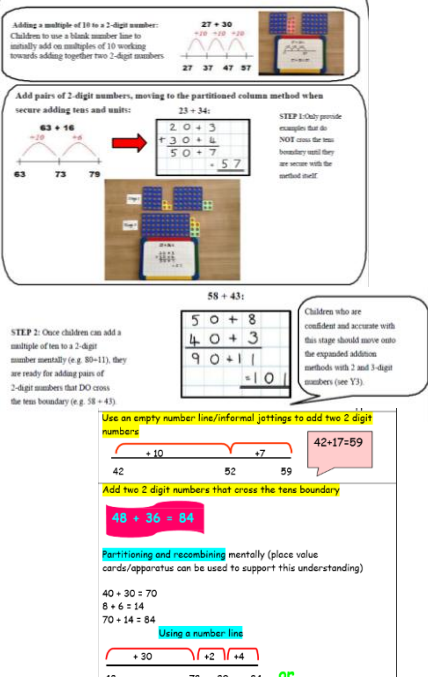
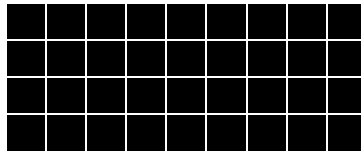

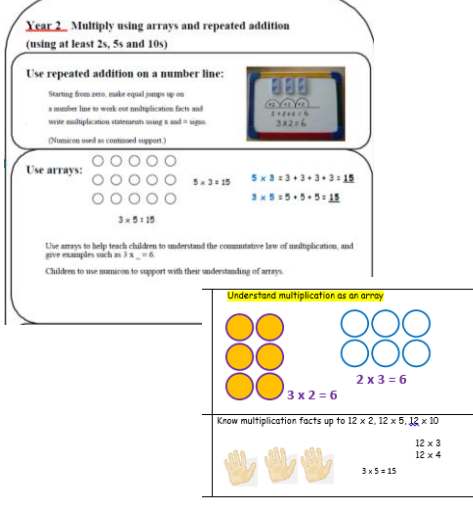

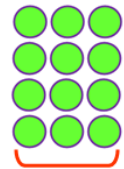
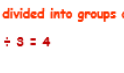




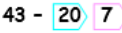


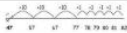


+ Addition	- Subtraction	X Multiplication	÷ Division
<p>Continue to model and use different models and images and resources, e.g. 100 square and beadstring to support the recording of calculations.</p> <p>Children will begin to use empty number lines starting with larger number and counting on.</p> <ul style="list-style-type: none"> <li>First counting on in tens and ones.  <math>34 + 23 = 57</math>                      ***</li> <li>Then helping children to become more efficient by adding the units in one jump (by using the known fact <math>(4+3=7)</math>)  <math>34 + 23 = 57</math>                      ***</li> <li>Followed by adding the tens in one jump and the units in one jump.  <math>34 + 23 = 57</math>                      ***</li> <li>Bridging through ten can help children become more efficient.  <math>37 + 15 = 52</math>                      ***</li> </ul>  <p>Adding a multiple of 10 to a 2-digit number: Children to use a blank number line to initially add on multiples of 10 working towards adding together two 2-digit numbers.</p> <p>Add pairs of 2-digit numbers, moving to the partitioned column method when secure adding tens and units: STEP 1: Only provide examples that do NOT cross the ten boundary until they are secure with the method itself.</p> <p>STEP 2: Once children can add a multiple of ten to a 2-digit number mentally (e.g. <math>50+11</math>), they are ready for adding pairs of 2-digit numbers that DO cross the ten boundary (e.g. <math>58+43</math>).</p> <p>Children who are confident and accurate with this stage should move onto the expanded addition methods with 2 and 3-digit numbers (see Y3).</p> <p>Use an empty number line/infernal jettings to add two 2 digit numbers</p> <p>Add two 2 digit numbers that cross the tens boundary</p> <p>Partitioning and recombining mentally (place value cards/apparatus can be used to support this understanding)</p> <p>Using a number line</p>	<p>Continue to model and use different models and images are resources e.g. 100 square and beadstring to support the recording of calculations.</p> <p>Find the difference between two numbers. Introduce this concept using practical resources e.g. multi link.</p> <p>Children will begin to use empty number lines to support calculations:  <b>Counting back</b></p> <ul style="list-style-type: none"> <li>First counting back in tens and ones  <math>47 - 23 = 24</math>                      ***</li> </ul> <p>Continue using empty number lines first with horizontal recordings          ***</p> <p><math>3+40+4=47</math></p> <p>Children to use both the counting on method (as above) and the counting back method in the same style to enable them to choose the most appropriate method to use to solve a calculation.</p> <p>Once children are secure on using number lines for subtractions children will move onto partitioning and decomposition (where appropriate).</p> <p><b>Partitioning</b></p> <p>Initially children will be taught partitioning using examples that do not need the children to exchange</p> $\begin{array}{r} 79 = 79 \ 9 \\ -27 \ 20 \ 7 \\ \hline 50 \ 2 \end{array} = 52$ <p>Use manipulatives (straws, and/or dienes apparatus, introducing place value) to develop conceptual understanding.</p> <p>From this children will begin to exchange (decomposition)</p> $\begin{array}{r} 60 \ 14 \\ 70 \ 4 \\ -20 \ 7 \\ \hline 40 \ 7 \end{array}$	<p>Number lines, number tracks, 100 squares, cubes and bead strings will be used as a learning support.</p> <p>Children will continue to use repeated addition e.g. 4 times 6 is <math>6+6+6+6=24</math> or 4 lots of 6 or <math>6 \times 4</math>.</p> <p>Continue use and development of the use of arrays. Children should be able to model multiplication calculation using an array which will support with the development of the grid method.</p>  <p><math>9 \times 4 = 36</math></p> <p>Begin to develop an understanding of <b>Scaling</b>          e.g. find a ribbon that is 4 times as long as the blue ribbon.</p>   <p>Year 2: Multiply using arrays and repeated addition (using at least 2s, 5s and 10s)</p> <p>Use repeated addition on a number line: Starting from zero, make equal jumps up on a number line to work out multiplication facts and write multiplication statements using <math>\times</math> and <math>=</math> signs.</p> <p>(Notation used as continued support)</p> <p>Use arrays: <math>3 \times 5 = 15</math>, <math>5 \times 3 = 15</math>, <math>5 \times 3 = 3 + 3 + 3 = 15</math>, <math>3 \times 5 = 5 + 5 + 5 = 15</math></p> <p>Use arrays to help teach children to understand the commutative law of multiplication, and give examples such as <math>3 \times 4 = 6</math>. Children to use numerics to support with their understanding of arrays.</p> <p>Understand multiplication as an array: <math>3 \times 2 = 6</math>, <math>2 \times 3 = 6</math></p> <p>Know multiplication facts up to <math>12 \times 2</math>, <math>12 \times 5</math>, <math>12 \times 10</math></p> <p><math>12 \times 3</math>, <math>12 \times 4</math>, <math>3 \times 5 = 15</math></p>	<p>Continue to use Repeated subtraction using a number line.</p> <p>Empty number lines to support their calculation.  <math>24 \div 4 = 6</math>          ***</p> <p>Record mental division using partitioning:  <math>64 \div 4 = (40 + 24) \div 4</math>  <math>= (40 \div 4) + (24 \div 4)</math>  <math>= 10 + 6 = 16</math></p> <p>Begin to use place value counters to support partitioning when dividing.  <math>\diamond \diamond / \diamond \diamond / \diamond \diamond</math></p> <p>✓ Repeated subtraction using a number line or bead string e.g. <math>12 \div 3 = 4</math></p> <p>Use known multiplication facts to work out corresponding division facts</p> <p>If <math>2 \times 10 = 20</math> then...  <math>20 \div 10 = 2</math>  <math>20 \div 2 = 10</math></p> <p>Understand division as grouping</p>  <p>How many 3s are there in 15?</p> <p>Reinforce division as grouping through the use of arrays</p>  <p>12 divided into groups of 4 gives 3  <math>12 \div 4 = 3</math></p>  <p>12 divided into groups of 3 gives 4  <math>12 \div 3 = 4</math></p>

# Year 2

+ Addition	- Subtraction	X Multiplication	÷ Division
 <p>Be able to partition numbers</p> $247 = 200 + 40 + 7$  <p>Use partitioning and recombining to add two 2-digit numbers (that don't cross the tens boundary)</p> $12 + 15 = 10 + 10 \text{ and } 2 + 5$ $20 + 7 = 27$  <p>with use of apparatus</p> <p>Continue to use empty number lines with increasingly larger numbers. Counting on and compensating where appropriate.</p> <p><b>Counting On</b></p> <p>Counting on from the largest number irrespective of the order of the calculations.</p> $38 + 86 = 124$ *** <p><b>Compensation</b></p> <p>Adding on too much and then taking off the extra that has been added on</p> $49 + 73 = 122$ *** <p>Begin to record steps in addition using partitioning:</p> $47 + 76 = 47 + 70 = 117 + 6 = 123$ or $47 + 76 = 40 + 70 + 7 + 6 = 110 + 13 = 123$ <p>This will then lead onto partitioned numbers being written under one another:</p> $\begin{array}{r} 47 \\ +76 \\ \hline 110 + 13 = 123 \end{array}$ <p>Use manipulatives (straws and/or dienes apparatus) to develop conceptual understanding.</p>	<p>Continue to use a number line to find the difference by adding on from the smaller to the larger number (including bridging through the tens boundary)</p> $42 - 25$  <p>Then count the jumps to find the answer... <math>10 + 5 + 2 = 17</math></p> <p>Begin to partition numbers in order to take away</p> $67 - 25$ $67 - 20 = 47$ $47 - 5 = 42$ <p>Partition the number to be subtracted with some exchanging</p> $43 - 27 = 16$  <p>To subtract 7 from 33 we will need to purchase a ten for ten units.</p> $43 - 20 = 23$ $23 - 7 = 16$ <div style="border: 1px solid black; border-radius: 15px; padding: 10px; margin-top: 20px;"> <p><b>Year 2: Subtract with 2-digit numbers</b></p> <p>Children will subtract using a number line progressing to the use of a blank number line.</p> <ul style="list-style-type: none"> <li>• 2-digit numbers subtract ones (by taking away / counting back) e.g. <math>48 - 7</math></li> <li>• 2-digit numbers subtract tens (by taking away / counting back) e.g. <math>36 - 20</math></li> <li>• Subtracting pairs of 2-digit number (by partitioning / taking away) e.g. <math>48 - 18</math></li> </ul> <p><b>Subtracting a multiple of 10 from a 2-digit number:</b>  <math>38 - 20 = 18</math></p> <p>These children can begin to use empty number lines with the support of numerals.</p>  <p><b>Subtracting pairs of 2-digit numbers on an empty number line:</b>  <math>48 - 18 = 30</math></p> <p>Partition the second number and subtract in tens and ones.</p>  <p>• Randomly creating an array for the class together numbers (e.g. 121-118) and also for numbers that are easily multiples of 10, 100, 1000 or £.</p> <p>• Children should be able to find the difference between two numbers by counting using the number line. For example 50-25=25.</p> <p>• Start at the smaller number and count on in tens first, then count on in ones to find the rest of the difference.</p>  </div>		