
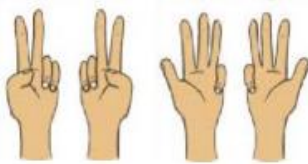

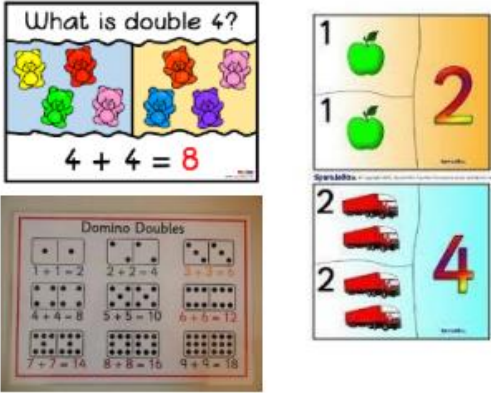
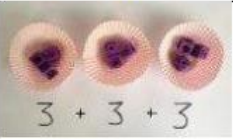



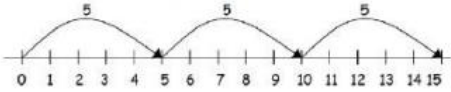





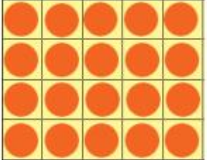



Uphill Village Academy Calculation Guidance : Multiplication

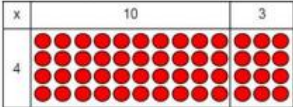
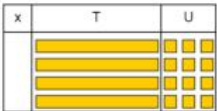

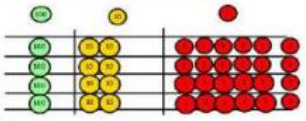
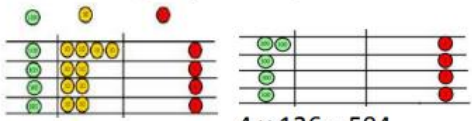
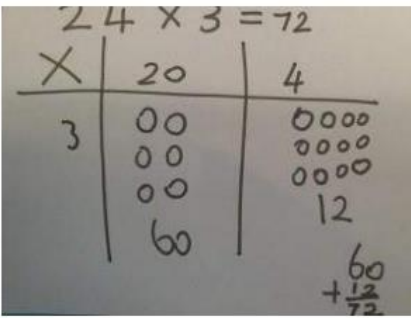
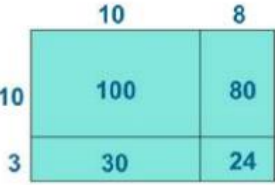
EYFS

Objectives	Concrete	Pictorial	Abstract												
Solve problems including doubling	 <p>Counting and other maths resources for children to make 2 equal groups.</p>  <p>Physical and real life examples that encourage children to see concept of doubling as adding two equal groups.</p> 	 <p>Pictures and icons that encourage children to see concept of doubling as adding two equal groups.</p>	<table border="1" data-bbox="1753 453 2004 715"> <tbody> <tr> <td>1+1=</td> <td>7+7=</td> </tr> <tr> <td>2+2=</td> <td>8+8=</td> </tr> <tr> <td>3+3=</td> <td>9+9=</td> </tr> <tr> <td>4+4=</td> <td>10+10=</td> </tr> <tr> <td>5+5=</td> <td>11+11=</td> </tr> <tr> <td>6+6=</td> <td>12+12=</td> </tr> </tbody> </table> <p>Addition calculations to model adding two equal groups.</p>	1+1=	7+7=	2+2=	8+8=	3+3=	9+9=	4+4=	10+10=	5+5=	11+11=	6+6=	12+12=
1+1=	7+7=														
2+2=	8+8=														
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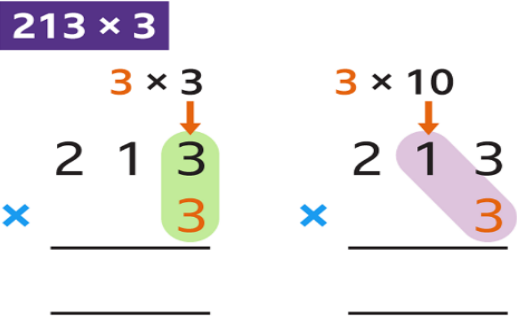
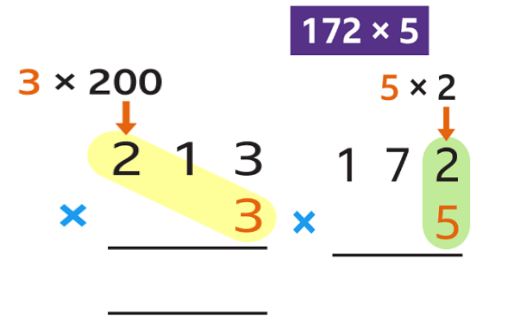
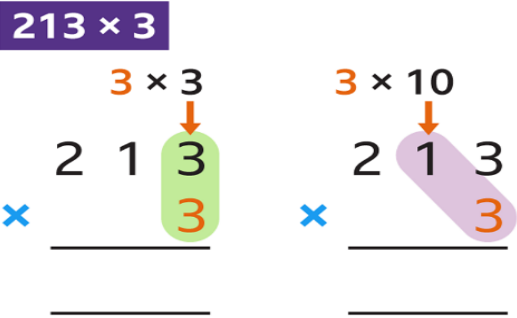
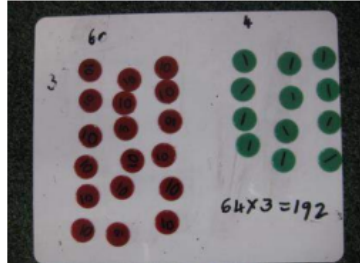
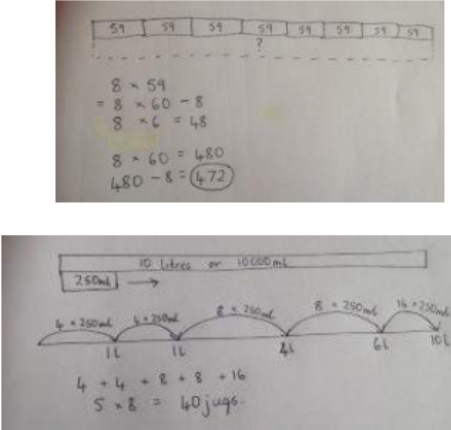
Year 1/2

	Objective	Concrete	Pictorial	Abstract
Year 1/2	Repeated addition	   <p>Use different objects to add equal groups.</p>	<p>There are 3 plates. Each plate has 2 star biscuits on. How many biscuits are there?</p>  $2 + 2 + 2 = 6$  $5 + 5 + 5 = 15$	<p>Write addition sentences to describe objects and pictures.</p>  $2 + 2 + 2 = 6$
	Arrays- showing commutative multiplication	<p>Create arrays using counters/cubes to show multiplication sentences.</p>  	<p>Draw arrays in different rotations to find commutative multiplication sentences.</p>  $4 \times 2 = 8$ $2 \times 4 = 8$  $2 \times 4 = 8$ $4 \times 2 = 8$ <p>Link arrays to area of rectangles.</p> 	<p>Use an array to write multiplication sentences and reinforce repeated addition.</p>  $5 + 5 + 5 = 15$ $3 + 3 + 3 + 3 + 3 = 15$ $5 \times 3 = 15$ $3 \times 5 = 15$

Year 3/4

	Objective	Concrete	Pictorial	Abstract																					
Year 3/4	Grid method	<p>Show the link with arrays to first introduce the grid method.</p>  <p>4 rows of 10 4 rows of 3</p> <p>Move on to using Base 10 to move towards a more compact method.</p>  <p>4 rows of 13</p> <p>Move on to place value counters to show how we are finding groups of a number. We are multiplying by 4 so we need 4 rows.</p>  <p>Calculations 4×126</p> <p>Fill each row with 126.</p>  <p>Calculations 4×126</p> <p>Add up each column, starting with the ones making any exchanges needed.</p>  <p>$4 \times 126 = 504$</p>	<p>Children can represent the work they have done with place value counters in a way that they understand.</p> <p>They can draw the counters, using colours to show different amounts or just use circles in the different columns to show their thinking as shown below.</p> 	<p>Start with multiplying by one digit numbers and showing the clear addition alongside the grid.</p> <table border="1" data-bbox="1491 472 1783 561"> <tr> <td>x</td> <td>30</td> <td>5</td> </tr> <tr> <td>7</td> <td>210</td> <td>35</td> </tr> </table> <p>$210 + 35 = 245$</p> <p>Moving forward, multiply by a 2 digit number showing the different rows within the grid method.</p>  <table border="1" data-bbox="1491 1034 1863 1209"> <tr> <td>x</td> <td>1000</td> <td>300</td> <td>40</td> <td>2</td> </tr> <tr> <td>10</td> <td>10000</td> <td>3000</td> <td>400</td> <td>20</td> </tr> <tr> <td>8</td> <td>8000</td> <td>2400</td> <td>320</td> <td>16</td> </tr> </table>	x	30	5	7	210	35	x	1000	300	40	2	10	10000	3000	400	20	8	8000	2400	320	16
x	30	5																							
7	210	35																							
x	1000	300	40	2																					
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Year 5/6

	Objective	Concrete	Pictorial	Abstract
	Compact method (Abstract)	213×3 	172×5 	
Year 5/6	Long Multiplication	<p>Children can continue to be supported by place value counters at the stage of multiplication.</p>  <p>It is important at this stage that they always multiply the ones first and note down their answer followed by the tens which they note below.</p>	<p>Bar modelling and number lines can support learners when solving problems with multiplication alongside the formal written methods.</p> 	<p>Start with long multiplication, reminding the children about lining up their numbers clearly in columns. If it helps, children can write out what they are solving next to their answer.</p> $\begin{array}{r} 74 \\ \times 63 \\ \hline 212 \\ 440 \\ \hline 4662 \end{array}$ <p>This moves to the more compact method.</p> $\begin{array}{r} 74 \\ \times 18 \\ \hline 1342 \\ 10736 \\ \hline 24156 \end{array}$