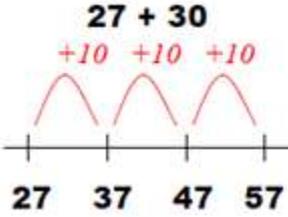
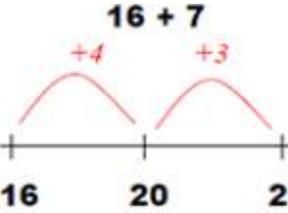
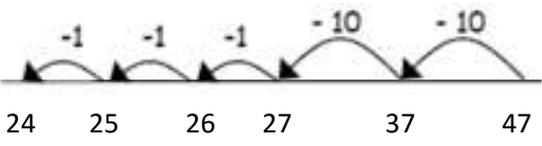
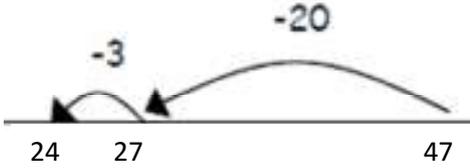
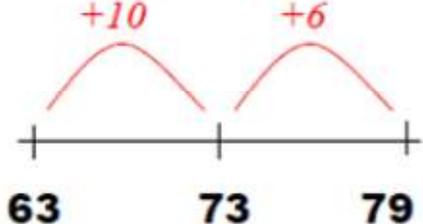
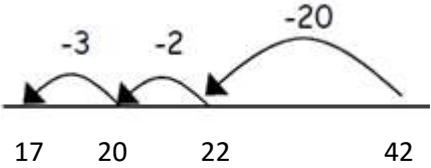
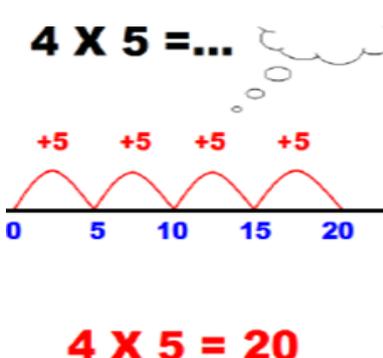
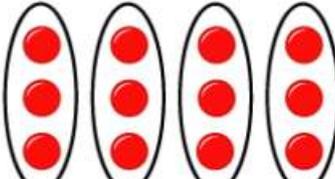
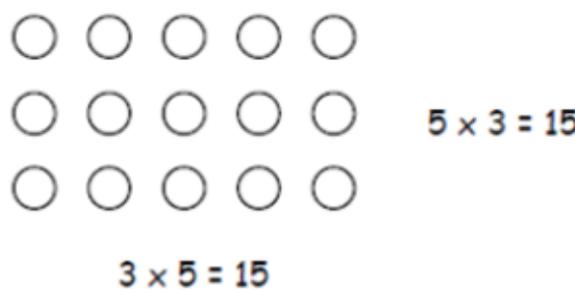
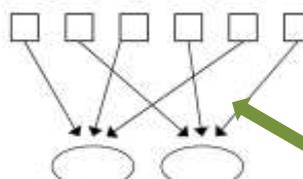


Addition	Subtraction
<b>Year 2 (Step 19 –21)</b>	
<b>Maths Book: 1cm square moving to 7mm square as appropriate. One digit in one square.</b>	
<p>Add 2-digit numbers and tens:</p>  <p><math>27 + 30</math>  <math>+10 +10 +10</math>  <b>27 37 47 57</b></p>	<p>Subtract with 2-digit numbers            Subtract on a number line by counting back, aiming to develop mental subtraction skills.            This strategy will be used for:</p> <ul style="list-style-type: none"> <li>• 2-digit numbers subtract units (by taking away / counting back) e.g. <math>36 - 7</math></li> <li>• 2-digit numbers subtract tens (by taking away / counting back) e.g. <math>48 - 30</math></li> <li>• Subtracting pairs of 2-digit numbers</li> </ul>
<p>Add to next multiple of ten by partitioning ones then adding remainder.</p>  <p><math>16 + 7</math>  <math>+4 +3</math>  <b>16 20 23</b></p> <p>Knowledge of number bonds to 10 essential.</p>	<p><math>47 - 23 = 24</math> Partition the second number and subtract the tens first, then units.</p>  <p>24 25 26 27 37 47</p> <p>Move towards more efficient jumps back, as below:</p>  <p>24 27 47</p> <p>Combine methods with use of a hundred square.</p>
<p><math>63 + 16</math></p>  <p><math>+10 +6</math>  <b>63 73 79</b></p> <p>Use empty number lines, concrete equipment, hundred squares etc. to build confidence and fluency in mental addition skills, as above.            Add pairs of 2-digit numbers, moving to the partitioned column method when secure adding tens and units:</p>	<p>Teaching children to bridge through ten can help them to become more efficient, for example <math>42 - 25</math>:</p>  <p>17 20 22 42</p>
<p>Partition both numbers, adding tens then ones.</p> $\begin{array}{r} 30 \quad 8 \quad 20 \quad 1 \\ 38 + 21 = 59 \end{array}$ $30 + 20 = 50$ $8 + 1 = 9$ $50 + 9 = 59$	<p>Partition second number, subtract tens then ones.</p> $\begin{array}{r} 20 \quad 1 \\ 38 - 21 = 17 \\ 38 - 20 = 18 \\ 18 - 1 = 17 \end{array}$ <p>STEP 1: Examples do NOT bridge ten (as above).</p>

<p>STEP 1: Examples do NOT bridge ten (as above). STEP 2: Once children can add a multiple of ten to a 2-digit number mentally (e.g. 80+11), they are ready for adding pairs of 2-digit numbers that DO bridge ten (e.g. 58 + 43).</p>	<p>STEP 2: Once children can add a multiple of ten to a 2-digit number mentally (e.g. 80+11), they are ready for adding pairs of 2-digit numbers that DO bridge ten (e.g. 58 + 43).</p>
<p>Compare practical versions to the written form.</p>	<p>Mental strategy - subtract numbers close together by counting on: Start with the smaller number and count on to the largest in efficient steps.</p>
<p>Add 9 or 11 by adding 10 and adjusting by 1.</p>	
<p>Key vocabulary: add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on, number line, sum, tens, units, partition, addition, column, tens boundary</p>	<p>Key vocabulary: equal to, take, take away, less, minus, subtract, leaves, distance between, how many more, how many fewer / less than, most, least, count back, how many left, how much less is_?, difference, count on, strategy, partition, tens, units</p>
<p>Resources: Dienes, arrow cards, numicon, place value counters</p>	
<p><b>Key skills for addition at Y2:</b></p> <ul style="list-style-type: none"> <li>• Add a 2-digit number and ones (e.g. 27 + 6)</li> <li>• Add a 2-digit number and tens (e.g. 23 + 40)</li> <li>• Add pairs of 2-digit numbers (e.g. 35 + 47)</li> <li>• Add three single-digit numbers (e.g. 5 + 9 + 7)</li> <li>• Show that adding can be done in any order (the commutative law).</li> <li>• Recall bonds to 20 and bonds of tens to 100 (30 + 70 etc.)</li> <li>• Count in steps of 2, 3 and 5 and count in tens from any number.</li> <li>• Understand the place value of 2-digit numbers (tens and ones)</li> <li>• Compare and order numbers to 100 using &lt; &gt; and = signs.</li> <li>• Read and write numbers to at least 100 in numerals and words.</li> <li>• Solve problems with addition, using concrete objects, pictorial representations, involving numbers, quantities and measures, and applying mental and written methods.</li> </ul>	<p><b>Key skills for subtraction at Y2:</b></p> <ul style="list-style-type: none"> <li>• Recognise the place value of each digit in a two-digit number.</li> <li>• Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100.</li> <li>• Subtract using concrete objects, pictorial representations, 100 squares and mentally, including: a two-digit number and ones, a two-digit number and tens, and two two-digit numbers.</li> <li>• Show that subtraction of one number from another cannot be done in any order.</li> <li>• Recognise and use inverse relationship between addition and subtraction, using this to check calculations and missing number problems.</li> <li>• Solve simple addition and subtraction problems including measures, using concrete objects, pictorial representation, and also applying their increasing knowledge of mental and written methods.</li> <li>• Read and write numbers to at least 100 in numerals and in words.</li> </ul>

Multiplication	Division
<b>Year 2 (Step 19 –21)</b>	
<p>Multiply using arrays and repeated addition (using at least 2s, 3s, 5s and 10s)</p>	<p>Use objects, arrays, diagrams and pictorial representations, and grouping on a number line.</p> <p>Group and share, using the ÷ and = sign</p>
<p>Use repeated addition on a number line:</p> <p>Starting from zero, make equal jumps up on a number line to work out multiplication facts and write multiplication statements using x and = signs.</p>  <p><b>4 X 5 = 20</b></p>	<p>Know and understand sharing and grouping:</p>  <p>This represents <math>12 \div 3</math>, posed as how many groups of 3 are in 12?</p> <p>Pupils should also show that the same array can represent <math>12 \div 4 = 3</math> if grouped horizontally.</p>
<p>Use arrays:</p>  <p><math>5 \times 3 = 15</math></p> <p><math>3 \times 5 = 15</math></p> <p><math>5 \times 3 = 3 + 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 \underline{\quad} = 6</math>.</p>	<p>6 sweets shared between 2 people, how many do they each get?</p>  <p>It is important for the children to know the difference between <b>sharing</b> and <b>grouping</b>.</p> <p>There are 6 sweets, how many people can have 2 sweets each?</p> 
<p>Use practical apparatus:</p> 	<p>Grouping using a number line:</p> <p>Group <b>from zero</b> in equal jumps of the divisor to find out "How many groups of 2 in 20?".</p> <p>Pupils could use a bead string or practical apparatus to work out problems like "A CD costs £3. How many CDs can I buy with £12? " This is an important method to develop understanding of division as grouping.</p>
<p><b>Key vocabulary:</b> groups of, lots of, times, array, altogether, multiply, count, multiplied by, repeated addition, column, row, commutative, sets of, equal groups, times as big as, once, twice, three times...</p>	<p><b>Key vocabulary:</b> share, share equally, one each, two each..., group, equal groups of, lots of, array, divide, divided by, divided into, division, grouping, number line, left, left over</p>
<p>Resources: Dienes, numicon, number lines, bead strings, peg boards, unifix multilink, Cuisenaire, learning links</p>	

**Key skills for multiplication at Y2:**

- Count in steps of 2, 3 and 5 from zero, and in 10s from any number.
- Recall and use multiplication facts from the 2, 5 and 10 multiplication tables, including recognising odds and evens.
- Write and calculate number statements using the  $\times$  and  $=$  signs.
- Show that multiplication can be done in any order (commutative).
- Solve a range of problems involving multiplication, using concrete objects, arrays, repeated addition, mental methods, and multiplication facts.
- Pupils use a variety of language to discuss and describe multiplication.

**Key skills for division at Y2:**

- Count in steps of 2, 3, and 5 from 0
- 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  $\times$ ,  $\div$  and  $=$  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.