

## Year 2 Maths Medium Term Plan

### National Curriculum

<p><b><u>Number - Number and Place Value</u></b>            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</p>	<p><b><u>Number – Addition and Subtraction</u></b>            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</p>	<p><b><u>Number – Multiplication and Division</u></b>            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 (<math>\times</math>), division (<math>\div</math>) 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</p>	<p><b><u>Number – Fractions</u></b>            Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity            Write simple fractions for example, <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></p>
<p><b><u>Measurement</u></b>            Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (<math>^{\circ}</math>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 &gt;, &lt; 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            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</p>	<p><b><u>Geometry – Properties of Shape</u></b>            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</p>	<p><b><u>Geometry – Position and Direction</u></b>            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 anticlockwise)</p>	<p><b><u>Statistics</u></b>            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</p>

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
<b>Term 1</b>							
<b>Problem Solving: Reasoning Logically</b>							
PA Maths	<b>Number and place value</b> Read and write numbers to 100 in numerals and words To count within 100 by making tens first To represent 2 digit numbers (concrete)	<b>Number and place value</b> To recognise the place value of each digit in a 2 digit number To compare numbers from 0 – 100 To use < > = signs To order numbers from 0-100	<b>Addition</b> To use the counting on strategy (with number line, Dienes or mentally) To use making ten strategy to add To use partitioning to add	<b>Addition</b> To add a two digit number and tens To add a two digit number and ones without regrouping To add 2 two-digit numbers without regrouping	<b>Subtraction</b> To break numbers into parts To use the number bond strategy to subtract	<b>Subtraction</b> To subtract a two-digit number and tens To subtract a two digit number and ones without regrouping To subtract 2 two-digit numbers without regrouping	<b>Measure – Time</b> To compare and sequence intervals of time Know the number of minutes in an hour and the number of hours in a day To tell and write the time to quarter past/to and draw the hands on a clock face to show these times
Fact of the Week	1+9=10 9+1=10	2+8=10 8+2=10	3+7=10 7+3=10	4+6=10 6+4=10	5+5=10	2+3=5 3+2=5	2+4=6 4+2=6
<b>Term 2</b>							
<b>Problem Solving: Working Systematically</b>							
PA Maths	<b>Geometry – properties of shape</b> To identify and describe the properties of 2-D shapes To identify the line symmetry in a 2-D shape To compare and sort common 2D shapes and everyday objects	<b>Multiplication</b> To identify odd and even numbers To interpret multiplication sentences To use arrays (understand the commutativity of multiplication (NC)) To understand multiplication as repeated addition	<b>Division</b> To use concrete apparatus to solve division problems (sharing) To use pictorial representations to solve division problems (sharing)	<b>Fractions</b> To divide shapes into equal parts To know that $\frac{1}{2}$ and $\frac{2}{4}$ is equal to a whole Recognise, find, name and write fractions for $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ and $\frac{3}{4}$ of a shape To recognise equivalent fractions ( $\frac{2}{4}$ and $\frac{1}{2}$ )	<b>Statistics</b> To interpret simple tables and tally charts To construct simple tables and tally charts 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	<b>Measure – money</b> To recognise and use coins and notes and compare amounts Recognise and use symbols for pounds (£) and pence (p) (NC) To exchange pence for pounds To select different combinations of coins to make a particular value	<b>Measure – money</b> To calculate giving change up to and including £1.00. To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Fact of the Week	2+5=7 5+2=7	2+6=8 6+2=8	2+7=9 7+2=9	1x2=2 2x1=2	2x2=4	3x2=6 2x3=6	
<b>Term 3</b>							
<b>Problem Solving: Visualising</b>							
PA Maths	<b>Number and place value</b> To partition and recombine 2 digit numbers into 10s and 1s (to partition and recombine 3 digit	<b>Addition</b> To regroup and rename To add numbers with regrouping (in ones) To add numbers with regrouping (in tens)	<b>Subtraction</b> To subtract a two digit number and ones with regrouping To subtract 2 two-digit numbers with regrouping	<b>Division</b> To use concrete apparatus to solve division problems (grouping) To use pictorial representations to solve division problems (grouping)	<b>Statistics</b> To interpret simple pictograms To construct simple pictograms Ask and answer simple questions by counting the number of objects in each	<b>Time</b> Know the number of minutes in an hour and the number of hours in a day To tell and write the time to quarter past/to and five minutes and	

	numbers into 100s, 10s and 1s – challenge) To partition numbers in different ways			To divide with remainders (grouping) – concrete only	category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data	draw the hands on a clock face to show these times	
Fact of the Week	4x2=8 2x4=8	5x2=10 2x5=10	6x2=12 2x6=12	7x2=14 2x7=14	8x2=16 2x8=16	9x2=18 2x9=18	

## Term 4

### Problem Solving: Working Backwards

PA Maths	<b>Addition and subtraction</b> Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot (NC) Recognise and use the inverse relationship between addition and subtraction and use this to check calculations (NC) Recognise and use the inverse relationship between addition and subtraction and use this to solve missing number problems (NC) To solve one step problems using part-part-whole models/bar model	<b>Multiplication and division</b> To use number bonds for factor and products (using multiples of 2, 5, 10) To know all corresponding multiplication and division facts To identify missing factors To calculate mathematical statements for multiplication and division using multiplication, division and equals signs (NC) Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, including problems in context (NC) To use the bar model to represent word problems (multiplication and division)	<b>Measure – Length</b> Choose and use appropriate standard units to estimate and measure length/height to the nearest appropriate unit using rulers (m and cm) Compare and order lengths using > < = (m and cm) <i>Continue next week if needed</i>	<b>Measure – length</b> To solve length problems using the four operations	<b>Fractions</b> Recognise, find, name and write fractions for 1/3, 1/4, 2/4 and 3/4 of a length To recognise equivalent fractions (2/4 and 1/2)	<b>Fractions</b> To identify fractions of a set of objects by sharing equally. (between two, three and four) To identify fractions of a quantity (using halves, thirds and quarters)	
Fact of the Week	10x2=20 2x10=20	1x5=5 5x1=5	3x5=15 5x3=15	4x5=20 5x4=20	5x5=25	6x5=30 5x6=30	

## Term 5

### Problem Solving: Trial and Improvement

PA Maths	<b>Number and place value</b> Identify numbers on a number line including estimating numbers To begin to round numbers less than 100 to the nearest 10	<b>Geometry – position and direction</b> To order and arrange objects in patterns and sequences To describe the position of objects To give directions	<b>Measure – mass</b> Choose and use appropriate standard units to estimate and measure mass to the nearest appropriate unit using scales (kg and g)	<b>Measure – mass</b> To solve mass problems using the four operations	<b>Geometry – properties of shape</b> To identify and describe properties of a 3-D shape (edges, vertices and faces) To identify 2-D shapes on the surface of 3-D shapes	<b>Measurement – temperature</b> Choose and use appropriate standard units to estimate and measure temperature to the nearest	
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			Compare and order masses using $> < =$ (kg and g) <i>Continue next week if needed</i>		To compare and sort common 3-D shapes and everyday objects	appropriate unit using thermometers	
Fact of the Week	7x5=35 5x7=35	8x5=40 5x8=40	9x5=45 5x9=45	1x10=10 10x1=10	3x10=30 10x3=30	4x10=40 10x4=40	

## Term 6

### Problem Solving: Looking for Patterns and Conjecturing

PA Maths	<b>Measure – time</b> To tell and write the time to quarter past/to and five minutes and draw the hands on a clock face to show these times	<b>Fractions</b> To identify ways to make $\frac{1}{2}$ To use the bar model to show fractions	<b>Statistics</b> To interpret block diagrams To construct simple block diagrams 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	<b>Measure – volume/capacity</b> Choose and use appropriate standard units to estimate and measure volume/capacity to the nearest appropriate unit using scales (l and ml) Compare and order volume using $> < =$ (l and ml) <i>Continue next week if needed</i>	<b>Measure – volume/capacity</b> To solve volume/capacity problems using 4 operations	<b>Geometry – position and direction</b> To describe and control movement (Completed in ICT unit on coding) To describe movement in terms of right angles for turns To programme robots to turn	<b>Transition</b> <b>Statistics</b> To sort objects using more than one criteria (Carroll diagrams) To sort objects using more than one criteria (Venn diagrams)
Fact of the Week	5x10=50 10x5=50	6x10=60 10x6=60	7x10=70 10x7=70	8x10=80 10x8=80	9x10=90 10x9=90	10x10=100	

## Year 2 - Mental Maths

<b>Number and Place Value</b> To count in steps of 2, 3, 5 and 10 (forwards and backwards from any given number)	To count to and across 100 from any given number (forwards and backwards) To find ten more than a multiple of ten (ten more than 40) To count on in tens from any given number (with and without a hundred square) To identify 1, 10, or 100 more/less than any given number To say whether any number is odd or even To accurately say the sequence of odd numbers from 1-19 To know the value of each digit (what is the number equivalent to 6 tens and 5 ones?) To use the language of ordinality up to twentieth To recognise multiples of 10, 5 and 2 and say how they know To count up in threes from any given number (forwards and backwards) To have rapid recall of the x2, x3, x5 and x10 tables
<b>Addition</b> Rapid recall of all addition facts to 20 Derive and use related facts up to 100 Add mentally: -a two digit number and ones -a two digit number and tens -two 2 digit numbers -three 1 digit numbers	Counting forwards from any given number To know number bonds within 10 To know number bonds to 10 To know number bonds within 20 Add any single digit to any two digit number without crossing the tens boundary (86+3 =) Partitioning adding the ones and then the tens: 24+13 = 4+3+ 20+10=37 Make ten' adding three one digit numbers: 6+7 = 6+4+3= 13 Compensating 24+9= 24+10-1=33 or 42+21= 42+20+1= 63 (adjust) Near doubles: 30+29 = double 30-1 and 14+15 is double 14 + 1 or double 15-1
<b>Subtraction</b>	To use number bonds for mental subtraction 9-4= □ (Think of addition: 4 and 5 make 9 therefore 9-4=5) Subtract multiples of ten without crossing 100 (90-40=□)

<p>To know by heart all addition and subtraction facts for each number to 20</p> <p>Subtract mentally: -a two digit number and ones -a two digit number and tens -two 2 digit numbers</p>	<p>To subtract multiples of ten from any two digit number</p> <p>Subtract any single digit from any two digit number without crossing the tens boundary (<math>86-4 =</math>)</p> <p>To find a small difference when counting up. <math>84-78 = 79,80,81,82,83,84 = 6</math></p> <p>Use number bonds to find a small difference between a pair of numbers lying either side of a multiple of 10 (<math>102-97 = 2+3 = 5</math>)</p> <p>To find pairs of numbers with a difference of 10, a difference of 9 etc...</p> <p>To subtract mentally a 'near multiple of ten' (11, 21, 9, 19) from a two digit number (<math>43-9</math>    <math>43-10=33</math> and adjust    <math>33+1=34</math>)</p> <p>Subtract multiples of 100 without crossing 1000 (<math>700 - 300 = \square</math>)</p>
<p><b>Multiplication</b></p> <p>Rapid recall of 2,5 and 10 times tables</p> <p>To connect the ten times table to place value</p>	<p>Count in 5s clockwise around a clock face/ anticlockwise around a clock face</p> <p>Count forwards and backwards in 2s, 5s and 10s from any given number</p> <p>Recognise that multiples of 10 have a 0 in the ones column, multiples of 5 have a 0 or 5 in the ones column, multiples of 2 have a 0,2,4,6,8 in the ones column</p> <p>Recognise two digit multiples of 10,5,2 (65 is a multiple of 5, 72 is a multiple of 2, 50 is a multiple of 5 and 10)</p> <p>Multiply a single digit by 1 or 10 (<math>3 \times 1 = 3</math>, <math>7 \times 10 = 70</math> etc)</p> <p>Work out the four times table by doubling the two times table</p> <p>Rapid recall of doubles and their corresponding halves (double 12 is 24, half 24 is 12)</p> <p>Rapid recall of half of all 2 digit even numbers (half of 12, 18, 42 etc)</p> <p>To recall related multiplication and division facts linked to other multiplication tables. (<math>3 \times 4 = 12</math>, <math>4 \times 3 = 12</math>, <math>12 \div 4 = 3</math>, <math>12 \div 3 = 4</math>)</p>
<p><b>Division</b></p> <p>To connect the ten times table to place value</p>	<p>To count in 2s, 5s and 10s forwards and backwards from any given number</p> <p>To have rapid recall of 2,5 and 10 times tables</p> <p>To know multiplication facts and corresponding division facts (<math>2 \times 3 = 6</math> therefore <math>3 \times 2 = 6</math> and <math>6 \div 2 = 3</math> and <math>6 \div 3 = 2</math>)</p> <p>To divide a two digit multiple of ten by 1, 10 or zero (divide 30 by 1, divide 50 by 10, divide 70 by zero)</p> <p>Respond to oral questions: share 18 between 2, divide 6 by 3, how many tens make 80? How many £2 coins do you get for £20? How many 2cm lengths can you cut from 10cm?</p> <p>To halve two digit numbers</p> <p>To halve any multiple of ten to 100</p> <p>Use known facts to derive quickly: -halves of even numbers to 20    -halves of multiples of 10 up to 200</p> <p>To know that to find a quarter you must halve and halve again (one quarter of 20 is 5, half of 20 is 10 and half of 10 is 5)</p>
<p><b>Fractions</b></p>	<p>CG: To count in fractions up to ten starting from any number:    -count in halves    -count in quarters    -count in thirds</p> <p>To start to make links with half is 50% and a quarter is 25%</p>
<p><b>Statistics</b></p>	<p>To count 'up' a counting stick in intervals of 1, 2, 5, 10</p> <p>To organise lists: -make a list of the multiples of 10 between 10 &amp; 100    -make a list of five different numbers that are more than 70    -make a list of all the odd numbers from 15-35</p> <p>To quickly count up scores when voting takes place</p> <p>Respond to questions: How can we find out? What information shall we collect and how? How shall we organise it?</p> <p>To quickly read key information from a graph and respond to questions such as 'do most children walk to school?'</p> <p>Test a hypothesis such as: Children in our class are in bed by half past seven.</p>
<p><b>Measurement</b></p>	<p>To know the number of minutes in an hour &amp; the number of hours in a day</p> <p>To know the order of months and seasons of the year (reciting months and knowing 'last month was, next month is')</p> <p>To calculate time duration: Sue got the bus at 9 o'clock. The journey took half an hour. What time did she arrive? James walked from 9:45 until 10:15. How many mins did he walk?</p> <p>To find totals and give change: I have £14. I am given another £9. How much do I have now? A pear costs 15p more than an apple. An apple costs 12p. How much is the pear?</p> <p>To know what to buy and how to pay: investigate ways of paying 50p using only silver coins.</p> <p>-Ruth has two coins of the same value. How much might she have altogether?</p> <p>-You have three 10p and three 5p coins. You use two coins. What might the lolly cost? What if you used three coins?</p> <p>To make direct comparisons: identifying objects that are more/less than 1m, 1cm, 10 cm</p> <p>To solve measurement problems: My cat is 30 cm tall. My dog is 25 cm taller. How tall is my dog? You have 50litres of water. How many 10l buckets can you fill?</p> <p>To know that: 1m= 100cm, 1kg=1000g and 1litre = 1000ml</p>
<p><b>Geometry – Properties of shape</b></p>	<p><b>Shape in my pocket:</b> Put a shape in your pocket or a small bag. Children ask the teacher questions about that shape such as "Has it got any lines of symmetry?" "Has it got four sides?", "Is it a regular shape?". Write the answers to their questions on the board e.g. 'This shape has four sides. The sides are all equal' etc. After 5 questions, children discuss possible shapes it could be with a partner. Reveal the shape and recap its properties.</p> <p><b>Shape bingo:</b> Children draw three shapes on a whiteboard. The teacher describes a property of a shape e.g. two lines of symmetry, no straight sides. Children can cross off their shape if it matches the teacher's description. The first person to cross off all three shapes is the winner.</p> <p><b>Hidden shapes:</b> Hide a shape behind a piece of card or in a large envelope. Reveal a small part of the shape and discuss shapes it could or couldn't be. Don't always use regular shapes!</p> <p><b>Odd one out:</b> Draw 4 shapes on the board e.g. square, rectangle, trapezium and circle. Children discuss with a partner which shape is the odd one out and why.</p>
<p><b>Geometry – Position and Direction</b></p>	<p>To count along a counting stick as a scale in intervals of 1 (x-axis)</p> <p>To count up a counting stick as a scale in intervals of 1 (y axis)</p> <p>To count around a clock face in quarter turn, half turn, three quarter turn, full turn</p>

	<p>To describe positions: Respond to oral instructions involving higher than, lower than, next to, below, further away from, on the edge of, at the corner of</p> <p>Describe the position of a feature on a map</p> <p>Move clockwise, anticlockwise, face inwards, outwards, turn on the spot, turn through whole, half, quarter turns</p> <p>To give instructions for someone else to follow to find a route through a simple maze drawn on squared paper</p>
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