WRPS Maths Medium Term Planning: Autumn Term Year 1 Year 2

| Week. | Mathematical aspect | Non-negotiable end points Year 1. | Non-negotiable end points Year 2. | Curriculum statements - Year 1. | Curriculum Statements. Year 2. |
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| 1. | Number and place value: counting, reading and writing 2-digit numbers, place value | Knows the counting patterns from 1 to 100. <br> Knows that counting can go forwards or backwards in order. | Knows the properties of two digit numbers. Knows that counting can be done in varying step sizes. | - To count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. <br> - To identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least. | $\bullet$ To count in steps of 2,3 , and 5 from 0 , and count in tens from any number, forward or backward. <br> - To recognise the place value of each digit in a two-digit number (tens, ones). <br> - To identify, represent and estimate numbers using different representations, including the number line. <br> - To compare and order numbers from 0 up to 100; use <, > and = signs. <br> - To read and write numbers to at least 100 in numerals and in words. <br> - To use place value and number facts to solve problems. |
| Count in $1 \mathrm{~s}, 2 \mathrm{~s}, 5 \mathrm{~s}, 10 \mathrm{~s}$ <br> $\begin{array}{ccccccccc}20 & 21 & 22 & 23 & 24 & 25 & 28 & 27 & 28 \\ & & 1 & 1 & 1 & 1 & 1 & 1 & 1\end{array}$ 59 5 tens and9 ones Fifty nine | $\begin{aligned} & 60 \\ & 6 \text { tens } \\ & 60 \text { ones } \end{aligned}$ <br> Sixty <br> $3,6,9,12,15,18$ |  |  |  | Convince me that both of these numbers are the these numbers same. |
| 2. | Addition and subtraction: concrete, visual and number facts | Knows that addition makes a larger total. Knows that subtraction reduces the amount. | Knows number bonds to 20. <br> Knows efficient strategies for adding and subtracting for up to two 2-digit numbers. Knows that addition is commutative. | - To read and write numbers from 1 to 20 in numerals and words. <br> When given a number, identify one more and one less. <br> - To read, write and interpret mathematical statements involving addition ( + ), subtraction ( - ) and equals ( $=$ ) signs. <br> - To add and subtract one-digit and two-digit numbers to 20, including zero. | To solve problems with addition and subtraction: <br> - Using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - Applying their increasing knowledge of mental and written methods. <br> - To recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100 . <br> - To add and subtract 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. <br> - To show that addition can be done in any order (commutative) and subtraction cannot. <br> - To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. |

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|  | $\begin{aligned} & 4+3=7 \\ & 7-3=4 \\ & 7-4=3 \end{aligned}$ |  |  |  |  | Raj says that $32+6=38$ and $32-6=$ 28 . Is he right? <br> Raj says $14+15=31$ and $14-31=15$ as they are a fact family. What is going wrong? |
| 3. | Multiplication and division: repeated addition equal groups of | Knows the operations of multiplication (repeated addition) and division (equal groups of). |  | s the operations of plication (repeated ion) and division al groups of). s that multiplication is mutative. | - To solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | - To recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers. <br> - To calculate mathematical statements for multiplication and division within the multiplication tables and write them using multiplication, division and equals signs. <br> - To recognise and use the inverse relationship between multiplication and division in calculations. <br> - To show that multiplication of two numbers can be done in any order (commutative) and division for one number by another cannot. <br> - To solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. |
| Arrays representing the dividend <br> 0000 <br> Repeated addition (to reach a given target) $\qquad$ $\qquad$ $\overbrace{0}^{+5}+5 \overbrace{}^{+5}+5$ Repeated subtraction (from a given quantity) |  |  | 000000 $\sim 500$ $000$ |  |  | many number sentences can you write to describe this array? Can you use addition, multiplication and division? <br> Explain your answers. |
| 4. | Geometry: properties of shape | Know the mathematical names of 2d and 3d shapes. |  | the mathematical es and properties of 2d 3d shapes. | - To recognise and name common 2D and 3D shapes, including: <br> 2D shapes (rectangles (including squares), circles and triangles) <br> 3D shapes (cuboids (including cubes), pyramids and spheres). | - To identify and describe the properties of 2D shapes, including the number of sides and symmetry in a vertical line. <br> - To identify and describe the properties of 3D shapes including the number of edges, vertices and faces. |


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|  |  |  |  |  | - To identify 2D shapes on the surface of 3D shapes, for example circle on a cylinder and a triangle on a pyramid. <br> - To compare and sort common 2D and 3D shapes and everyday objects. |
|  |  |  |  | What is the same and what is different? <br> Name the shape. |  |
| 5. | Measurement: length, mass, capacity | Know how to measure a length, a mass and a capacity in nonstandard units then standard units. | Knows the standard units of measure for length, mass and capacity. | - To compare, describe and solve practical problems for: <br> - lengths and heights (long/short, longer/shorter, tall/short, double/half) <br> - mass or weight (heavy/light, heavier than, lighter than) <br> - capacity/volume (full/empty, more than, less than, quarter) | To choose and use appropriate standard units to estimate and measure length/ height in any direction; mass; temperature; volume and capacity to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels. <br> - To compare and order lengths, mass, volume/capacity and record the results using $>,<$ and $=$. |
|  |  |  | easuring in $\mathrm{kg} / \mathrm{g}$ |  |  |
| 6. | Number and place value: comparing, ordering two-digit numbers and knowing their place value | Count to 100 in $1 \mathrm{~s}, 2 \mathrm{~s}$, 10 s and 5 s . <br> Knows small quantities that do not need counting. <br> Knows that 1 ten is ten ones as a base ten value. <br> Knows how the teen numbers are built. | Knows the symbols of comparing numbers. Uses the skill of estimation. | - To count to and across 100, forwards and backwards, beginning with 0 or 1 , or from any given number. <br> - To count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens. <br> When given a number, identify one more and one less. <br> - To identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. <br> - To read and write numbers from 1 to 20 in numerals and words. | -To identify, represent and estimate numbers using different representations, including the number line. <br> - To compare and order numbers from 0 up to 100; use <, > and = signs. <br> - To read and write numbers to at least 100 in numerals and in words. <br> - To use place value and number facts to solve problems. |


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|  |  |  |  |  |
| 7\&8. Addition and <br> subtraction: using <br> recall of addition and <br> subtraction facts and <br> mental calculation <br> strategies <br> Subtraction as take <br>  <br> difference <br> (counting on and back) <br>   | Knows the operation required and calculates using counting and known facts, including doubles. <br> Knows that counting back is 'take away' and counting on is 'find the difference'. | Knows efficient methods using number sense, place value, bridging, near doubles and adjustment strategies. | - To read, write and interpret mathematical statements involving addition ( + ), subtraction ( - ) and equals (=) signs. <br> - To represent and use number bonds and related subtraction facts within 20. <br> - To add and subtract one-digit and two-digit numbers to 20, including zero. <br> - To solve one-step problems that involve addition using concrete objects and pictorial representations, and missing number problems such as $7=0$ - 9 . | To solve problems with addition and subtraction: <br> - Using concrete objects and pictorial representations, including those involving numbers, quantities and measures <br> - Applying their increasing knowledge of mental and written methods. <br> - To add and subtract 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. <br> - To show that addition can be done in any order (commutative) and subtraction cannot. <br> - To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. |
| Whole-part model <br> Adjustment strategy <br> Re-arranging <br> $18+4=$ <br> Tell me what you know about 4, e.g. 3+1, $2+2$ <br> $18+4=$ Rearrange the 4 into $2+218+2+2=20+2=22$ <br> (Round and adjust) <br> What is the nearest 10 ? <br> $55-27=$ <br> $55-30+3=25+3$ $=28$ <br> $91-48=$ <br> $\begin{aligned} 91-50+2 & =41+2 \\ & =43\end{aligned}$ | 20  <br> 3 17 <br> $20=3+17$ <br> $20=17+3$ <br> $20-3=17$ <br> $20-17=3$  |  |  <br> How would you find the missing number? <br> 18 <br> 6 <br> ? | Add <br> $25+10$ <br> $25+15$ <br> $25+17$ Subtract <br> $65-10$ <br> $65-15$ <br> $65-55$ <br> Spot the mistake <br> $75+25=100$ <br> $76+34=100$ <br> $100-24=76$ $\mathbf{2 5 + 2 9 = 5 4}$ <br> $25+30=55$, then <br> subtract 1 <br> $25+25=50$, then <br> add 4 <br> Show me how to do 76-43 using the Dienes. <br> T1111 |

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| 6 less than 10 is 4 <br> Count out, then count how many are left. Remove from the set. $7-4=3$ <br> Count back on a number track. <br> 15-6 = 9 <br> रा8 (0) 10 सी |  |  | What is the <br> difference <br> between these dice? <br> The difference between the two dice is 2 <br> Show $17-8$ on the number line <br> Choose to count on or count back $\begin{aligned} & 17-3= \\ & 17-15= \\ & 13-8= \end{aligned}$ $13-11=$ | Jason has been asked to calculate 67-19 <br> Jason draws this picture and says that $67-19=46$ <br> Kevin says that <br> The difference between 72 and 68 is 16 <br> Can you explain what Kevin has done wrong? |
| 9. <br> Multiplication and division: repeated addition and subtraction, arrays, grouping and using times tables facts | Knows that equal groups can be represented as an array | Knows the $2 \mathrm{~s}, 5 \mathrm{~s}$ and 10 s times tables. <br> Uses arrays to represent multiplication and division facts. | - To solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | - To recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers. <br> - To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(\times)$, division ( $\div$ ) and equals ( $=$ ) signs. <br> - To recognise and use the inverse relationship between multiplication and division in calculations. <br> - To show that multiplication of two numbers can be done in any order (commutative) and division for one number by another cannot. <br> - To solve one-step problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. |
|  | ds and backwards and with | ssing jumps |  |  |

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