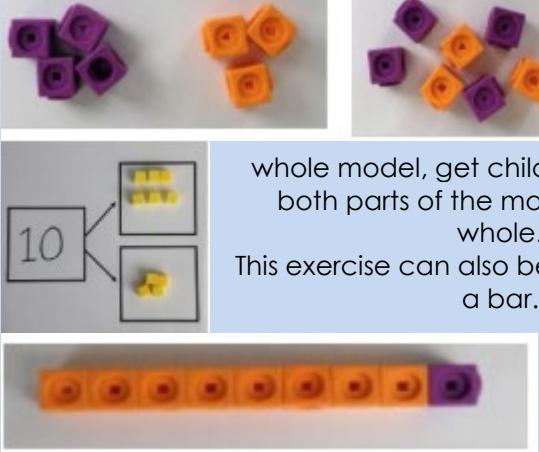
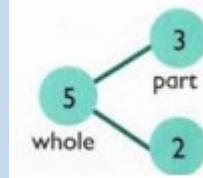
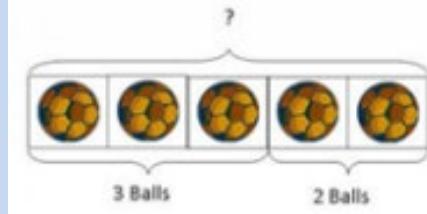
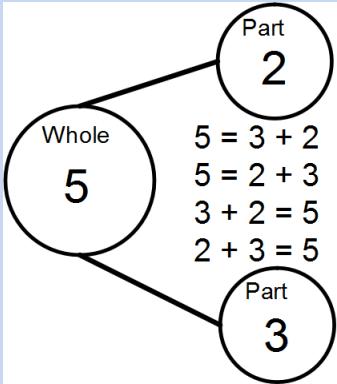
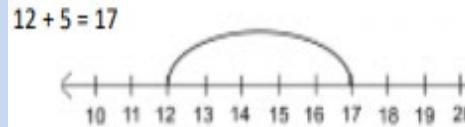
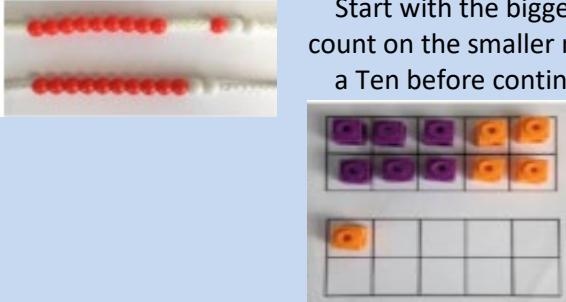
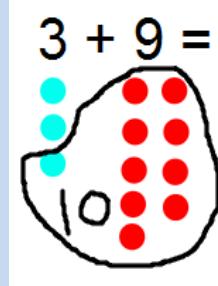
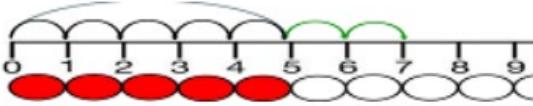
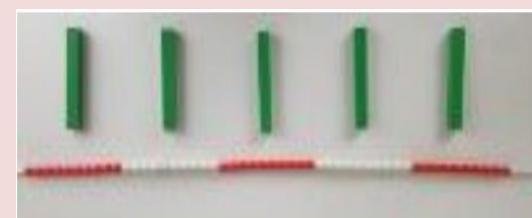
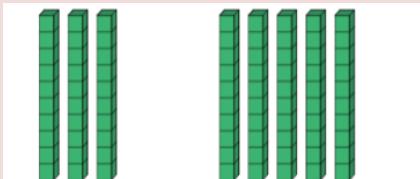
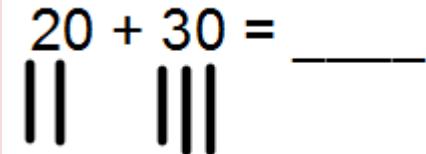
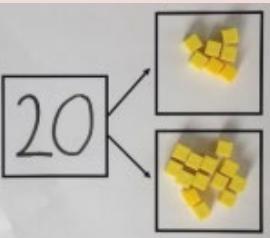
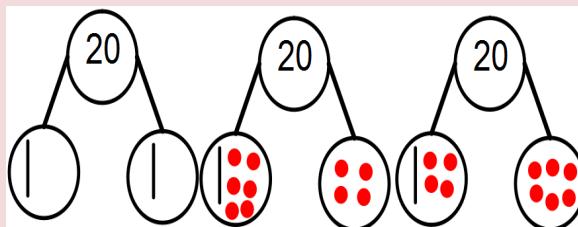
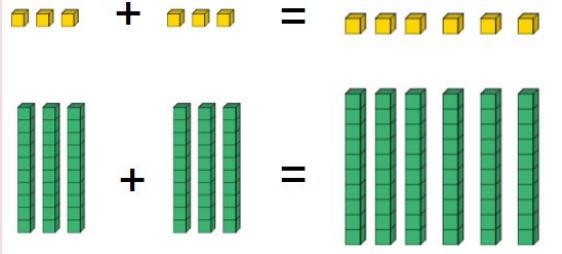
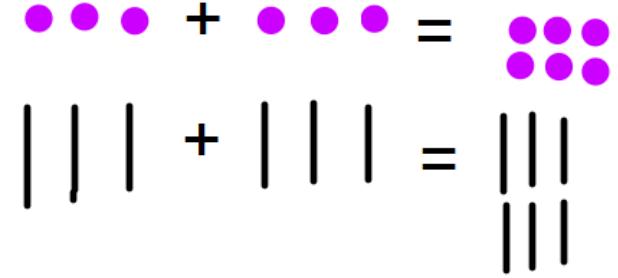
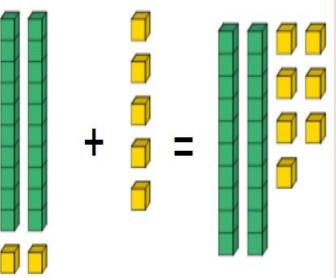
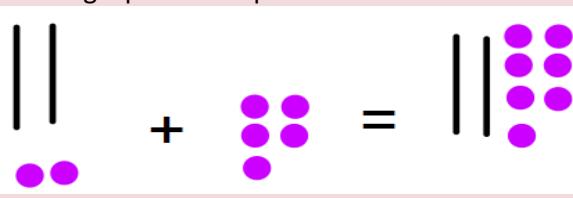
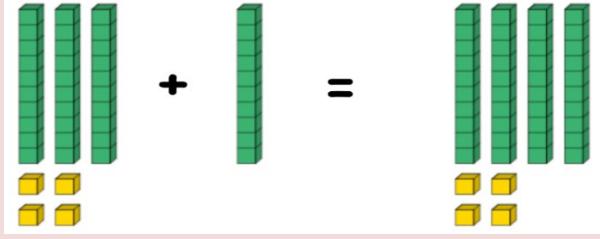
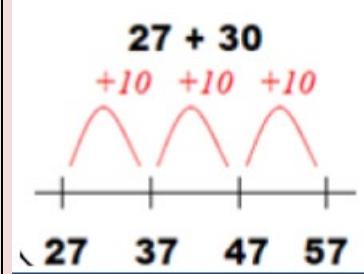
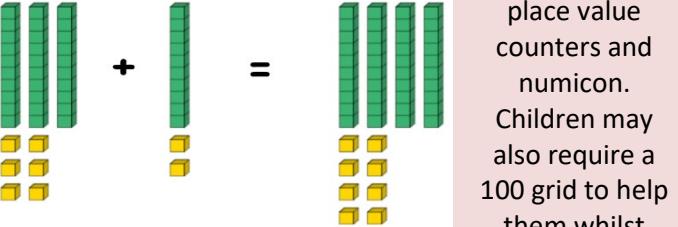
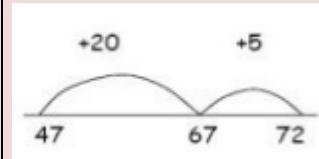
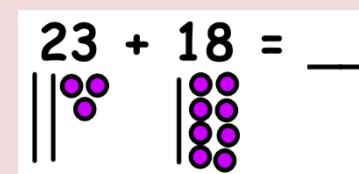
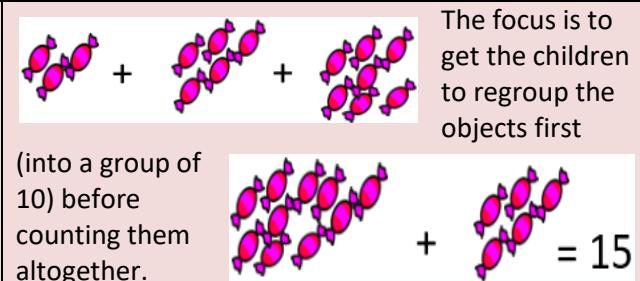


	Skill	What is the skill?	Activities and Opportunities.
EYFS	<b>Counting:</b> Saying number words in sequence.	Recites numbers in order to 10. Sometimes matches numeral and quantity correctly. Realises not only objects, but anything can be counted, including steps, claps or jumps.	<ul style="list-style-type: none"> <li>• Counting backwards (number rhymes).</li> <li>• Start counting from different numbers.</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>
		Counts up to three or four objects by saying one number name for each item. Counts actions or objects which cannot be moved Counts objects to 10, and beginning to count beyond 5. <b>Children count reliably with numbers from one to 20.</b>	
	<b>Counting:</b> Tagging each number with one number word.	Uses some number names and number language spontaneously. Realises not only objects, but anything can be counted, including steps, claps or jumps.	<ul style="list-style-type: none"> <li>• Counting things of different sizes (focuses on the numerosity of the count).</li> <li>• Counting unseen things; sounds, actions and words.</li> <li>• Counting things that cannot be moved; pictures on screen, birds on bird table or faces of a shape.</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>
		Recognises numerals 1 to 20. Counts up to three or four objects by saying one number name for each item. Counts actions or objects which cannot be moved Counts objects to 10, and beginning to count beyond 10 Selects the correct numeral to represent 1 to 5, then 1 to 10 objects. <b>Children count reliably with numbers from one to 20.</b> <b>Using quantities and objects, children can count on or back to find the answer.</b>	
	<b>Counting:</b> Knowing the last number counted gives us the total.	Knows that numbers identify how many objects are in a set.	<ul style="list-style-type: none"> <li>• Playing dice games to collect a number of objects.</li> <li>• Playing track games and counting along the track.</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>
		Counts actions or objects which cannot be moved Counts objects to 10, and beginning to count beyond 10 Finds the total number of items in two groups by counting all of them. <b>Using quantities and objects, children can add and subtract two-single digit numbers.</b>	
	<b>Subitising:</b> Recognising small quantities without needing to count them all.	Compares two groups of objects, saying when they have the same number.	<ul style="list-style-type: none"> <li>• Using dot cards, dominoes and dice as part of a game (create your own for irregular arrangements).</li> <li>• Playing hidden object games where objects are ‘flashed’ in-front of the children.</li> <li>• ‘All at once’ fingers – show me four fingers.</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>
		Counts objects to 10, and beginning to count beyond 10 Counts out up to six objects from a larger group. Says the number that is one more than a given number. Finds one more or one less from a group of up to five objects, then ten objects. <b>Children can reliably place numbers in order and say which is one more and one less than a given number.</b>	
	<b>Numerical meanings</b>	Uses some number names and number language spontaneously. Beginning to represent numbers using fingers, marks on paper or pictures.	<ul style="list-style-type: none"> <li>• Using numeral dice in games; matching numerals with varied groups of things.</li> <li>• Using ‘tidy-up labels’ on containers and checking that nothing is missing.</li> <li>• Reading number books</li> <li>• Putting the right number of snacks on a tray for the number of children shown on a card.</li> <li>•</li> </ul>
		Recognises numerals 1 to 20. Counts up to three or four objects by saying one number name for each item. <b>Children can solve problems including; doubling, halving and sharing.</b>	
	<b>Conservation:</b> knowing that a number doesn't change if things are rearranged.	Compares two groups of objects, saying when they have the same number.	<ul style="list-style-type: none"> <li>• Correcting a puppet who may say that there are more or fewer objects now, as they have been moved around, e.g. spread out or pushed together.</li> <li>• Contexts such as sharing things out (grouping them in different ways) and then the puppet complaining that it is not fair as they have less.</li> <li>•</li> <li>•</li> <li>•</li> </ul>
		Counts actions or objects which cannot be moved Counts out up to six objects from a larger group. Counts an irregular arrangement of up to ten objects Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.	

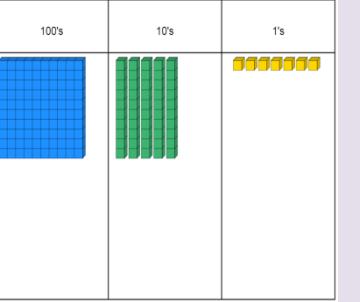
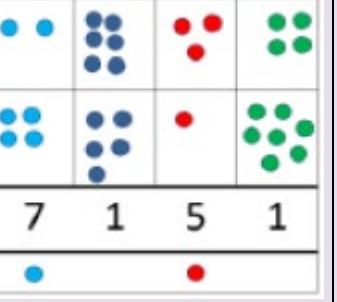
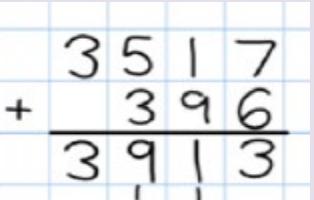
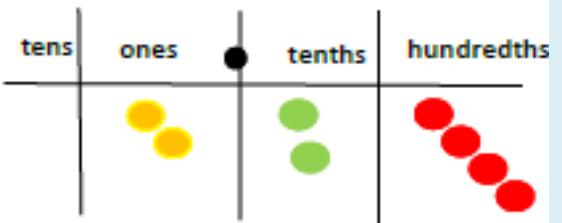
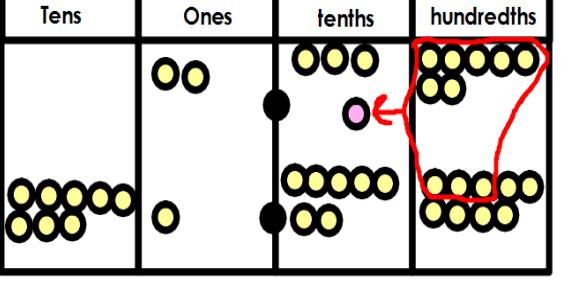
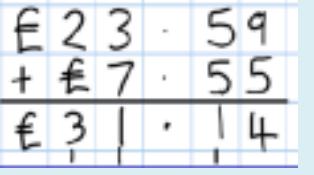
	Objectives / Strategy	Concrete	Pictorial	Abstract
	<b>Combining two parts to make a whole: part-whole model.</b>	 <p>Using physical objects and a copy of the part whole model, get children to combine both parts of the model to find the whole. This exercise can also be completed with a bar.</p>	 	<p>Use a part-whole model to help children represent the equations in abstract form.</p>  $5 = 3 + 2$ $5 = 2 + 3$ $3 + 2 = 5$ $2 + 3 = 5$
Year 1	<b>Starting at the bigger number and counting on.</b>	 <p>the bead string and then count on to the smaller number 1 by 1 to find the answer.</p>	$12 + 5 = 17$  <p>The beads then link strongly to a number line. Start with the larger number on the number line and count on in ones or in one jump to find the answer.</p>	<p>The method for this concept can become a mental calculation. Start with the larger number in your head and count on the smaller number to find the answer.</p> $5 + 12 = 17$
	<b>Regrouping to make 10.</b> <i>This is an essential skill to help aid further calculation in later years.</i>	 <p>Start with the bigger number and count on the smaller number to make a Ten before continuing to count. This can be done using beads or a Twenty frame.</p>	 <p>Use pictures or a number line to make a visual image of this concept. Regroup the numbers to make a number bond to 10. Then count them altogether.</p>	<p>If I am at seven, how many more do I need to make 10. How many more do I add on now?</p> <p>I had a team of 6. I needed a team of 10. How many children do I still need?</p>

<b>Represent and use number bonds and related subtraction facts within 20.</b>	<p>Using various forms of objects, ask children to solve statements, such as; 2 more than 5.</p> 	 <p>Using similar concept, move into using pictures of objects to solve statements.</p>	<p>It is very important to indulge the younger children with vocabulary.      '1 more than 6 is equal to 7'      '2 more than 8 is equal to 10'      '3 fewer than 7 is equal to 4'</p>
<b>Adding multiples of Ten.</b>	<p>Model how to do this using Dienes blocks or beads, or even lollipop sticks.  <math>50 = 30 + 20</math></p> 	<p>Use similar pictorial representations when moving into this area.</p>  <p><math>3 \text{ Tens} + 5 \text{ Tens} = \underline{\hspace{2cm}} \text{ Tens}</math>  <math>30 + 50 = \underline{\hspace{2cm}}</math></p>	<p>Children should choose a method to solve these – either mentally or by drawing their own working out.</p> <p><math>20 + 30 = \underline{\hspace{2cm}}</math></p> 
<b>Year 2</b> <b>Use known number facts. (Partitioning)</b>	 <p>Children are to explore all of the different ways to represent the number 20 (exploring number bonds to 20).</p>	<p>Children are then presented with the opportunity to create the same bonds pictorially. This will help them to understand fact families more.</p> 	<p>Children can now further explore the fact families of known number facts.</p> <p><math>20 = 16 + 4</math>  <math>20 = 4 + 16</math>  <math>20 - 4 = 16</math>  <math>20 - 16 = 4</math></p> <p>Begin exploring commutativity with the children.</p>

<b>Applying known number facts.</b>	<p>Children should have the opportunity to explore the facts using manipulatives – Dienes provide a perfect example for this.</p> 	<p>Using their knowledge of the manipulatives, children can apply their drawing skills to creating these facts pictorially.</p> 	<p>Before, finally applying these skills to having a more fluent approachn to finding these facts.</p> $3 + 3 = 6$ $\text{So, } 30 + 30 = 60$ $\text{And, } 300 + 300 = 600$						
<b>Bar Model</b>	 <p>Ask children what facts they can tell you when shown this model. It is only an introductory step towards using the bar model.</p>	<p>This knowledge is then expanded upon by adding in the beginnings of a bar model.</p> 	<p>Resulting in the children having to</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 50px; height: 20px;"></td> <td style="width: 50px; height: 20px;"></td> </tr> <tr> <td style="text-align: center;">23</td> <td style="text-align: center;">25</td> </tr> <tr> <td colspan="2" style="text-align: center;">?</td> </tr> </table> $23 + 25 = 48$ <p>'fill in the blanks' on an existing bar model.</p>			23	25	?	
23	25								
?									
<b>Add a 2-digit number and the Ones.</b>	 <p>Establishing a step-by-step guide to using the equipment of this task will help both adults and children work more efficiently.</p>	<p>Children will then be able to apply the physical to creating a pictorial representation.</p> 	<p>All of this provides them with the foundations to solve these equations using an efficient method of their choosing.</p> $22 + 5 = \underline{\hspace{2cm}}$ $5 + 22 = \underline{\hspace{2cm}}$						

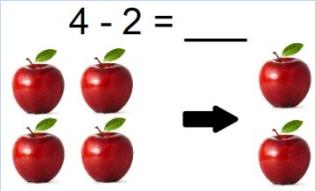
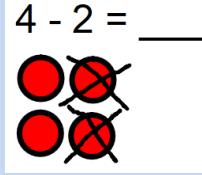
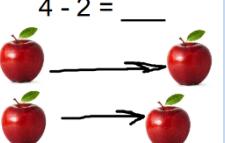
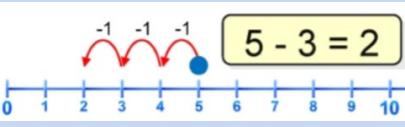
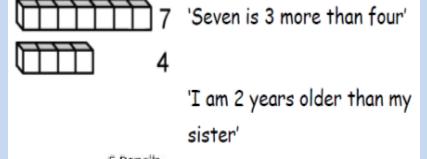
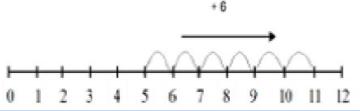
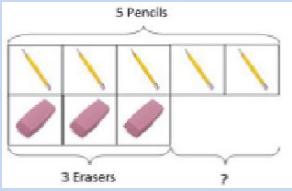
<h3>Add a 2-digit number and the Tens.</h3>	<p>It is important to get the children to notice that the Ones column would not change in this regard (linking back to place value). Get children physically exploring this number fact.</p> 	<p>Once explored, further emphasise the Ones column not changing through the use of a number line.</p> <p>Children can begin drawing their own blank number lines.</p> 	<p>Get children to spot the pattern through missing number equations.</p> $27 + 10 = 37$ $27 + 20 = 47$ $27 + \underline{\quad} = 57$
<h3>Add two 2-digit numbers.</h3>	<p>Model how to use the apparatus appropriately to solve these equations – allow children to explore with Dienes, place value counters and numicon. Children may also require a 100 grid to help them whilst they count.</p> 	<p>Number lines can be used as a method of drawing out the method. Alternatively, children can draw their Tens and Ones and count them altogether.</p>  <p><math>23 + 18 = \underline{\quad}</math></p> 	$25 + 47$ $20 + 5 \quad 40 + 7$ $20 + 40 = 60$ $5 + 7 = 12$ $60 + 12 = 72$
<h3>Add three 1-digit numbers.</h3>	<p>Children are to use manipulatives to create the equations – they should use prior knowledge by seeking number bonds to 10 out of the numbers provided. To assist children with this they could use Ten Frames.</p> 	<p>The focus is to get the children to regroup the objects first</p> <p>(into a group of 10) before counting them altogether.</p> 	$4 + 7 + 6 = 10 + 7$ $10 = 17$

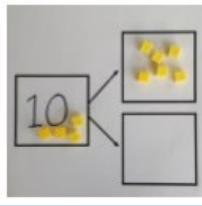
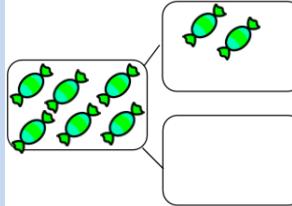
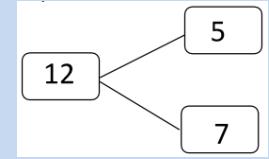
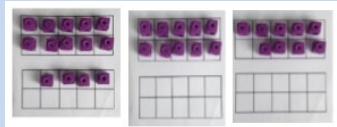
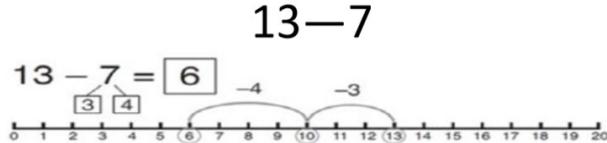
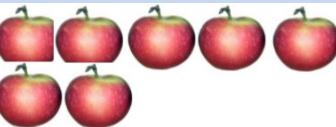
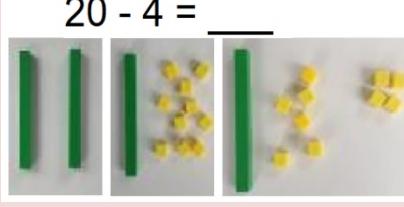
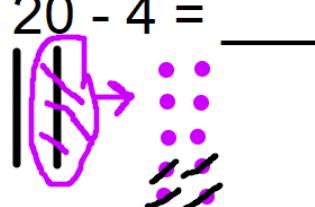
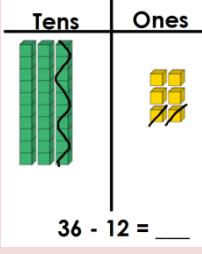
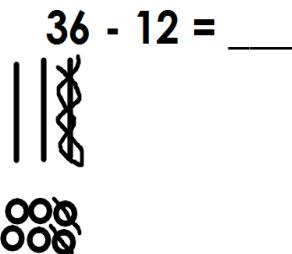
<p><b>Year 3</b></p> <p><b>Column addition (friendly numbers)</b></p> <p><b>Add two or three 2 or 3-digit numbers (no regrouping).</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Tens</th> <th style="text-align: center; padding: 5px;">Ones</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; padding: 5px;">33 </td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">45 </td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="text-align: center; padding: 5px;">70</td> <td style="text-align: center; padding: 5px;">8</td> </tr> </tbody> </table> <p>place value and partitioning skills previously learnt. Before moving onto using place value counters.</p>	Tens	Ones	33 		45 		70	8	<p>Model how to use the place value frame to assist their adding. Children will be recapping</p> <p>After using the counters, children can then use a place value grid and draw their own counters.</p>	$  \begin{array}{r}  223 \\  +114 \\  \hline  337  \end{array}  $ <p>It is important that children understand the order of column addition – start with the Ones and move along the place value.</p>
Tens	Ones										
33 											
45 											
70	8										
<p><b>Column addition with regrouping.</b></p>	<p>Using place value counters or numicon, children should be taught how to exchange (regroup) ten Ones for a single Ten.</p>	<p>Children can then begin to create their own drawings of the grid. Notice how the 'carried' Tens is now placed <u>underneath</u> the Tens column.</p> <p>This is an important step for children fully understanding column method.</p>	$  \begin{array}{r}  20 + 5 \\  40 + 8 \\  \hline  60 + 13 = 73  \end{array}  $ <p>There are two approaches here. The first centres on children's partitioning knowledge. Before moving onto the more formal method.</p> $  \begin{array}{r}  536 \\  + 85 \\  \hline  621  \end{array}  $								

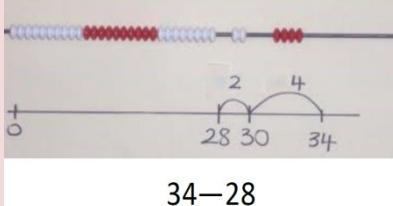
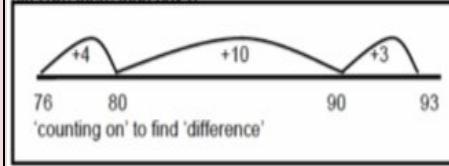
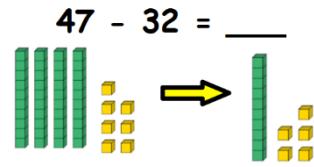
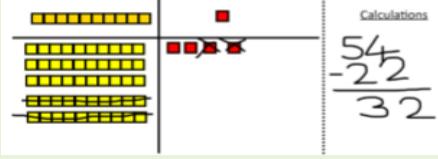
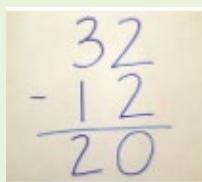
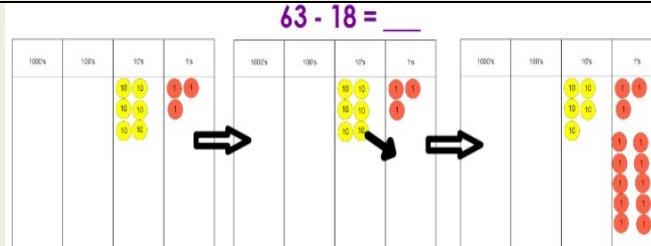
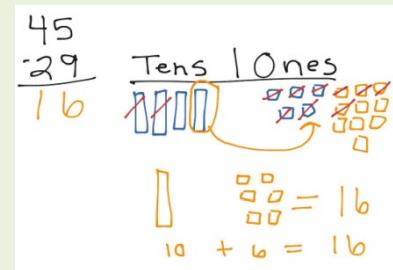
Year 4	<b>Add numbers with up to 4-digits.</b>	 <p>a Hundred and ten Hundreds for a Thousand.</p>	<p>Children should be encouraged to still use Dienes and Place Value counters to assist their understanding of exchanging. Moving onto the skills of exchanging ten Ones for a Ten, ten Tens for a Hundred and ten Hundreds for a Thousand.</p>	<p>Move children onto drawing out their own versions using place value grids to assist them. Again, exchanged numbers will appear underneath the appropriate column.</p> 	<p>Continue building on the formal methods taught in previous year. However, children now must start to exchange Hundreds as well as Tens.</p> 
Year 5	<b>Add numbers with more than 4-digits.</b> <b>Add decimals with 2-decimal places, including money.</b>	<p>Approaching these equations with a similar approach to Year 4, teachers should now follow the same dynamics but with the introduction of decimal points.</p> <p>Again, using place value counters and place value grids, children can understand how exchanging works for decimal numbers also.</p> 	<p><math>2.37 + 81.79 = \underline{\quad}</math></p> 	<p><b>72.8</b>  <b>+ 54.6</b>  <u><b>127.4</b></u>  <b>1.1</b></p> 	

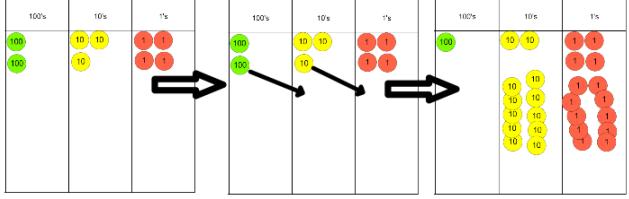
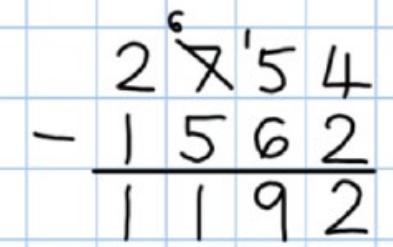
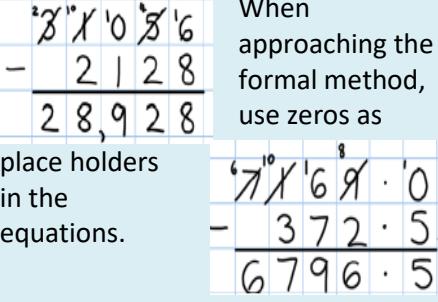
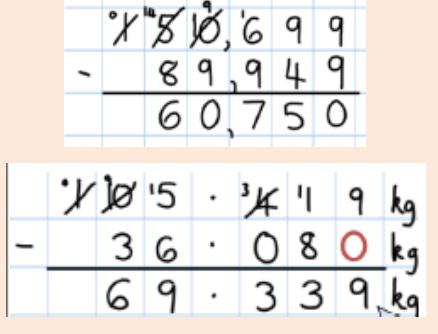
<b>Year 6</b> <b>Add several numbers of increasing complexity.</b> <b>Including money, measure and decimals with different numbers of decimal points.</b>	Same approach as Year 5, but larger numbers.	Same approach as Year 5, but larger numbers.	<p>When approaching formal column method, start getting children to add a zero as a place holder – this will help with place value misconceptions.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">8</td> <td style="text-align: center;">1</td> <td style="text-align: center;">,</td> <td style="text-align: center;">0</td> <td style="text-align: center;">5</td> <td style="text-align: center;">9</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">6</td> <td style="text-align: center;">6</td> <td style="text-align: center;">8</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">5</td> <td style="text-align: center;">,</td> <td style="text-align: center;">3</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">,</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">2</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">7</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">9</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">1</td> </tr> </table> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">•</td> <td style="text-align: center;">3</td> <td style="text-align: center;">6</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">9</td> <td style="text-align: center;">•</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8</td> <td style="color: red;">0</td> <td></td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">9</td> <td style="text-align: center;">•</td> <td style="text-align: center;">7</td> <td style="color: red;">7</td> <td style="color: red;">0</td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">1</td> <td style="text-align: center;">•</td> <td style="text-align: center;">3</td> <td style="color: red;">0</td> <td style="color: red;">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">9</td> <td style="border-top: none;">3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">3</td> <td style="border-top: none;">1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">5</td> <td style="border-top: none;">1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">1</td> <td style="border-top: none;">1</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="border-top: none;">2</td> <td style="border-top: none;">2</td> </tr> </table>	8	1	,	0	5	9	3	6	6	8			1	5	,	3	0	1	+	2	0	,	5	5						1						2						0						7						9						1	2	3	•	3	6	1	9	•	0	8	0		5	9	•	7	7	0	+	1	•	3	0	0					9	3					3	1					5	1					1	1					2	2
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# **Subtraction**

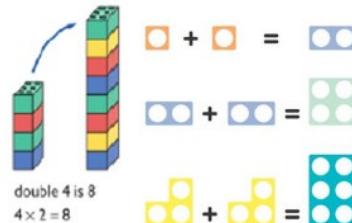
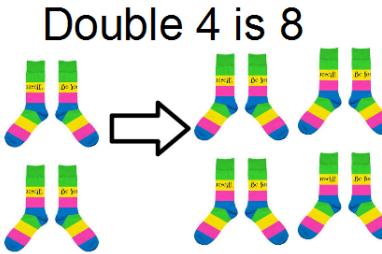
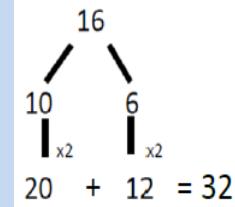
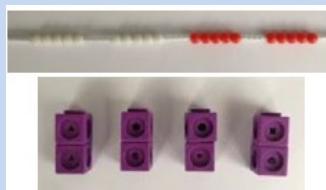
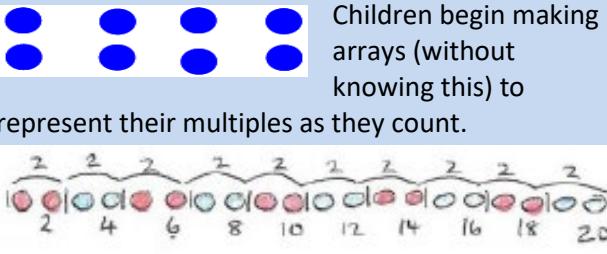
	<b>Objectives/ Strategy</b>	<b>Concrete</b>	<b>Pictorial</b>	<b>Abstract</b>
Year 1	<b>Taking away Ones.</b>	 <p><math>4 - 2 = \underline{\hspace{2cm}}</math></p> <p>Use physical objects to show how objects can be taken away (physically removing the objects).</p>	<p>Move onto having pictures of the object and the children now start to cross out the images they are taking away.</p>  <p><math>4 - 2 = \underline{\hspace{2cm}}</math></p>	<p>Move children onto the abstract equation.</p> <p><math>7 - 4 = 3</math></p> <p>Children can then decide to either attempt the problem mentally or pictorially.</p>
	<b>Counting back.</b>	 <p><math>4 - 2 = \underline{\hspace{2cm}}</math></p> <p>Children should be given the chance to physically move the objects that are being counted backwards.</p> <p>This can also be done using counting beads, children will slide the beads away from the group when counting backwards.</p>  <p>Children should also be encouraged to use their fingers when counting backwards.</p>	<p>Introduce children to number lines – this can be done by first showing them a ruler is a physical number line.</p> <p>Ensure that children start using number lines by counting back in just One step increments.</p>  <p><math>5 - 3 = 2</math></p>	<p>Encourage the children to mentally solve problems.</p> <p>Put 13 in your head, count back 4. What number are you at?</p>
	<b>Find the difference.</b>	<p>This can be seen as the first steps in using the bar model.</p> <p>Children should use multi-link cubes to create the two numbers.</p>  <p>'Seven is 3 more than four'</p> <p>'I am 2 years older than my sister'</p> <p>difference. Teachers should emphasise the language that could be used here (difference, more than, less than, fewer than).</p>	 <p><math>+6</math></p> <p>What is the difference between 5 and 11? Start at 5 and count on till they reach 11. Bar models can be used more formally here.</p>  <p>5 Pencils</p> <p>3 Erasers</p> <p>?</p>	<p>Use basic word problems with the children to apply these skills.</p> <p>Emphasise that children only need to focus on the numbers used and the final question.</p> <p><i>Hannah has 12 sweets and her sister has 5. How many fewer sweets does her sister have?</i></p>

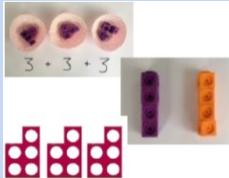
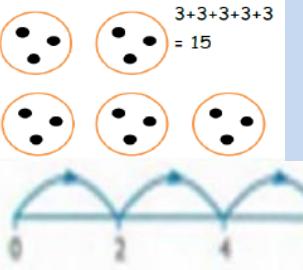
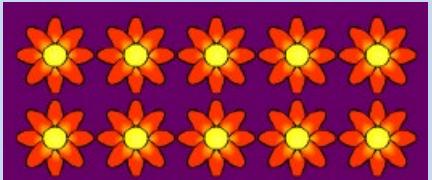
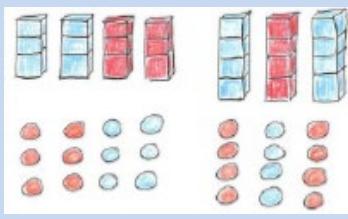
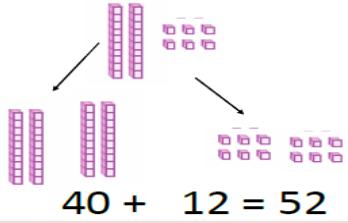
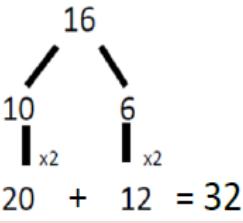
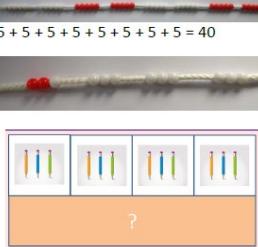
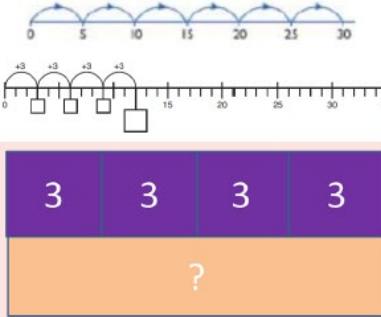
	<b>Represent and use number bonds and related subtraction facts within 20.</b>	 <p>It is important to link this to subtraction – this process would be known as fact families. <i>If 10 is the whole and 6 is one of the parts. What is the other part?</i></p>	<p>Children can be given part whole models with one part missing, they will need to find the missing part.</p> 	<p>Continue using the part whole model but this time using just numbers.</p> 		
	<b>Make 10</b>	 <p>A strategy could be to get the children to make a Ten when taking away.</p> <p><math>14 - 5 = \underline{\hspace{2cm}}</math></p> <p>Start by taking away 4 to make then 10. Then simply remove 1 more cube to complete the equation.</p>	<p>Apply the skill to using a number line. Get children to use the number 10 as a stopping point.</p> 	<p>You can then present the problems using the same vocabulary.</p> <p><math>16 - 8 = \underline{\hspace{2cm}}</math></p> <p>How many do we take off first to get to 10? How many left to take off?</p>		
	<b>Bar model</b>	<p>Will be used in similar fashion for finding the difference between numbers.</p> 		<table border="1" style="float: right; margin-right: 10px;"> <tr> <td>8</td> <td>2</td> </tr> </table> <p><math>10 = 8 + 2</math>  <math>10 = 2 + 8</math>  <math>10 - 2 = 8</math>  <math>10 - 8 = 2</math></p> <p>Should be used to help children identify fact families.</p>	8	2
8	2					
<b>Year 2</b>	<b>Regroup a Ten into ten Ones.</b>	 <p><math>20 - 4 = \underline{\hspace{2cm}}</math></p>	<p>Children should be provided with a place value chart to help them when changing a Ten into ten Ones.</p>	<p>Then they should represent these using pictorial form.</p>  <p><math>20 - 4 = \underline{\hspace{2cm}}</math></p>		
	<b>Partitioning to subtract without regrouping</b>	 <p>Children can use Dienes and Place Value grids to construct the number before crossing out the subtracted amount. Emphasise that children should only build ONE number for subtraction.</p>	<p>Children will then move into pictorially representing the Dienes blocks.</p>  <p><math>36 - 12 = \underline{\hspace{2cm}}</math></p>	<p>Finally, get the children to decide on a mental approach or written approach.</p> <p><math>36 - 12 = \underline{\hspace{2cm}}</math></p>		

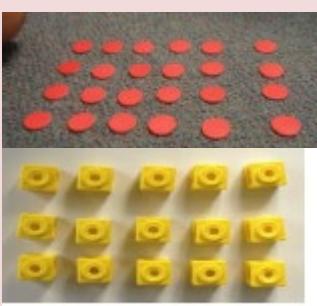
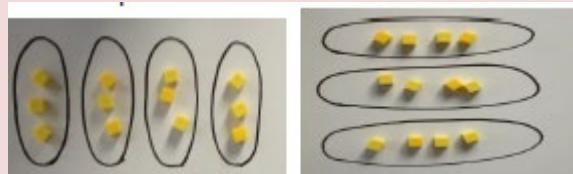
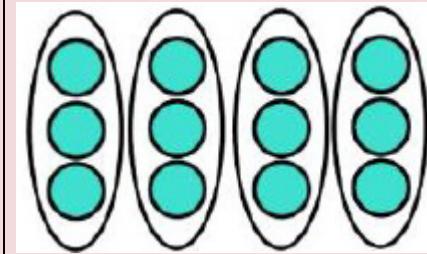
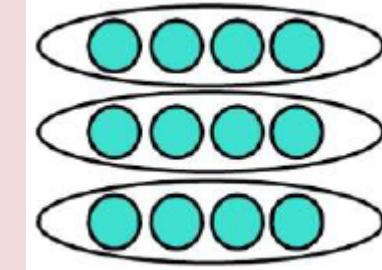
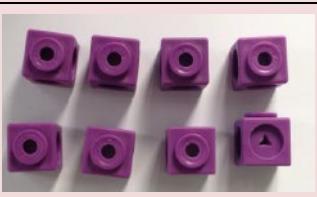
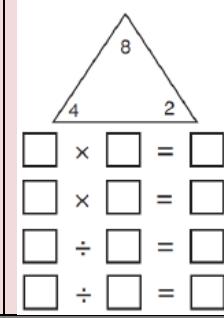
	<b>Make Ten strategy.</b>	 <p>Use a bead bar or bead strings to model counting down to nearest Ten and then the rest.</p> <p>34–28</p>	 <p>76      80      +10      90      93      'counting on' to find 'difference'</p>	<p>Children can then transition into drawing out the number line – starting at the largest number. Children should then count on to the next Ten and then continue the equation.</p>	$93 - 76 = 17$ <p>Children should be encouraged to choose a method they feel secure with.</p>
Year 3	<b>Column subtraction without regrouping.</b>	<p>Children can use Dienes blocks or numicon to model – they should physically remove the subtracted numbers.</p> 	 <p>Calculations</p> $\begin{array}{r} 54 \\ - 22 \\ \hline 32 \end{array}$	<p>Children should use pictorial images whilst transitioning to the abstract calculation.</p>	$47 - 24 = 23$ <p>If necessary, take a smaller step</p> $\begin{array}{r} 40 \\ - 20 \\ \hline 20 \end{array}$  <p>towards the clear subtraction method.</p>
	<b>Column subtraction with regrouping.</b>	<p>Begin using Dienes blocks and numicon before moving children on to using place value counters, emphasising the method used to regroup Ones into a new Ten. <b>Use the phrase; 'take and make' to help children grasp the concept.</b></p> 	<p>Children can then begin drawing Dienes or Place value counters.</p>	 <p>Tens   Ones</p> $\begin{array}{r} 45 \\ - 29 \\ \hline 16 \end{array}$ <p><math>10 + 6 = 16</math></p>	$836 - 254 = 582$ <p>Again, break this step down into smaller portions – start by</p> $\begin{array}{r} 800 \\ - 200 \\ \hline 600 \end{array}$ $\begin{array}{r} 60 \\ - 50 \\ \hline 10 \end{array}$ $\begin{array}{r} 10 \\ - 4 \\ \hline 6 \end{array}$ <p>partitioning the number into PV columns.</p> <p>Then introduce the more formal approach.</p> $\begin{array}{r} 728 \\ - 582 \\ \hline 146 \end{array}$

<b>Year 4</b> <b>Subtracting Tens and Ones – Subtract with up to 4 digits.</b>	 <p>234 - 179 =</p> <p>Introduce the decimal subtraction through the context of money. Model the process of exchanging using numicon and Dienes blocks before approaching the skill with Place Value counters.</p>	<p>Take a similar approach to that undertaken in Year 3.</p>	 <p>Continue to use the phrase 'take and make' when exchanging numbers.</p>
<b>Year 5</b> <b>Subtract with at least 4 digits; including money and measures.</b>	<p><i>Questions should aim to be a mixture of integers and decimals.</i></p> <p>Take a similar approach to that used in Year 4 – but this time introducing decimals.</p>	<p>Take a similar approach to that undertaken in Year 3 – including more decimal numbers.</p>	 <p>When approaching the formal method, use zeros as place holders in the equations.</p>
<b>Year 6</b> <b>Subtract with increasingly large and more complex numbers and decimals.</b>	<p><i>Repeat strategies of the previous years where necessary.</i></p>	<p><i>Repeat strategies of the previous years where necessary.</i></p>	

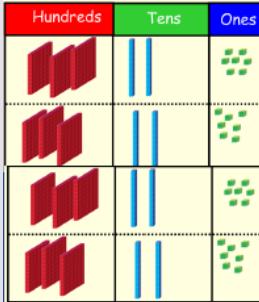
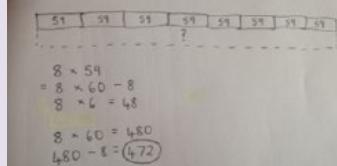
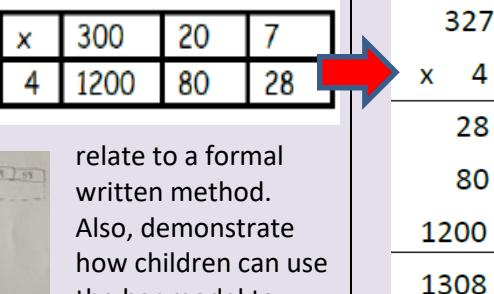
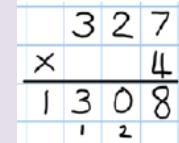
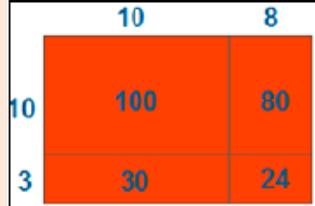
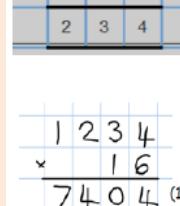
# Multiplication

Objectives/ Strategy	Concrete	Pictorial	Abstract
<b>Doubling numbers.</b>	 <p>Teachers should use a range of manipulatives to demonstrate this technique – numicon, blocks and even groups of children.</p> <p>Adults could introduce the 'doubling' machine to the children.</p>	<p>Move onto children drawing images to represent doubling – this can be done by drawing things they encounter in real life (socks, shoes).</p> 	<p>When doubling larger numbers, get children to begin by partitioning a number and then doubling each part before recombining them. <b>You do not need to use the 'x' for multiplying yet.</b></p> 
<b>Counting in multiples.</b>	<p>This builds on children's knowledge of skip counting – it is an important step to allow them to use their fingers.</p> 	 <p>Children begin making arrays (without knowing this) to represent their multiples as they count.</p>	<p>Count in multiples out loud – use a counting stick to help children visualise this.</p> <p>Then, move onto writing sequences with multiples of numbers – for extra challenge present children with missing numbers.</p> <p>2, 4, 6, __, 10</p>
<b>Making equal groups and counting the total</b>	<p>Get children to make multiple groups – these could be done in very basic word problems – children then 'create' the solution.</p> <p><i>I have two groups of 4 children. How many children do I have?</i></p> 	<p>Get children to draw the accompanying representations for the equations.</p> <p>Draw  to show <math>2 \times 3 = 6</math></p>	<p>Finally, show children the equations with the 'x' symbol and discuss what this could mean. <b>It is important to use the correct vocabulary for this.</b></p> <p><math>2 \times 4 = __</math></p>

<b>Repeated addition</b>	 <p>Use different objects to add equal groups – it is important to allow children to see a real range of items here.</p>	<p>There are 3 sweets in one bag. How many sweets are in 5 bags altogether?</p>  $3+3+3+3+3 = 15$	<p>Use pictorial representations, including a number line to demonstrate the working out for these styles of questions.</p>	<p>Begin to get the children to match/write addition equations for the objects provided in pictures.</p>  $2 + 2 + 2 + 2 + 2 = 10$
<b>Begin to understand arrays</b>	<p>Get children to arrange objects in arrays – even providing some with a more structured approach to accomplishing this.</p>  $2 \text{ lots of } 5 = \underline{\hspace{2cm}}$	<p>Get children to then copy their physical arrays into picture format – allow them to focus on one particular image (dots).</p> 	<p>Allow children to either mentally or pictorially solve these.</p> $3 \times 2 = 6$ $2 \times 5 = 10$	
<b>Doubling</b>	 $40 + 12 = 52$	<p>Model doubling using dienes or place value counters – focus on children doubling larger numbers through partitioning.</p>	<p>This then provides children with the mental image to create their own pictorial representations.</p>	 $\begin{array}{l} 16 \\ \swarrow \quad \searrow \\ 10 \quad 6 \\ \times 2 \quad \times 2 \\ \hline 20 \quad 12 \\ + \quad + \\ \hline 32 \end{array}$ <p>Finally, get the children to write down the equation in a more formal manner.</p>
<b>Year 2 – focus on multiples of 2, 5 and 10</b> <b>Counting in multiples of 2, 3, 4, 5, 10 from 0 (repeated addition)</b>	 $5+5+5+5+5+5+5+5 = 40$	<p>Count the groups as children are skip counting – again encourage the use of fingers to assist children. Introduce the bar model for skip counting.</p>	<p>Children can then begin to draw their own number lines or bar models to assist them further when skip counting from any given number.</p> 	<p>Count in multiples of a number aloud. Use supermovers to help children further with this. Again, challenge the children with missing number sequences.</p> $0, 3, 6, 9, \underline{\hspace{2cm}}, 15$

<b>Multiplication is commutative</b>	 <p>Create arrays using different resources, including counters, cubes and numicon.</p> <p>Children should be made to understand that one array can show multiple different equations and that</p>  <p>this is commutative (use this vocab with children) – the order of the multiplication does not affect the answer.</p>	<p>Use representations of arrays to show different calculations and explore commutativity.</p>  	<p>See arrays to write out multiplication equations whilst also reinforcing repeated addition.</p>  $5 + 5 + 5 = 15$ $3 + 3 + 3 + 3 + 3 = 15$ $5 \times 3 = 15$ $3 \times 5 = 15$
<b>Using the inverse (taught alongside division)</b>	 <p>Use resources to explore fact families.</p>	 <p>Explore a more formal way of finding fact families.</p> $\boxed{\phantom{0}} \times \boxed{\phantom{0}} = \boxed{\phantom{0}}$ $\boxed{\phantom{0}} \times \boxed{\phantom{0}} = \boxed{\phantom{0}}$ $\boxed{\phantom{0}} \div \boxed{\phantom{0}} = \boxed{\phantom{0}}$ $\boxed{\phantom{0}} \div \boxed{\phantom{0}} = \boxed{\phantom{0}}$	<p>Finally, get children to demonstrate their knowledge of all 8 related fact families.</p> $2 \times 4 = 8, 4 \times 2 = 8, 8 - 4 = 2, 8 - 2 = 4$ $8 = 2 \times 4, 8 = 4 \times 2, 2 = 8 - 4, 4 = 8 - 2$

<b>Year 3 – x3, x4, x8</b>	<p>This should be taught methodically and in small steps to ensure complete understanding.</p> <p>Show the links to arrays when first introducing the grid method.</p> <p><b>Grid method</b></p>	<p>4 rows of 10 4 rows of 3</p>	$\begin{array}{r} 24 \times 3 = 72 \\ \times \quad 20 \quad 4 \\ \hline 3 \quad 00 \quad 000 \\ \quad 00 \quad 000 \\ \quad 00 \quad 000 \\ \hline \quad 60 \quad 12 \\ \quad \quad 60 \\ \hline + \quad 12 \quad 72 \end{array}$ <p>children distinguish between H, T and O. Also, begin to introduce children to different ways to represent the method – for example, using bar models.</p>	<p>Children should be experienced with place value counters and these can be used for drawing out the grid method. Either draw the counters or use colours to help</p> <p><math>4 \times \boxed{\phantom{0}} = 20</math></p>	<p>Begin by multiplying by a one digit number until children are more confident with the grid method and show clear addition alongside the grids.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;"><math>\times</math></td> <td style="padding: 5px;">30</td> <td style="padding: 5px;">5</td> </tr> <tr> <td style="padding: 5px;">7</td> <td style="padding: 5px;">210</td> <td style="padding: 5px;">35</td> </tr> </table> $210 + 35 = 245$ <p>Moving the children onto multiplying by a 2-digit number, showing the different rows within the grid method. Emphasise the importance of presentation.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">10</td> <td style="padding: 5px;">8</td> </tr> <tr> <td style="padding: 5px;">10</td> <td style="padding: 5px;">100</td> <td style="padding: 5px;">80</td> </tr> <tr> <td style="padding: 5px;">3</td> <td style="padding: 5px;">30</td> <td style="padding: 5px;">24</td> </tr> </table>	$\times$	30	5	7	210	35	10	8	10	100	80	3	30	24
$\times$	30	5																	
7	210	35																	
10	8																		
10	100	80																	
3	30	24																	
Year 4 - Remaining times tables	<p><b>Recapping grid method – moving into 3-digit multiplication grids.</b></p> <p>Recap the skills from Year 3 using place value counters to demonstrate.</p> <p>Emphasise that there are 4 rows because we are multiplying by 4.</p>	<p>Repeat of Year 3 – introduce 3-digit numbers.</p>	<p>Repeat of Year 3 – introduce 3-digit numbers.</p>																

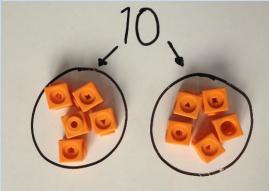
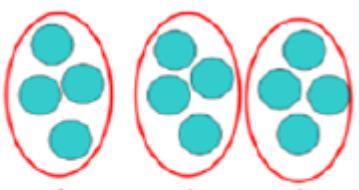
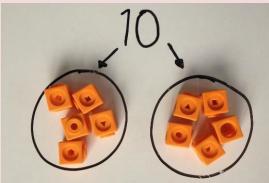
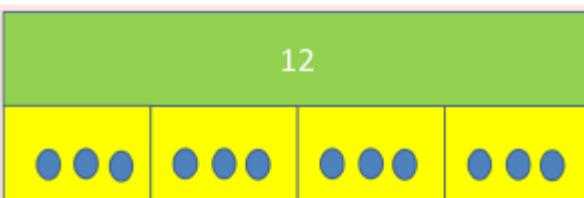
	<b>Column multiplication</b>	Again, using place value counters – demonstrate how to use these to represent the initial stages of column multiplication. $321 \times 2 = \underline{\hspace{2cm}}$	 <p>It is important at this stage that they always multiply the ones first.</p>	The grid method could be used again to show how this new method can relate to a formal written method. Also, demonstrate how children can use the bar model to solve problems with multiplication alongside the formal method.	<table border="1"> <tr> <td>x</td> <td>300</td> <td>20</td> <td>7</td> </tr> <tr> <td>4</td> <td>1200</td> <td>80</td> <td>28</td> </tr> </table> 	x	300	20	7	4	1200	80	28		Begin the formal method by showing children how to break it all down. This then leads children to using the compact method.	
x	300	20	7													
4	1200	80	28													
<b>Year 5 – Recap!</b>	<b>Column multiplication for 3 and 4-digit x 1-digit.</b>	Recap methods used in Year 4 – consolidation.		Recap methods used in Year 4 – consolidation.			Recap methods used in Year 4 – consolidation.									
<b>Year 6 – Recap!</b>	<b>Column multiplication</b>	If required, continue to use manipulatives to help support children with the corresponding long multiplication.			Continue to expose the children to use bar models to support problem solving.		$18 \times 3$ on the first row $(8 \times 3 = 24)$ , carrying the 2 for 20, then $1 \times 3$		$18 \times 10$ on the 2nd row. Show multiplying by 10 by putting zero in units first							

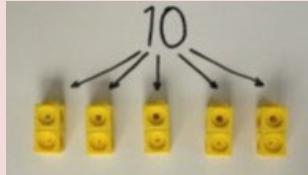
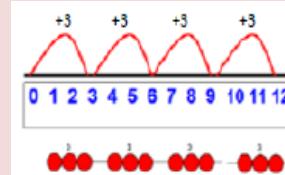
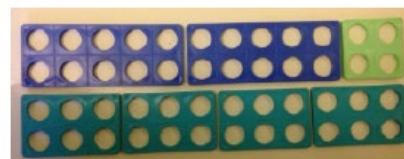
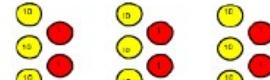
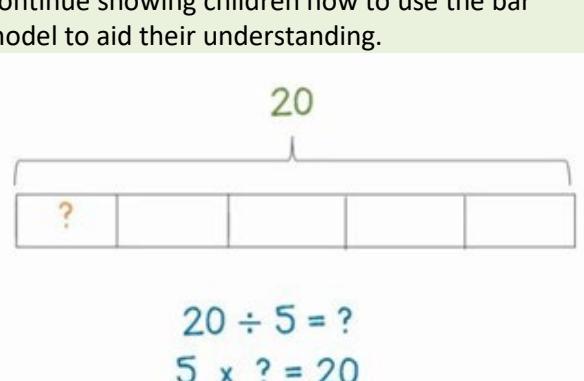
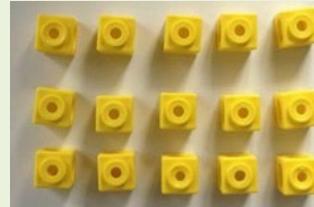
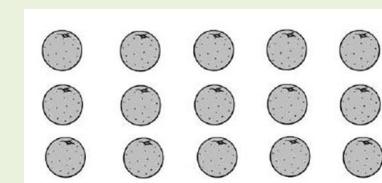
**Multiplying  
decimals up  
to 2 decimal  
places by a  
single digit.**

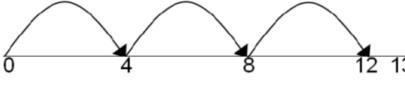
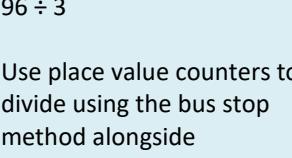
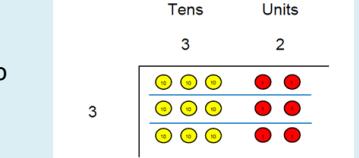
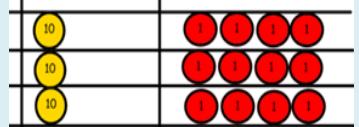
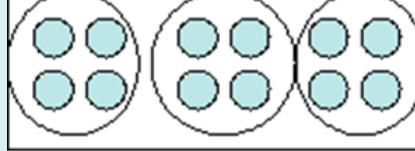
Remind children that the single digit belongs in the Ones column.  
Emphasise the need to line up the decimal point in the question and the answer.

$$\begin{array}{r} 3 \cdot 1 9 \\ \times 8 \\ \hline 2 5 \cdot 5 2 \\ \swarrow \quad \searrow \end{array}$$

# Division

	<b>Objectives/ Strategy</b>	<b>Concrete</b>	<b>Pictorial</b>	<b>Abstract</b>
<b>Year 1</b>	<b>Division as sharing.</b>	<p>Provide children with lots of practical activities to help with their understanding of the method.</p>   <p>I have 10 cubes, can you share them equally into 2 groups? Emphasis on the language of Equal.</p> 	<p>Children should use pictures or shapes to share quantities.</p> <p><b>Sharing:</b></p>  <p><b>12 shared between 3 is 4</b></p>	<p>Get children to write sentences about sharing:</p> <p>___ shared between ___ is ___ .</p>
<b>Year 2</b>	<b>Division as sharing.</b>	<p>Get children to solve problems focused on these skills.</p>  <p>I have 10 cubes, can you share them equally into 2 groups? Emphasis on the language of Equal.</p>	<p>Repeat similar approach to Year 1. However, begin to introduce bar modelling to support understanding.</p> 	<p>Finally, introduce the division symbol and link it to the language of sharing.</p> <p><b>12 shared between 3 groups is equal to 4.</b></p> <p><b><math>12 \div 3 = 4</math></b></p>

	<b>Division as grouping.</b> Divide quantities into equal groups – allow children to use cubes, counters, objects or place value counters to aid understanding.			Introduce children into different methods/concepts which allows them to choose the one that appears most fluent for their understanding. Use number lines for grouping. Also, using bar models. Represent the whole as a bar and then split this into necessary groups.	$28 \div 7 = 4$  Divide 28 into 7 equal groups. How many are in each group?  Show conceptual variation and also present problems in a meaningful scenario.
Year 3	<b>Division as grouping.</b>  24 divided into groups of 6 = 4 $96 \div 3 = 32$ 		 $20 \div 5 = ?$ $5 \times ? = 20$	Continue showing children how to use the bar model to aid their understanding.	<b>How many groups of 6 in 24?</b>  $24 \div 6 = 4$
	<b>Division with arrays.</b>  E.g. $15 \div 3 = 5$ $5 \times 3 = 15$ $15 \div 5 = 3$ $3 \times 5 = 15$	Create a link between multiplication and division through creating arrays and thinking about the fact families it represents.	Get the children to organiserly draw an array and use lines to split this into equal groups to make multiplication and division sentences.	 $28 \div 4 = ?$ $4 \times ? = 28$	Find the inverse of multiplication and division sentences by creating eight linking number sentences. $7 \times 4 = 28$ $4 \times 7 = 28$ $28 \div 7 = 4$ $28 \div 4 = 7$ $28 = 7 \times 4$ $28 = 4 \times 7$ $4 = 28 \div 7$ $7 = 28 \div 4$

	<p><b>Division with remainders.</b></p> <p>Demonstrate remainders by getting children to split objects into equal groups and see what is left over – <i>these are called remainders.</i></p> 	<p>Move onto different representations. Jumping forwards on a number line and witnessing how much further you have to go.</p> 	<p>Show children how to complete the written method and show remainders with the letter 'r'. It is important to show the children the correct terminology regarding division.</p> <table border="1"> <tr> <td><math>29 \div 8 = 3</math></td> <td>REMAINDER</td> <td>5</td> </tr> <tr> <td>↑</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>dividend</td> <td>divisor</td> <td>quotient</td> </tr> <tr> <td colspan="2"></td> <td>↑</td> </tr> <tr> <td colspan="2"></td> <td>remainder</td> </tr> </table>	$29 \div 8 = 3$	REMAINDER	5	↑	↑	↑	dividend	divisor	quotient			↑			remainder
$29 \div 8 = 3$	REMAINDER	5																
↑	↑	↑																
dividend	divisor	quotient																
		↑																
		remainder																
Years 4 and 5	<p><b>Divide at least 3-digit numbers by 1-digit. Short division.</b></p> <p><math>96 \div 3</math></p> <p>Use place value counters to divide using the bus stop method alongside</p>  <p><math>42 \div 3 =</math></p> <p>Start with the biggest place value; we are sharing 40 into three groups. We can put 1 ten in each group and we have 1 ten left over.</p> <p>We exchange this ten for ten ones and then share the ones equally among the groups.</p> <p>We look how much in 1 group so the answer is 14.</p>  	<p>Tens      Units</p> <p>3            2</p> <p>3</p> 	<p>Children can still draw dot or circles to help them divide into equal groups. Encourage them to move towards counting multiples to divide more efficiently.</p>															

**Step one****A remainder in the Ones.**

# A guide to Long Division

$$\begin{array}{r} \text{h t o} \\ 0 4 1 \text{ R}1 \\ 4 ) 1 6 5 \\ \underline{-16} \end{array}$$

4 does not go into 1 (hundred). So combine the 1 hundred with the 6 tens (160).

4 goes into 16 four times.

4 goes into 5 once, leaving a remainder of 1.

$$\begin{array}{r} \text{th h t o} \\ 0 4 0 0 \text{ R}7 \\ 8 ) 3 2 0 7 \\ \underline{-32} \end{array}$$

8 does not go into 3 of the thousands. So combine the 3 thousands with the 2 hundreds (3,200).

8 goes into 32 four times ( $3,200 \div 8 = 400$ )

8 goes into 0 zero times (tens).

8 goes into 7 zero times, and leaves a remainder of 7.

$$\begin{array}{r} \text{h t o} \\ 0 6 1 \\ 4 ) 2 4 7 \\ \underline{-24} \\ 3 \end{array}$$

When dividing the ones, 4 goes into 7 one time. Multiply  $1 \times 4 = 4$ , write that 4 under the 7, and subtract. This finds us the remainder of 3.

Check:  $4 \times 61 + 3 = 247$

$$\begin{array}{r} \text{th h t o} \\ 0 4 0 2 \\ 4 ) 1 6 0 9 \\ \underline{-16} \\ 1 \end{array}$$

When dividing the ones, 4 goes into 9 two times. Multiply  $2 \times 4 = 8$ , write that 8 under the 9, and subtract. This finds us the remainder of 1.

Check:  $4 \times 402 + 1 = 1,609$

**Step Two**  
**A remainder in  
the Tens.**

1. Divide.	2. Multiply & subtract.	3. Drop down the next digit.
$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \end{array}$ <p>Two goes into 5 two times, or 5 tons <math>\div 2 = 2</math> whole tens -- but there is a remainder!</p>	$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \\ -4 \\ \hline 1 \end{array}$ <p>To find it, multiply <math>2 \times 2 = 4</math>, write that 4 under the five, and subtract to find the remainder of 1 ten.</p>	$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \\ -4 \\ \hline 18 \end{array}$ <p>Next, drop down the 8 of the ones next to the leftover 1 ten. You combine the remainder ten with 8 ones, and get 18.</p>
$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \\ -4 \\ \hline 18 \end{array}$ <p>Divide 2 into 18. Place 9 into the quotient.</p>	$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \\ -4 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$ <p>Multiply <math>9 \times 2 = 18</math>, write that 18 under the 18, and subtract.</p>	$\begin{array}{r} \text{t o} \\ 2 \overline{) 5 8} \\ -4 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$ <p>The division is over since there are no more digits in the dividend. The quotient is 29.</p>

**Step Two**  
**A remainder in  
any of the  
place value  
columns.**

1. Divide.	2. Multiply & subtract.	3. Drop down the next digit.
$\begin{array}{r} \text{h t o} \\ 1 \\ \hline 2 ) 278 \end{array}$	$\begin{array}{r} \text{h t o} \\ 1 \\ \hline 2 ) 278 \\ -2 \\ \hline 0 \end{array}$	$\begin{array}{r} \text{h t o} \\ 18 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \end{array}$
Two goes into 2 one time, or $2 \text{ hundreds} \div 2 = 1 \text{ hundred}$ .	Multiply $1 \times 2 = 2$ , write that 2 under the two, and subtract to find the remainder of zero.	Next, drop down the 7 of the tens next to the zero.
Divide.	Multiply & subtract.	Drop down the next digit.
$\begin{array}{r} \text{h t o} \\ 13 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \end{array}$	$\begin{array}{r} \text{h t o} \\ 13 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \\ -6 \\ \hline 1 \end{array}$	$\begin{array}{r} \text{h t o} \\ 13 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \\ -6 \\ \hline 18 \end{array}$
Divide 2 into 7. Place 3 into the quotient.	Multiply $3 \times 2 = 6$ , write that 6 under the 7, and subtract to find the remainder of 1 ten.	Next, drop down the 8 of the ones next to the 1 leftover ten.
1. Divide.	2. Multiply & subtract.	3. Drop down the next digit.
$\begin{array}{r} \text{h t o} \\ 139 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \\ -6 \\ \hline 18 \end{array}$	$\begin{array}{r} \text{h t o} \\ 139 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \\ -6 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$	$\begin{array}{r} \text{h t o} \\ 139 \\ \hline 2 ) 278 \\ -2 \\ \hline 07 \\ -6 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$
Divide 2 into 18. Place 9 into the quotient.	Multiply $9 \times 2 = 18$ , write that 18 under the 18, and subtract to find the remainder of zero.	There are no more digits to drop down. The quotient is 139.

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	Count in steps of 2, 3, 5, 10 Double and halve	Multiplication and division facts for 2 and 10	Multiplication and division facts for 5	Multiplication and division facts for 5	Mixed practice multiplication and division facts for 5	Mixed practice multiplication and division facts for: 7 x 3 10 x 3
		1 x 5    4 x 5	7 x 5    10 x 5	2, 5, 10	7 x 3    10 x 3	8 x 3    11 x 3
Year 3	Multiplication and division facts	Multiplication and division facts	Multiplication and division facts	Multiplication and division facts	Mixed practice multiplication and division facts for: 1 x 3 2 x 3 3 x 3	Mixed practice multiplication and division facts for: 2 3 10
	1 x 4    4 x 4 2 x 4    5 x 4 3 x 4    6 x 4	7 x 4    10 x 4 8 x 4    11 x 4 9 x 4    12 x 4	1 x 8    4 x 8 2 x 8    5 x 8 3 x 8    6 x 8	7 x 8    10 x 8 8 x 8    11 x 8 9 x 8    12 x 8	1 x 3    4 x 3 2 x 3    5 x 3 3 x 3    6 x 3	Mixed practice multiplication and division facts for: 1 x 6 2 x 6 3 x 6
					7 x 6    10 x 6 8 x 6    11 x 6 9 x 6    12 x 6	

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 4	Multiplication and division facts	Multiplication and division facts	Multiplication and division facts	Multiplication and division facts	Mixed practice multiplication and division facts for up to 12 x 12	Mixed practice multiplication and division facts for up to 12 x 12
	Autumn 1A	Autumn 2A	Spring 1A	Spring 2A	Autumn 1B	Autumn 2B
	1 x 9    4 x 9 2 x 9    5 x 9 3 x 9    6 x 9	1 x 7    4 x 7 2 x 7    5 x 7 3 x 7    6 x 7	1 x 12    4 x 12 2 x 12    5 x 12 3 x 12    6 x 12	1 x 11    4 x 11 2 x 11    5 x 11 3 x 11    6 x 11	7 x 9    10 x 9 8 x 9    11 x 9 9 x 9    12 x 9	7 x 7    10 x 7 8 x 7    11 x 7 9 x 7    12 x 7
Year 5	Once pupils are secure in the above, a suggested progression would be:				DfE Multiplication Tables Check	
Year 6						

- Consolidation and ongoing practice of all multiplication and division facts up to 12 x 12.
- Differentiated programme of support to address gaps in multiplication tables knowledge.
- Use of multiplication and division facts to derive associated facts. For example, if  $8 \times 6 = 48$ , what other facts can we derive?
  - Development of multiplicative reasoning – links between Multiplication and Division, and Fractions and Ratio.

