

**Suggested oral mental starters (ongoing, throughout the term):**

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
- Count forwards from 0 (and backwards) in twos, fives and tens to the 12<sup>th</sup> multiple
- Recall multiplication and division facts for the 2 and 10 times table
- Given a number identify the number that is 1 more or less within 100; identify the number that comes between two numbers within 100
- Given a number identify the number that is 10 more or less than any number within 100 (refer to the hundred square)
- Count on and back in 10s from any one or two digit number (refer to the hundred square)
- Recall number bonds to ten and number bonds within 10; give addition and subtraction facts for the pair of numbers
- Recall/derive all pairs of numbers with a total of 20; give addition and subtraction facts for the pair of numbers
- Recall the doubles of all numbers to double ten (10 + 10); derive halves of even numbers within 20
- Make estimates of quantities within 20 (and beyond)
- Recognise odd and even numbers to 20
- Use ordinal numbers (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> .....
- Consolidate days of the week, months of the year (use daily routines to reinforce)
- Read the time to the hour, the half hour and the quarter hour (past and then to) using an analogue clock (use daily routines to reinforce)

| Areas of Study  | No of days   | Statutory requirements and non-statutory guidance  | Suggested Key Vocabulary   |
|---|--------------|--|--|
| <p><b>Number</b></p> <p>Number</p> <p><b>Week 1</b></p> | <p>3 - 5</p> | <p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number -consider as mental/oral starters</p> <p>Read and write numbers to 100 in <b>numerals</b> and begin to write them in <b>words</b></p> <p>Given a number, identify the number that is one more or one less within 100</p> <p>Identify the number that comes between two numbers within 100</p> <p>Begin to identify the number that is ten more/ less than a given number within 100 (use the 100 square to support)</p> <p>Reason about numbers e.g. What is wrong with this sequence of numbers?<br/>51, 50, 49, 47, 46. How do you know?</p> | <p>Number, numerals</p> <p>Zero, one, two.....to one hundred</p> <p>One more, one less</p> <p>Ten more, ten less</p> <p>Between, before, after</p> |

## Medium Term Plans for Mathematics (revised 2018) -Year Two (Autumn Term)



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|---|----------|--|---|
| <p><b>Number</b></p> <p>Number and place value</p> <p><b>Week 2</b></p> | <p>5</p> | <p>Count on and back in 10s from any one or two digit number (refer to the hundred square)- consider as mental/oral starters</p> <p>Recognise the place value of each digit in a two-digit number, using practical apparatus e.g. straws, cubes, ten sticks and units, Dienes, Unifix (grouped in tens), arrow/ place value cards, Numicon</p> <p>Partition two-digit numbers into tens and ones/units e.g. <math>34 = 30 + 4</math></p> <p>Solve missing number problems using knowledge of place value e.g. <math>\square + 6 = 36</math></p> <p>Use knowledge of place value to order and compare two-digit numbers and position them on a number line and/or a hundred square</p> <p>Reason about numbers e.g. If you wrote these numbers in order, starting with the smallest, which one would come third: 42, 21, 40, 12, 14 Explain how you ordered the numbers</p>   | <p>Place value</p> <p>Digit, tens, ones/units</p> <p>Partition</p> <p>Order</p>   |
| <p><b>Number</b></p> <p>Addition</p> <p><b>Week 3</b></p>               | <p>5</p> | <p>Consolidate the vocabulary and symbols (+ and =) related to addition</p> <p>Add numbers mentally and by using concrete objects, number tracks, marked number lines and /or 100 square - <b>two-digit number add a one- digit number</b> within 50 (and then beyond), by counting on</p> <p>Begin to use an <b>empty number line</b> to add a one -digit number to a two-digit number within 50 (and then beyond 50), initially where no regrouping/ bridging is required e.g. <math>34 + 5 = 39</math></p> <p>Extend by bridging the tens boundary e.g. <math>37 + 5 = 42</math></p> <p><b>(See Written Calculation Policy, 2017 and Mental Calculation Strategies, 2017)</b></p> <p>Solve simple one-step word problems, which involve addition, using any of the following: concrete objects and pictorial representations; number tracks/ marked number lines; hundred square; empty number lines</p> <p>Solve missing number problems e.g. <math>24 + \square = 29</math>; <math>28 + \square = 32</math></p> | <p>Addition</p> <p>+, add, plus, more, put together, altogether, total, Count on</p> <p>=, equals, is the same as</p> <p>Number sentence, calculation</p> <p>Empty number line</p> <p>Problem, answer/solution, Calculate</p> <p>Missing number</p> |

## Medium Term Plans for Mathematics (revised 2018) -Year Two (Autumn Term)



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| <p><b>Number</b><br/>Subtraction</p> <p><b>Week 4</b></p>   | <p>5</p>          | <p>Consolidate the vocabulary and symbols (– and =) related to subtraction</p> <p>Subtract numbers mentally and by using concrete objects, number tracks, marked number lines and/or 100 square - <b>two-digit number subtract a one- digit number</b> within 50 (and then beyond) by counting back</p> <p>Begin to use an <b>empty number line</b> to subtract a one digit number from a two-digit number within 50 (and beyond), initially where no regrouping/ bridging is required e.g. <math>28 - 5 = 23</math><br/>Extend by bridging the tens boundary e.g. <math>45 - 6 = 39</math><br/><b>(See Written Calculation Policy, 2017 and Mental Calculation Strategies, 2017)</b></p> <p>Solve simple one -step word problems, which involve subtraction, using any of the following: concrete objects and pictorial representations; number tracks/marked number lines; hundred square; empty number lines<br/>Solve missing number problems e.g. <math>48 - \square = 42</math>; <math>32 - \square = 28</math></p>   | <p>Subtraction<br/>- , take away, subtract, minus<br/>How many are left?<br/>Count back</p> <p>Number sentence, calculation</p> <p>Empty number line</p> <p>Problem, answer/solution,<br/>Calculate<br/>Missing number</p>                       |
| <p><b>Number</b><br/>Addition and subtraction (facts)</p> <p>&amp;</p> <p><b>Geometry</b><br/>Properties of shape (2D)</p> <p><b>Week 5</b></p> | <p>2</p> <p>3</p> | <p>Recall number bonds to 10 and reason about associated facts e.g. <math>6 + 4 = 10</math>, therefore <math>4 + 6 = 10</math> and <math>10 - 6 = 4</math> ; derive number bonds to 20</p> <p>Recognise and use the <b>inverse</b> relationships between addition and subtraction; use this to solve missing number problems using addition and subtraction facts to 20<br/>e.g. <math>\square + 18 = 20</math>; <math>20 - \square = 18</math></p> <p>Add three one-digit numbers; solve problems related to addition e.g. ‘Bean-bag buckets’<br/><b>(See Mathematical Challenges for all pupils booklet, 2016)</b></p> <p>Identify and describe the properties of 2D shapes (see vocabulary), including the number of sides and corners; recognise 2D shapes in different orientations</p> <p>Sort common 2D shapes (see vocabulary) e.g. using simple Venn diagrams or sorting circles</p> <p>Compare and reason about common 2D shapes (see vocabulary) e.g. respond to questions, ‘What’s the same about these two shapes?’ ‘What’s different about these two shapes?’</p> <p>Identify line symmetry (in a vertical line) in common 2D shapes <b>in practical contexts</b> e.g. by folding shapes</p> <p>Create or complete repeating patterns using known 2D shapes</p> | <p>Inverse<br/>Missing number</p> <p>All vocabulary from previous year (rectangle, square, circle and triangle, side, corner)<br/>Extend with: pentagon, hexagon<br/>Venn diagram, sort<br/>Symmetry, line of symmetry<br/>Repeating pattern</p> |

## Medium Term Plans for Mathematics (revised 2018) -Year Two (Autumn Term)



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| <p><b>Number</b></p> <p>Multiplication</p> <p><b>Week 6</b></p> | <p>5</p> | <p>Count forwards from 0 (and backwards) in twos, fives and tens to the 12<sup>th</sup> multiple -consider as mental/oral starters</p> <p>Double numbers to double 10 (then 12), using practical resources to support</p> <p>Represent multiplication as repeated addition and as arrays using known multiples e.g. 2s, 5s and 10s; introduce the multiplication (x ) sign</p> <p><b>(See Written Calculation Policy, 2017 and Mental Calculation Strategies, 2017)</b></p> <p>Recall and use multiplication facts for the 2 and 10 multiplication tables</p> <p>Solve simple word problems, which involve multiplication, using practical resources, arrays, informal written methods (including pictures) and related vocabulary and signs</p> <p>Recognise <b>odd and even</b> numbers to 20 and relate to multiples/groups of two (use practical resources to support); sort odd and even numbers using simple Venn diagrams/sorting circles</p>   | <p>Double</p> <p>Lots of, groups of, repeated addition, times, multiply, multiplied by, multiplication</p> <p>x, array, row, column</p> <p>Count forwards</p> <p>Multiple</p> <p>Problem, answer/solution</p> <p>Odd/even numbers</p> |
| <p><b>Number</b></p> <p>Division</p> <p><b>Week 7</b></p>       | <p>5</p> | <p>Count forwards from 0 (and backwards) in twos, fives and tens to the 12<sup>th</sup> multiple; double numbers to double 12 and find the corresponding halves -consider as mental/oral starters</p> <p>Represent division as sharing, grouping and arrays; introduce the division (÷) sign</p> <p><b>(See Written Calculation Policy, 2017 and Mental Calculation Strategies, 2017)</b></p> <p>Recall and use division facts for the 2 and 10 multiplication tables</p> <p>Solve simple word problems, which involve division, using practical resources, informal written methods (including pictures) and related vocabulary and signs</p>   | <p>Double, half</p> <p>Share, groups of, divide, divided by, shared equally</p> <p>÷, =</p> <p>Array</p> <p>Problem, answer, solution</p> <p>Calculate</p>  |
| <p><b>Number</b></p> <p>Fractions</p> <p><b>Week 8</b></p>      | <p>5</p> | <p>Consolidate recognising, naming and finding halves and quarters of familiar shapes; know that half is one of two equal parts and that quarter is one of four equal parts; introduce fraction notation (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>)</p> <p>Find <math>\frac{1}{2}</math> and <math>\frac{1}{4}</math> of a set of objects using practical resources e.g. <math>\frac{1}{2}</math> of 12 = 6, <math>\frac{1}{4}</math> of 8 = 2 (link unit fractions to equal sharing and grouping)</p> <p>Solve word problems, which involve fractions (<math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>), using concrete objects and pictorial representations to support e.g. I have 16 cherries and I give half of them to my friend. How many cherries do I give her? There are 12 biscuits in a packet. I eat <math>\frac{1}{4}</math> of them. How many biscuits do I eat?</p> <p>Reason about fractions e.g. would you rather have <math>\frac{1}{2}</math> of 12 cherries or <math>\frac{1}{4}</math> of 20 cherries? How did you work it out?</p> | <p>Fraction</p> <p>Half, quarter, whole</p> <p><math>\frac{1}{2}</math>, <math>\frac{1}{4}</math></p> <p>Problem, answer/solution</p>   |

## Medium Term Plans for Mathematics (revised 2018) -Year Two (Autumn Term)



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| <p><b>Measurement</b></p> <p>Time</p> <p><b>Week 9</b></p>  | <p>5</p>          | <p>Consolidate reading time to the hour and the half hour using an analogue clock; draw hands on a clock face to show these times</p> <p>Read the time to the quarter hour (quarter past the hour) using an analogue clock; draw hands on a clock face to show these times: extend with quarter to the hour</p> <p>Use units of time (minutes &amp; hours) and know the relationships between them; know that there are 60 minutes in an hour (one hour = 60 minutes)</p> <p>Understand units of time e.g. What takes about one minute to do? How many times can you write your name in one minute? What takes about one hour to do?</p> <p>Consolidate days of the week and months of the year; order days of the week and months of the year (use daily routines to support this)</p>   | <p>O'clock, half past, quarter past, (quarter to)</p> <p>Analogue clock</p> <p>Minutes/hours</p> <p>Days of week (Monday, Tuesday...)</p> <p>Months of year (January, February...)</p>   |
| <p><b>Measurement</b></p> <p>Length</p> <p><b>&amp;</b></p> <p><b>Statistics</b></p> <p>Data handling</p> <p><b>Week 10</b></p> | <p>3</p> <p>2</p> | <p>Use metre (m) and centimetre (cm) as standard units of length and height e.g. find objects that are longer/ shorter than a metre, that are about 10 centimetres</p> <p>Know that there are 100cm in a metre (100cm = 1m)</p> <p>Choose and use appropriate standard units (m or cm) to estimate and then measure length/ height (m/cm) of everyday objects to the nearest appropriate unit, using rulers and metre sticks; compare and order lengths using comparative language</p> <p>Follow a simple line of enquiry relating to length e.g. Is this true or false? All Year 2 children's feet measure more than 18 cm. How will you find out?</p> <p>Interpret a simple pictogram; answer simple questions about a pictogram by counting the number of objects in each category e.g. How many children have a birthday in April?</p> <p>Collect data using a simple table and use the results to construct simple pictograms e.g. What is the favourite pet of children in our class?</p> <p>Answer simple questions about their own pictogram by counting the number of objects in each category e.g. How many children chose cat as their favourite pet? Which pet was chosen by the most children?</p> <p>Extend with 'How many more....?' questions</p> | <p>Estimate, compare, measure metre (m), centimetre (cm)</p> <p>Metre stick, ruler</p> <p>Longer than, shorter than, taller than</p> <p>Longest, tallest, shortest</p> <p>Pictogram</p> <p>Table, list</p> <p>Data</p> <p>Collect (data)</p> |

## Medium Term Plans for Mathematics (revised 2018) -Year Two (Autumn Term)



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| <p><b>Number</b><br/>Addition and subtraction</p> <p>&amp;</p> <p><b>Measurement</b><br/>Money</p> <p><b>Week 11</b></p> | <p>3</p> <p>2</p> | <p>Use an empty number line to add a one -digit number to a two-digit number within 100, including bridging the tens boundary, by counting on<br/>e.g. <math>48 + 6 = 54</math>; <math>67 + 5 = 72</math><br/>Use an empty number line to add ten(s) to a two-digit number within 100 e.g. <math>32 + 10 = 42</math>; <math>56 + 20 = 76</math></p> <p>Use an empty number line to subtract a one - digit number from a two-digit number within 100, including bridging the tens boundary, by counting back<br/>e.g. <math>30 - 7 = 23</math>; <math>55 - 6 = 49</math><br/>Use an empty number line to subtract ten(s) from a two-digit number within 100<br/>e.g. <math>52 - 10 = 42</math>; <math>45 - 20 = 25</math><br/><b>(See Written Calculation Policy, 2017 and Mental Calculation Strategies, 2017)</b></p> <p>Recognise different coins (including £1), and understand their value, and recognise notes (£5, £10, £20) using the symbols (£) and pence (p); know the relationship between pounds and pence (£1 = 100p)<br/>Solve problems involving combinations of coins e.g.<br/>How much money is in my purse?<br/>How many different ways can you make 8p using combinations of coins?<br/>Which silver coins could you use to pay for a banana that costs 30p?<br/>Solve simple one-step word problems involving addition and subtraction in contexts of money (to 20p, 50p or £1) including giving change; solve simple one- step word problems involving addition and subtraction in contexts of money using whole pounds only (£1, £5, £10, £20) including giving change; extend with two-step problems</p> | <p>Empty number line<br/>Count on, count back</p> <p>Coin, note<br/>Pence (p), penny<br/>Pound (£)</p> <p>Buy, spend, change, pay, costs<br/>How much?<br/>Calculate, calculation<br/>Problem, answer/solution<br/>How did you work it out?</p> |
| <p><b>Geometry</b><br/>Properties of shapes (2D and 3D)</p> <p><b>Week 12</b></p>  | <p>5</p>          | <p>Identify line symmetry in known <b>2D shapes</b> and simple pictures (possible link to a Christmas theme); recognise if a shape or picture is symmetrical<br/>Consolidate names of common <b>3-D shapes</b> (see vocabulary); describe the properties of 3D shapes including using the words edges, faces and vertices<br/>Identify 2D shapes on the surface of 3D shapes<br/>Relate 3D shapes to everyday objects (possible link to a Christmas theme)<br/>Sort common 3D shapes e.g. by the number of faces or shape of faces, using simple Venn diagrams or sorting circles</p>   | <p>Symmetry, symmetrical, line of symmetry</p> <p>All vocabulary from previous year (cylinder, cone, cube, cuboid, pyramid) and introduce: prism, edges, faces, vertices</p>  |

**Additional weeks**

To be used for:

- assessment, consolidation and responding to AfL
- additional using and applying activities
- Christmas maths activities