</p> <p>Can I work out the rule for a sequence?</p> <p>Can I count past 1000?</p> <p>Can I begin to understand place value in 4-digit numbers?</p>
Week 7	Multiplication Division	<p>Use practical and informal written methods to multiply and divide two-digit numbers (e.g. 13×3, $50 \div 4$); round remainders up or down, depending on the context.</p> <p>Solve problems, including missing number problems, involving multiplication and division in a range of contexts, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p> <p>Identify patterns and relationships involving numbers.</p> <p>Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations.</p>	<p>Prove it Which four number sentences link these numbers? 3, 5, 15? Prove it.</p> <p>How close can you get?</p> <p></p> <p>Using the digits 2, 3 and 4 in the calculation above how close can you get to 100? What is the largest product? What is the smallest product?</p> <p>True or false? All the numbers in the two times table are even. There are no numbers in the 3 times table that are also in the 2 times table.</p>	<p>Can I scale up by multiplying by 4 (double twice) and by 10?</p> <p>Can I scale down by dividing by 4 (halve twice) and by 10?</p> <p>Can I divide numbers just beyond the times tables (no remainders)?</p> <p>Can I divide numbers just beyond the times tables (with remainders)?</p>
Week 8	Shape Data Measures	<p>Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks including using Roman numerals from I to XII.</p> <p>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>Y3 Undoing A programme lasting 45 minutes finishes at 5.20. At what time did it start? Draw the clock at the start and finish time.</p> <p>Y3 Explain thinking Salha says that 100 minutes is the same as 1 hour. Is Salha right? Explain why.</p>	<p>Can I recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn?</p> <p>Can I identify whether angles are greater than or less than a right angle?</p> <p>Can I identify perpendicular and parallel lines?</p> <p>Can I count faces, vertices and edges of 3D shapes?</p> <p>Do I know units of time and the relationship between them?</p>
Week 9	Fractions	<p>Find unit fractions of numbers, quantities and shapes.</p> <p>Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</p> <p>Solve problems involving fractions in the context of quantities, measures and shape.</p> <p>Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <p>Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators.</p>	<p>Y3 Counting in Tenths Spot the mistake six tenths, seven tenths, eight tenths, nine tenths, eleven tenths ... and correct it.</p> <p>What comes next? $\frac{6}{10}$, $\frac{7}{10}$, $\frac{8}{10}$, ..., ..., ... $\frac{12}{10}$, $\frac{11}{10}$, ..., ..., ...</p> <p>True or false? $\frac{2}{10}$ of 20cm = 2cm $\frac{4}{10}$ of 40cm = 4cm $\frac{3}{5}$ of 20cm = 12cm</p>	<p>Do I understand tenths, and can I find tenths of amounts?</p> <p>Do I understand fractions as both numbers and operators?</p> <p>Can I find unit and non-unit fractions of amounts?</p> <p>Can I find fractions equivalent to $\frac{1}{2}$ and $\frac{1}{4}$?</p> <p>Can I add and subtract fractions with the same denominator within one whole?</p>

Week 10	Addition Subtraction	<p>Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.</p> <p>Add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds.</p> <p>Add or subtract combinations of one-digit and two-digit numbers using the number line.</p> <p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p>	<p>True or false? Are these number sentences true or false? 597 + 7 = 614 804 - 70 = 744 768 + 140 = 908</p> <p>Give your reasons.</p> <p>Hard and easy questions Which questions are easy / hard? 323 + 10 = 393 + 10 = 454 - 100 = 954 - 120 =</p> <p>Explain why you think the hard questions are hard?</p> <p>Other possibilities  = 14 What single digit numbers go in the boxes? How many different ways can you do this?</p> <p>Missing symbols Write the missing symbols (+ - =) in these number sentences: 80  20  100 100  70  30 87  13  100</p> <p>Fact families Which four number sentences link these numbers? 100, 67, 33</p> <p>What else do you know? If you know this: 87 = 100 - 13 what other facts do you know?</p>	<p>Can I add three or four 2-digit numbers using compact addition?</p> <p>Can I estimate answers?</p> <p>Can I use column addition to add three 3-digit numbers?</p> <p>Can I use column addition to add two amounts of money?</p> <p>Can I use counting up to find change from £5, £10, £20 and £100?</p>
Week 11	Calculations	<p>Solve one-step and two-step problems involving measures, choosing and carrying out appropriate calculations.</p> <p>Measure, compare, add and subtract: volume/capacity (l/ml).</p> <p>Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy.</p> <p>Know the relationships between kilometres and metres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements</p>	<p>Y3 Top Tips Put these measurements in order starting with the largest. Half a litre, Quarter of a litre, 300 ml Explain your thinking</p> <p>Y3 Position the symbols (Change to required measure) Place the correct symbol between the measurements > or < 306cm  Half a metre</p> <p>930 ml  1 litre Explain your thinking</p> <p>Y3 examples If there are 630ml of water in a jug. How much water do you need to add to end up with a litre of water? What if there was 450 ml to start with? Make up some more questions like this</p>	<p>Can I add three or four 2-digit numbers using compact addition?</p> <p>Can I estimate answers?</p> <p>Can I use column addition to add three 3-digit numbers?</p> <p>Can I use column addition to add two amounts of money?</p>
Week 12 Assessment				
Week 13	Revision of topics based on results of assessment			

