



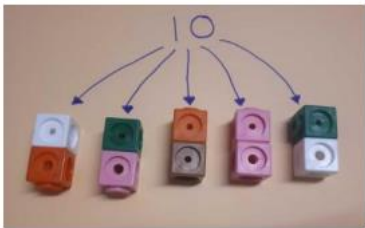
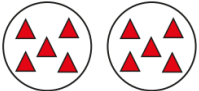


# Calculation Policy

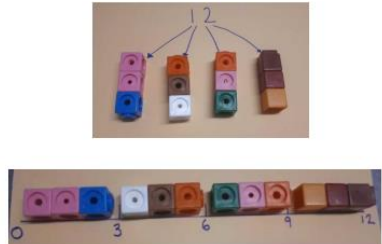
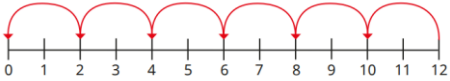
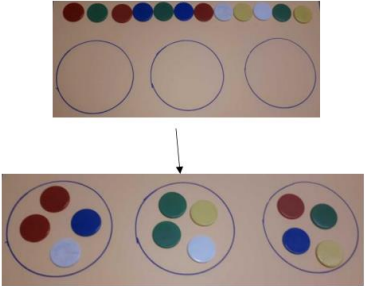
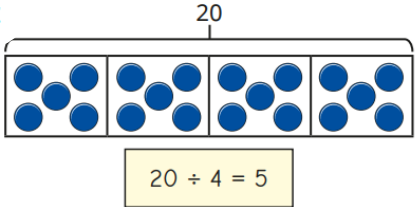
## Division


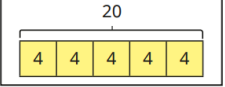
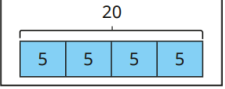
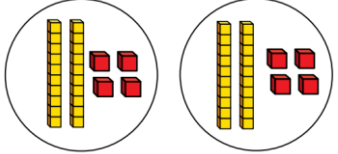
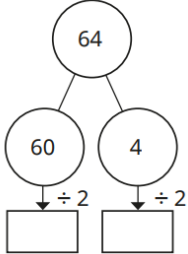
September 2023

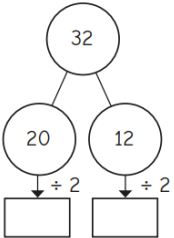

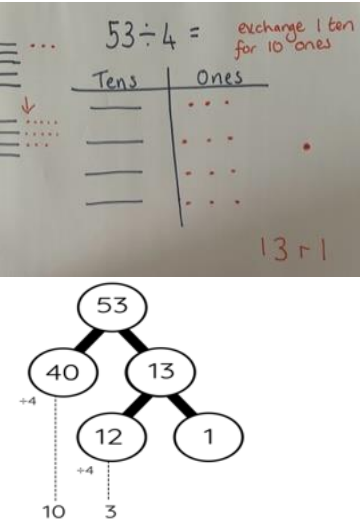
## Addition:

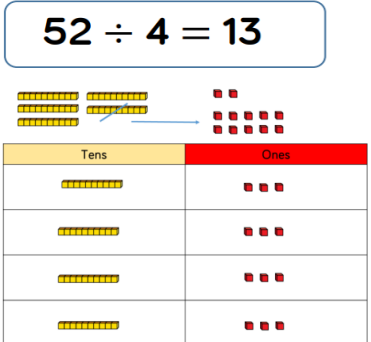

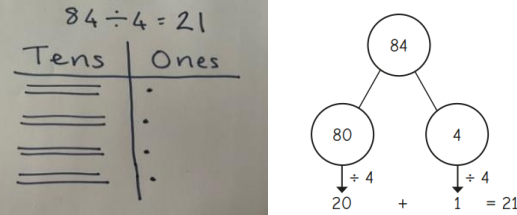
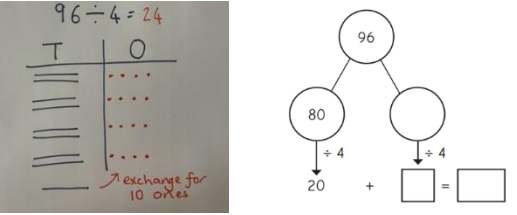
<b>EYFS:</b>			
<b>Vocabulary:</b>	Odd Even Halve Share Share equally Equal groups of Divide	<b>Manipulatives &amp; scaffolds:</b>	
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Explore sharing	March 2024		
Sharing			
Explore grouping			
Grouping			
Even and odd sharing			
<b>Y1</b>			
<b>Vocabulary:</b>	Odd Even Halve Share Share equally Equal groups of Divide Divided by	<b>Manipulatives &amp; scaffolds:</b>	Cubes Counters

	Left over		
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Make equal groups – grouping		 There are ____ altogether. There are ____ equal groups of ____	There are ____ altogether. There are ____ equal groups of ____
Make equal groups – sharing		Share the apples equally between the 3 boxes.  Complete the sentences. ____ apples are shared equally between ____ boxes. There are ____ in each group.	__ are shared equally into __ groups. There are __ in each group.
<b>Y2</b>			
<b>Vocabulary:</b>	Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷	<b>Manipulatives &amp; scaffolds:</b>	Counters Number line Bar models Part whole models
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>

<p>Make equal groups – grouping</p>		 <p>▶ Complete the sentences. 12 is made up of _____ equal groups of _____ <math>12 \div 2 =</math> _____</p>	<p><math>15 \div 5 =</math></p>
<p>Make equal groups – sharing</p>	<p>I have 12 cubes, can you share them equally into 3 groups?</p> 		<p>___ ÷ ___ = ___</p>
<p><b>Y3</b></p>			
<p><b>Vocabulary:</b></p>	<p>Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders 2-digit number Partitioning Flexible partitioning</p>	<p><b>Manipulatives &amp; scaffolds:</b></p>	<p>Counters Lolly sticks Bar models Part whole models Place value counters Place value charts</p>

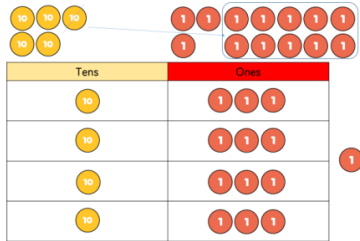
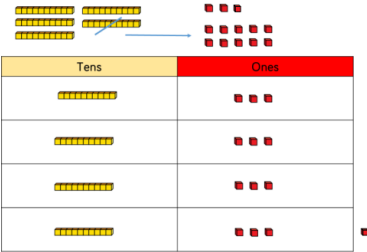
Small step:	Concrete:	Pictorial:	Abstract:								
<p>Sharing and grouping</p>	<p>Here are 14 counters.</p>  <p>► Share the counters equally into 2 groups. Complete the sentences. There are ____ counters altogether. There are ____ groups. There are ____ counters in each group. <math>14 \div \text{ } = \text{ }</math></p>	<p>20 pencils are shared equally between 5 people.</p>  <p>20 pencils are grouped into packs of 5</p> 	<p><math>27 \div 3 =</math></p>								
<p>Divide a 2-digit number by a 1-digit number - no exchange</p>	<p><math>48 \div 2 = 24</math></p>  <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>1 1 1</td> </tr> <tr> <td>10</td> <td>1 1 1</td> </tr> <tr> <td>10</td> <td>1 1 1</td> </tr> </tbody> </table> <p><math>39 \div 3 = 13</math></p>	Tens	Ones	10	1 1 1	10	1 1 1	10	1 1 1	<p><math>64 \div 2 = \text{ }</math></p> 	<p><math>48 \div 4 =</math></p>
Tens	Ones										
10	1 1 1										
10	1 1 1										
10	1 1 1										

<p>Divide a 2-digit number by a 1-digit number - flexible partitioning</p>	<p>Ron uses place value counters to work out <math>42 \div 3</math>. First, he shares the tens into 3 equal groups. He has 1 ten and 2 ones left over.</p> <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>10</td> <td></td> </tr> <tr> <td>10</td> <td></td> </tr> <tr> <td>10</td> <td></td> </tr> </tbody> </table> <p>Ron exchanges the remaining ten for 10 ones. Then he shares the ones into 3 equal groups.</p> <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>1 1 1 1 1</td> </tr> <tr> <td>10</td> <td>1 1 1 1 1</td> </tr> <tr> <td>10</td> <td>1 1 1 1 1</td> </tr> </tbody> </table> <p><math>42 \div 3 = 14</math></p>	Tens	Ones	10		10		10		Tens	Ones	10	1 1 1 1 1	10	1 1 1 1 1	10	1 1 1 1 1	<p>32</p>  <p><math>32 \div 2 = \underline{\quad}</math></p>	<p><math>96 \div 6 =</math></p>
Tens	Ones																		
10																			
10																			
10																			
Tens	Ones																		
10	1 1 1 1 1																		
10	1 1 1 1 1																		
10	1 1 1 1 1																		
<p>Divide a 2-digit number by a 1-digit number - with remainders</p>	<p>Esther has 13 lolly sticks. She uses them to make squares. Complete the sentences.</p>  <p>There are _____ lolly sticks. There are _____ groups of 4 There is _____ lolly stick remaining. <math>13 \div 4 =</math> _____ remainder _____ Esther can make _____ squares.</p>	<p><math>53 \div 4 =</math></p> 	<p><math>38 \div 3 = 12 \text{ r } 2</math></p>																
<p><b>Y4</b></p>																			
<p><b>Vocabulary:</b></p>	<p>Odd Even Halve</p>	<p><b>Manipulatives &amp; scaffolds:</b></p>	<p>Part whole models Place value counters Place value charts</p>																

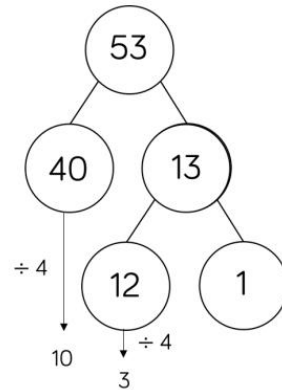
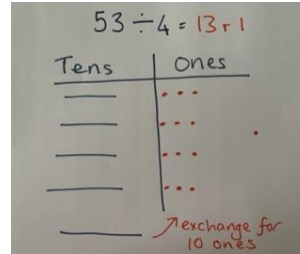
	<p>Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders 2-digit number Partitioning Flexible partitioning</p>		
<p><b>Small step:</b></p>	<p><b>Concrete:</b></p>	<p><b>Pictorial:</b></p>	<p><b>Abstract:</b></p>
<p>Divide a 2-digit number by a 1-digit number (no remainders)</p>	<p><b>52 ÷ 4 = 13</b></p>  <p><b>96 ÷ 4 = 24</b></p> 	<p><b>84 ÷ 4 =</b></p>  <p><b>96 ÷ 4 =</b></p> 	<p><b>78 ÷ 6 =</b></p>

Divide a 2-digit number by a 1-digit number (with remainders)

$$53 \div 4 = 13 \text{ r}1$$

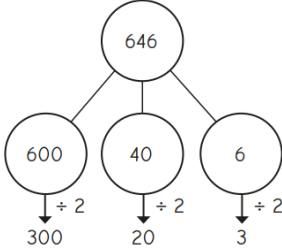


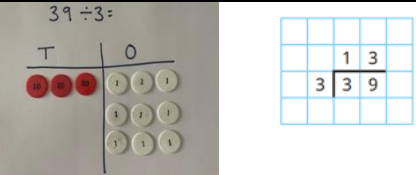
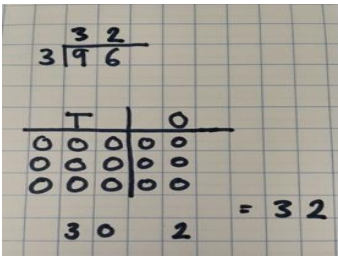
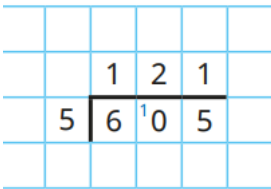
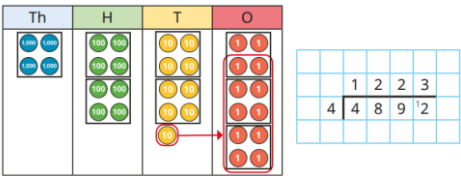
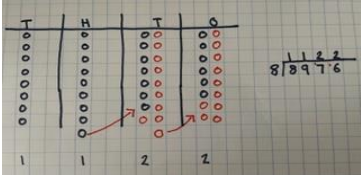
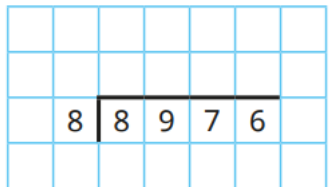
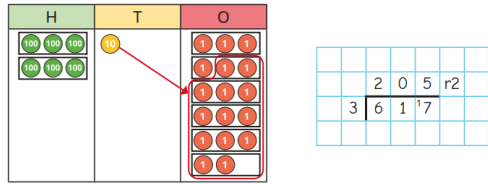
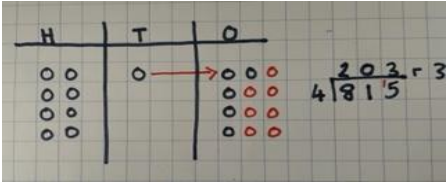
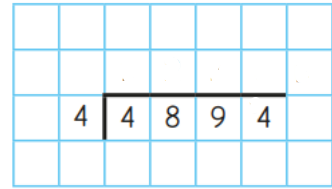
$$53 \div 4 = 13 \text{ r}1$$



$$53 \div 4 =$$



<p>Divide a 3-digit number by a 1-digit number</p>	<p><math>639 \div 3 =</math></p> <table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>100 100</td> <td>10</td> <td>1 1 1</td> </tr> <tr> <td>100 100</td> <td>10</td> <td>1 1 1</td> </tr> <tr> <td>100 100</td> <td>10</td> <td>1 1 1</td> </tr> </tbody> </table> <p><math>435 \div 3 =</math></p> <table border="1"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>10 10 10 10</td> <td>1 1 1 1 1</td> </tr> <tr> <td>100</td> <td>10 10 10 10</td> <td>1 1 1 1 1</td> </tr> <tr> <td>100</td> <td>10 10 10 10</td> <td>1 1 1 1 1</td> </tr> <tr> <td>100</td> <td>10</td> <td>1 1 1 1 1</td> </tr> </tbody> </table>	Hundreds	Tens	Ones	100 100	10	1 1 1	100 100	10	1 1 1	100 100	10	1 1 1	Hundreds	Tens	Ones	100	10 10 10 10	1 1 1 1 1	100	10 10 10 10	1 1 1 1 1	100	10 10 10 10	1 1 1 1 1	100	10	1 1 1 1 1	<p><math>646 \div 2 = 323</math></p> <table border="1"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>0 0 0</td> <td>0 0</td> <td>0 0 0</td> </tr> <tr> <td>0 0 0</td> <td>0 0</td> <td>0 0 0</td> </tr> </tbody> </table> 	H	T	O	0 0 0	0 0	0 0 0	0 0 0	0 0	0 0 0	<p><math>428 \div 2 =</math></p>
Hundreds	Tens	Ones																																					
100 100	10	1 1 1																																					
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0 0 0	0 0	0 0 0																																					
0 0 0	0 0	0 0 0																																					
<p><b>Y5</b></p>																																							
<p><b>Vocabulary:</b></p>	<p>Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders Partitioning Flexible partitioning 2/3/4-digit number Short division</p>	<p><b>Manipulatives &amp; scaffolds:</b></p>	<p>Place value counters Place value charts 'Bus stop'</p>																																				
<p><b>Small step:</b></p>	<p><b>Concrete:</b></p>	<p><b>Pictorial:</b></p>	<p><b>Abstract:</b></p>																																				

<p>Short division</p>	 <p>We are dividing by 3. There is 1 group of 3 tens. There are 3 groups of 3 ones. <math>39 \div 3 = 10</math> and <math>3</math> <math>= 13</math></p>	<p><math>96 \div 3 =</math></p> 	
<p>Divide a 4-digit number by a 1-digit number</p>			
<p>Divide with remainders</p>			
<p><b>Y6</b></p>			
<p><b>Vocabulary:</b></p>	<p>Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over <math>\div</math></p>	<p><b>Manipulatives &amp; scaffolds:</b></p>	<p>Place value counters Place value charts 'Bus stop'</p>

	Remainders 2/3/4-digit number Partitioning Flexible partitioning Short division Factors Long division		
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Short division	<p>A concrete representation of short division. On the left, base ten blocks are arranged in columns for thousands (Th), hundreds (H), tens (T), and ones (O). The thousands column has four blocks, hundreds has two, tens has one, and ones has one. A red box highlights the thousands and hundreds blocks, with arrows pointing to a grid on the right. The grid shows a 4x10 array with a 2x10 array inside, representing 4000 divided by 2 equals 2000.</p>	<p>A pictorial representation of short division. A place value chart with columns for thousands, hundreds, tens, and ones is shown. Base ten blocks are used to represent the number 1709. A red box highlights the thousands and hundreds blocks, with arrows pointing to a grid on the right. The grid shows a 3x10 array with a 1x10 array inside, representing 3572 divided by 2 equals 1786.</p>	<p>An abstract representation of short division using a grid. The grid shows a 4x10 array with a 2x10 array inside, representing 4000 divided by 2 equals 2000.</p>
Division using factors		Esther is working out $840 \div 4$ She knows $840 \div 2 = 420$ <p>A factor tree for 840. The root node is 840, which branches into 420 and 2. The 420 node branches into 210 and 2. The 210 node branches into 105 and 2. The 105 node branches into 35 and 3. The 35 node branches into 7 and 5. The 7 node branches into 7 and 1. The 5 node branches into 5 and 1. The 3 node branches into 3 and 1. The 2 node branches into 2 and 1.</p> <p>How can Esther use this fact to help find <math>840 \div 4</math>?</p>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>540 \div 20</math> </div>
Long division	When children begin to divide larger numbers, written methods become more efficient; concrete and pictorial methods are less effective		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>7,335 \div 15 = 489</math> </div> <p>A grid-in answer for the division problem. The grid shows the number 489 in the tens, hundreds, and thousands columns. To the right of the grid, the following multiplication facts are listed:</p> <ul style="list-style-type: none"> <li><math>1 \times 15 = 15</math></li> <li><math>2 \times 15 = 30</math></li> <li><math>3 \times 15 = 45</math></li> <li><math>4 \times 15 = 60</math></li> <li><math>5 \times 15 = 75</math></li> <li><math>10 \times 15 = 150</math></li> </ul>

Long  
 division  
 with  
 remainders

		0	2	4	r	12	
15		3	7	2			
		3	0	0			
			7	2			
			6	0			
			1	2			

**Multiples of 15:**  $15 \times 1 = 15$   
 $15 \times 2 = 30$   
 $15 \times 3 = 45$   
 $15 \times 4 = 60$

(15 × 20)  
 (15 × 4)