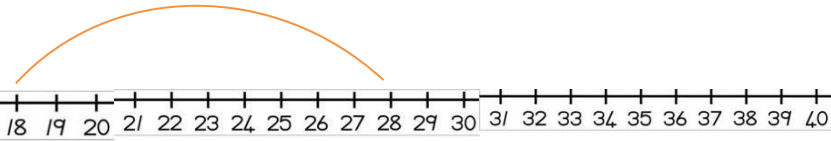



Maths Medium Term Planning – Year 2 – Summer 2

Year 2 – Summer 2			
Summer 2	Number and Place Value		
	Learning Intention	Implementation	Impact
	To be able to count in steps of 1s to 100 forwards and backwards.	As part of mental maths the children will count forward/backwards from/to 100 around the class. Can they beat the 2 minutes on the timer? Can you beat the time from last week?	The children will be able to count to and backwards from 100 starting at any number.
	To be able to count in steps of 2 from any number, forward or backward.	The children will in their mental maths practise counting up and back in 2s from any number up to 100. Can they beat the 2 minute timer? Can they count up in 2s and back in 1s from 1 – 51?	Children can recognise the pattern for counting in 2s and understand what odd and even numbers are.
	To be able to count in tens from any number backwards.	As part of mental maths the children will count back in 10s from 99. Repeat with 73 and 86.	The children will be able to count back from any number from 100 in tens.
	To recognise numbers to 100.	As part of mental maths the children will ask 6 questions to try and guess the teacher's number. Which are the best questions to ask first?	The children will be able to guess the correct number using their knowledge of multiples of 2s, 5s and 10s.
	To double and halve numbers up to 20.	As part of the mental maths session the children will be given a number. What is doubling? What is halving? Can you explain what is happening to the numbers? True or false – Even numbers can't be divided by 5. Prove it. How do I halve big numbers? How would I approach halving 24? 38? 64? Play Dotty dice – take turns to throw the dice. You can half or double the number you roll. Draw the number of dots in the square.	The children will understand doubling numbers as the same number again doubled and halving as splitting a quantity into two equal pieces. They can say the next number in a sequence.

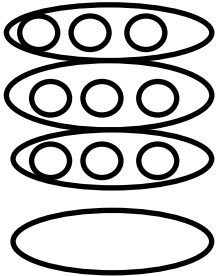
	<p>To count in steps of 5 from any number, forward or backward.</p> <p>Recall and use addition facts to 20 fluently.</p> <p>To recognise the place value of each digit in a two digit number (tens and ones).</p> <p>To compare and order numbers from 0 up to 100; use <, > and = signs.</p>	<p>Put all your dots in one of the boxes. You can't split them up and you can't have more than six dots in a box. When a box is full you could put a tick in the corner. Keep going until there are three ticks in a row or column or diagonal. The winner is the person who puts down the last tick.</p> <p>Extension: Could they come up with their own rules e.g. each box can have 12 dots in and they can times the number by 3.</p> <p>As part of their mental maths the children will practise counting in 5s forwards and backwards from 100. Write a pattern on the board 5, 10, 15, 20. What are the next two numbers in the sequence?</p> <p>I start counting in 5s, I will say the number 12? True or false?</p> <p>As part of mental maths the children will roll 6 numbers on a dice. After each roll, they will count how many there is altogether and how much more they need to get to 20 and what the different combinations could be.</p> <p>Flash a number (9). What is its number partner to 10? Then to 20?</p> <p>In their mental maths sessions the children will be given a number e.g. 63 and show how many different ways they can partition it into tens and ones e.g. $60 + 3$, $50 + 13$, $40 + 22$, $30 + 33$, $20 + 43$.</p> <p>As part of mental maths flash greater than/less than cards.</p>	<p>The children will understand that every time you add a ten to a number, the tens column changes but the ones column remains the same. Children can recognise the pattern for counting in 5s e.g. numbers ending in 0, 5, 0. They can say the next number in a sequence.</p> <p>The children will be able to recall addition facts to 10 and then to 20.</p> <p>The children will be able to partition numbers into tens and ones in different ways.</p> <p>The children will understand that the symbol > represents greater than and the symbol < represents less than and the symbol = represents equal to and they will compare numbers to say which number is greater than/less than another number.</p> <p>The children will be able to use their knowledge of multiples of 2, 5 and 10 to guess a number.</p>
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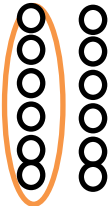
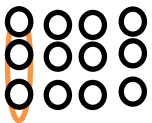

	To read and write numbers to at least 100 in numerals.	<p>The children will play guess my number. They will be given clues e.g. the number is a multiple of 2. The number is greater than 50. They must work out the number and explain their reasoning.</p> <p>The children will be given a missing hundred square. Write in the number 68 on one of the squares. Tell your partner what number you are going to write in it.</p> <p>Write up the numbers 7 & 12. What's the same? What is different? One is odd, one is even. They are both less than 20. They are both more than 1.</p>	
	Addition & Subtraction		
	Learning intention	Implementation	Impact
	To recall and use addition and subtraction facts to 20 fluently.	<p>Twice weekly the children will answer addition/subtraction number bond questions to 7/8, 10, 12 or 15.</p> <p>As part of mental maths sessions – flash a one-digit number to children, what do I add to make 10? Repeat with the same number, what do I add to make 20? Show a 2 digit number. What do I take away to make 10?</p>	The children will know all their addition and subtraction number bonds to 20 fluently.
	<p>To be able to add three one and two digit numbers.</p> <p>To be able to add and take away 10 to a one or two digit number using concrete objects.</p>	<p>As part of mental maths sessions the children will be shown 3 blocks of Cuisenaire (1 big, 2 fitting it). What are the possible options to make this a sum? You can use +, -.</p> <p>The children will begin by practising a row as a class. Begin with number 2. What is the next number when you add 10? How did you work it out? What is the rule? (Have 100 square and diennes equipment available if this is needed). Write a line of numbers: 2, 12, 22, 32, 42, 52 and 62. Now ask the children to start with different numbers such as 7, 9 and 6.</p> <p>As part of mental maths the children will mentally subtract 10 to a number- what happens to the number?</p>	<p>The children can use their knowledge of addition and subtraction to produce their own sums based on a bar model.</p> <p>The children will know that when you add 10 to a number the tens column increases by one ten and the ones column stays the same. If they subtract 10 to a number the tens column decreases by one ten and the ones column stays the same.</p>

	<p>To be able to add numbers bridging in 10s using structured and unstructured number lines.</p>	<p>Explain to the children that we are going to learn how to add two 2 digit numbers jumping in groups of 10s and ones. Demonstrate using structured number lines. Show the question $18 + 15 =$. Start at 18 on the number line. Jump on 10 in one big jump. Where do you land? (28). Now jump on 5. GD can do a jump of 5, EX & WT do 5 single jumps. What number do you land on? What number do you land on? (WT will have number lines to stick in and draw the jumps on). GD children will move onto using unstructured number lines.</p> 	<p>The children will know how to use a structured and unstructured number line to add in jumps of tens and ones.</p>
	<p>To be able to solve addition missing number problems using an unstructured number line.</p>	<p>The children will be able to use an unstructured number line to solve addition missing number problems. Missing number using number fact knowledge. Encourage to solve mentally.</p>	<p>The children will know how to use an unstructured number line to solve missing number addition problems.</p>
	<p>To be able to add 1 and 2 to a number.</p>	<p>As part of mental maths the children will add 1 to a number (talk partners). Then give the children a number to add 2 to.</p>	<p>The children will know how to add 1 and 2 to any given number.</p>
	<p>To be able to add and take away 11 to a number.</p>	<p>As part of mental maths the children will use flip books to add 11 to a number. Teach them to add 1 first then 1 ten. Repeat with take away.</p>	<p>The children will know how to partition a number into tens and ones and then add it mentally to another number.</p>
	<p>To be able to add and subtract numbers using concrete objects, pictorial representations and mentally, including:-</p>	<p>All children will have a range of questions with mixed operations to solve. Children will solve them in a range of different ways but questions that should be done mentally will be highlighted. Recap one example of each on the board including bridging through tens and how to add on the extra ten. (GD – crossing tens within 100).</p>	<p>The children will know how to partition two digit numbers into tens and ones and recombine them to add them together. They will know how to take away two digit numbers. They will be able to use adding and taking away as a checking strategy.</p>

	<p>-A two-digit number and ones. -A two-digit number and tens. -Two two-digit numbers. -Adding three one-digit numbers.</p> <p>To solve problems with addition and subtraction using concrete objects and pictorial representations.</p> <p>To be able to use number knowledge to solve problems.</p> <p>To add and subtract numbers using concrete objects, pictorial representations and mentally two digit numbers.</p> <p>To explore the relationship between addition and subtraction (begin to use the inverse operation as a checking strategy).</p>	<p>As part of mental maths the children will practice solving different problems. Using whiteboards children will have a go at answering it in pairs. They will also do this as part of a main maths lesson.</p> <p>The children will be given a pyramid made up of 6 circles. They are given the numbers 0-5 to put into the circles. They cannot repeat a number. The number they put in the circle above the two other circles have to be a difference on the two lower numbers e.g.</p>  <p>The children will be given a range of 2 step word problems. Discuss what you are going to work out first. Are you adding or subtracting? Are you using both add and subtract? Ensure they are reading the questions carefully and not just looking at the numbers and adding them together.</p> <p>The children will be given some addition and subtraction number sentences with three different answers. Children will use estimation to find which number fits best and circle it. They will need to explain why they have picked that number.</p> <p>As part of mental maths the children will use flip books to add and take away 10 to 1 or 2 digit numbers.</p>	<p>The children will understand the vocabulary in a question which tells them whether to add or subtract.</p> <p>The children will understand the term 'difference' and will be able to recognise a pattern.</p> <p>The children will understand that when 10 is added or taken away, only the tens column changes, the ones column stays the same.</p>

	Multiplication and Division		
	<p>To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables.</p> <p>To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. including recognising odd and even numbers.</p> <p>To calculate mathematical statements for multiplication and write them using the multiplication (x) and equals (=) signs.</p> <p>To solve problems involving multiplication</p>	<p>During their mental maths session the children will be asked to recall their 2x, 5x and 10x tables (Look at similarities between 10x table and 5 x tables). Tell children a number and they tell their partner if it is a multiple of 2, 5 or 10.</p> <p>Twice weekly the children will answer 60/80 questions on 10x or 2x tables in 3 minutes. If finished, answer mixed 10x and 2x table questions.</p> <p>All the children will have a range of questions with mixed operations to solve. The children will solve them in a range of ways (using cups and arrays) but questions that should be done mentally will be highlighted. Recap one example of each on the board.</p> <p>The children will complete some 2 step problems for multiplication.</p> <p>Demonstrate how to divide a group of cups into piles using actual cups and the Maths and Resources table. Show the children how to move all the cups over and then divide them into piles. Then demonstrate that you put those cups into piles of the second number e.g. $12 \div 3 =$ and put 12 into piles of 3. Show the children how to set out the cups e.g. put 12 cups into piles of three, then circle all the piles of 3, then put up how many piles you have.</p>	<p>The children will be able to recall their 2xs, 5x and 10x table in any order.</p> <p>The children will be able to say whether a number is a multiple of 2, 5 or 10 and explain why.</p> <p>The children will be able to complete multiplication sums using cups and arrays.</p> <p>The children will be able to solve multiplication problems.</p> <p>The children will be able to complete division sums using cups and arrays.</p>

	<p>using materials, arrays, repeated addition and mental methods.</p> <p>To calculate mathematical statements for division and write them using the division (\div) and equals (=) signs. To use materials and arrays to calculate division sums.</p> <p>To solve problems involving division, using materials and arrays.</p> <p>To solve division problems where there is a remainder.</p> <p>To calculate mathematical statements for multiplication and division and write them using the multiplication (\times), division (\div) and equals (=) signs.</p>	 <p>The children will solve word problems containing sharing words and divided into.</p> <p>The children will be shown the sum $12 \div 5 =$. Show that we cannot divide this equally. This is because we know that $10 \div 5 = 2$ and you cannot divide 12 by 5 evenly. Explain that they can use a remainder. We record this as $12 \div 5 = 2r2$.</p> <p>Show children 3 numbers e.g. 4, 3, 12. Draw the signs (\times and \div). What are the 4 number sentences they can make? The children will have triangles with the numbers around the outside and the signs in the middle. Underneath they will write the 4 number sentences.</p>	<p>The children will be able to solve division problems.</p> <p>The children will understand that some numbers do not divide equally and this can be shown as a remainder.</p> <p>The children will understand the relationship between division and subtraction and be able to write the four number sentences.</p>
	Fractions		
	<p>Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{3}{4}$, and $\frac{1}{4}$.</p>	<p>As part of mental maths the children will use fraction fans to show $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$. Show me $\frac{1}{2}$. Are there any other ways of doing this? Repeat with $\frac{1}{4}$, $\frac{3}{4}$.</p>	<p>The children will understand that when you divide into $\frac{1}{2}$ you split into two equal pieces and when you divide into $\frac{1}{4}$s you split into 4 equal pieces.</p>

		<p>Fraction work – $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ of a shape. Draw a circle, cut into fractions and explain it is one circle cut into...pieces. Shade the area. Repeat with a shape broken into 8/10/12. What is $\frac{1}{2}$ of it? What is $\frac{1}{4}$? $\frac{3}{4}$?</p> <p>As part of mental maths – plot fractions along a line. Which is the smallest fraction? The largest fraction? $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{2}{3}$.</p> <p>Demonstrate how to find fractions of a number. Write $\frac{1}{2}$ on the board. What does it mean? Write $\frac{1}{2}$ of 12 on the board. Explain it's like division and to work out the answer we need to split it into piles of 2:-</p>  <p>Demonstrate how to find a quarter of a shape: $\frac{1}{4}$ of 12:-</p>  <p>Demonstrate to the children how to find multiple fractions of a number circling that number of piles e.g. $\frac{2}{4}$ of 12</p>  <p>The children will start working out equivalent fractions e.g. $\frac{2}{4}$ of 12 = 6 is the same as $\frac{1}{2}$ of 12 = 6. They will also start working out the $\frac{1}{2}$ fractions mentally.</p>	<p>The children will understand what fractions add up to make a whole one.</p>
	<p>To be able to find a fraction of a number.</p>		
	<p>To be able to find multiples of fractions.</p>		

	To be able to solve word problems involving fractions.	The children will apply their knowledge to solve fraction word problems.	The children will know how to solve word problems relating to fractions.
	Measurement		
	Learning Intention	Implementation	Impact
	<p>To be able to read scales to the nearest appropriate unit.</p> <p>To be able to tell the time to the nearest ¼ hour intervals. To be able to say one hour later.</p> <p>To be able to recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. To find different combinations of coins that equal the same amount of money.</p>	<p>The children will have a measurement booklet where they will read scales (in steps of 2s, 5s and 10s). They will read scales for mass (kg/g), temperature (°C) and capacity (litres/ml). The children will read scales where it only shows some numbers. There will be some problems for the children to answer once they have finished reading the measurements. Number pattern – Show children notebook about number patterns. Answer the questions and demonstrate how to work out the scale. Children will then have a number sheet to work out the patterns and plot the missing number.</p> <p>The children will use a plastic clock to set different times to quarter hour intervals and then show 1 hour later. The children will read times where it only shows some numbers. There will be some problems for the children to answer once they have finished reading the measurements.</p> <p>As part of mental maths money will be placed on the board. What is the amount? How much do I need to add to get to £1? Repeat 3 times. How much will I need to get to £2? What coins could I use? How much would I have left if I spent x amount? If I had £1 and I spent 73p, how could I use a blank number line to work out the change?</p> <p>What are all the ways I can make 17p? Put them all on the board. Which is the most efficient?</p>	<p>The children will recognise a scale and be able to read the scale to the nearest appropriate unit.</p> <p>The children will be able to tell the time to quarter hour intervals and say what one hour later is. They will be able to use this knowledge to solve problems.</p> <p>The children will recognise different coins. They will use their knowledge of number bonds to add different amounts of coins together. They will be able to work systematically to find all the different combinations.</p> <p>The children will know what units of measurement we measure length, height,</p>

	<p>To be able to 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.</p> <p>To tell the time to the nearest half an hour.</p>	<p>As part of the mental maths session children will recap on measurements. What do we weigh/find the length in? Estimations – how tall do you think the door is? 1cm, 1m, 2m, 5m. Repeat with how heavy you think the basket is.</p> <p>Recap what the children measure weight, temperature, length and volume in. Children will complete sheets on units.</p> <p>Identify weights on scales. Then compare weights of objects.</p> <p>The children will tell the time to ¼ and ½ hour intervals. Extend to 10 minute intervals and 5 minute intervals (GD).</p>	<p>volume mass and temperature in. They will be able to estimate different weights, heights, volume, mass and temperature.</p> <p>The children know how to tell the time to the nearest half an hour and quarter of an hour.</p>
	Geometry: Properties of Shapes		
	Learning intention	Implementation	Impact
	<p>To identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. To identify and describe the properties of 3D shapes including the number of edges, vertices and faces.</p> <p>To be able to draw 2D shapes.</p> <p>To be able to find similarities and differences in shapes.</p>	<p>As part of mental maths the children will play guess my shape. Ask children to work out a shape by asking questions... is it 2D or 3D? How many vertices does it have?</p> <p>Also shape cards – flash and identify.</p> <p>True or false shapes.</p> <p>As part of mental maths the children will say – What's the same, what's different? Pick cylinder, cone and cuboid out of the bag. Do they all have straight edges and flat faces? What is the same about them? What is different?</p> <p>On dotted white board paper, the children will draw a square. Repeat with triangle and rectangle. Repeat with a pentagon and discuss how to draw irregular pentagon.</p> <p>The children will choose two shapes (name written on the board). They will have to write similarities and differences between the two shapes</p>	<p>The children can recognise a 2D or 3D shape by their properties.</p> <p>The children will be able to compare 2D and 3D shapes and say what is the same and what is different?</p> <p>The children will be able to draw 2D shapes based on their knowledge of the properties of shapes.</p> <p>The children will be able to apply their knowledge of the properties of 2D and 3D shapes to identify similarities and differences.</p>

	<p>To compare and sort common 3D shapes and everyday objects.</p> <p>To identify and describe the properties of 3D shapes, including the number of edges vertices and faces.</p> <p>To identify a shape pattern and say the next one in the sequence.</p>	<p>in as much detail as possible. They will do this with a range of shapes (2D and 3D).</p> <p>As part of mental maths show the children a cylinder, cone and cube. How are they the same? How are they different? Can we sort them according to their properties? E.g. A cylinder and a cone have circular faces. A cube has square faces.</p> <p>As part of mental maths – Guess my shape – I am a 3D shape. What could I be? I have 4 vertices. What could I be? All my faces are the same shape. What am I? <i>Triangular based pyramid.</i></p> <p>Put up shape pattern on the board. What are the next 3 shapes in the pattern?</p> <p>○○△</p>	<p>The children will be able to recognise, compare and sort shapes according to their properties.</p> <p>The children will understand mathematical vocabulary such as 2dimensional, 3 dimensional, sides, shapes, vertices and edges. They know the names of shapes dependent on the properties described.</p> <p>The children will be able to identify a pattern and say the next shapes in the sequence.</p>
	Geometry: Position and Direction.		
	<p>To be able to order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>To understand 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</p>	<p>As part of mental maths a pattern will be drawn on the board. What are the next 3 symbols?</p> <p>Talk about rotation with the children then be able to answer the questions.</p>	<p>The children will be able to say a pattern and add the next symbols in the pattern.</p> <p>The children will be able to identify different shapes and talk about how much they have rotated in terms of turns and in which direction.</p>

	(clockwise and anti-clockwise).		
	Statistics		
	Learning Intention	Implementation	Impact
	<p>To interpret and answer questions on block diagrams.</p> <p>To interpret and construct simple pictograms and tally charts</p>	<p>The children will answer questions about a graph looking at the differences between questions carefully.</p> <p>One child on each table will record on a whiteboard a tally chart for the number of children who got each present for Christmas. The categories are CDs, Art bits, sports equipment, chocolate, clothes and toys. Once they have written down the numbers, demonstrate to the children how they are going to turn this information into a pictogram. Explain what each picture will represent. They will stick in the categories into their square maths book and use a square to represent 1. Once completed the children will write the sentences e.g. The most popular present was.... The least popular present was....The different between the most and least popular present was.....</p>	<p>The children will know how to interpret data on a bar graph and answer questions about it. They will understand mathematical vocabulary such most and least popular. The different between.</p> <p>They children will understand that a tally is arranged by counting in 5s. They will know to use their knowledge of counting in 5s to add up a tally. They will know how to construct a pictogram and answer questions on it and generate their own questions.</p>
	Independence Resilience Respect Team-work Creativity Aspiration.		

Strand/ Half-term	Subitising	Cardinality, ordinality and counting	Composition	Comparison	Addition and subtraction/ Number facts
6 Children will:	<ul style="list-style-type: none"> revisit previous activities which develop their subitising skills. 		<ul style="list-style-type: none"> revisit previous activities which develop their understanding of the composition of numbers within 10 and 20. 		<ul style="list-style-type: none"> develop their fluency in additive relationships within 20, using a range of activities and games and revisiting

					previously taught strategies where necessary.
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