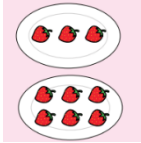





# Calculation Policy

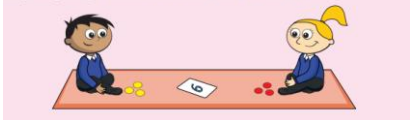
## Division

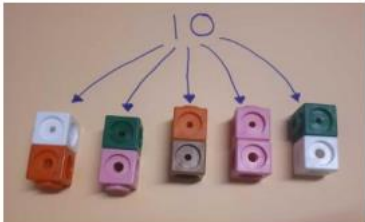
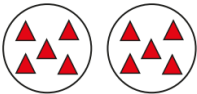


May 2024

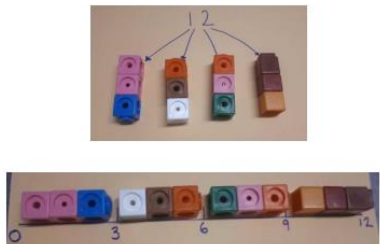
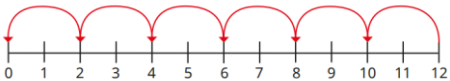
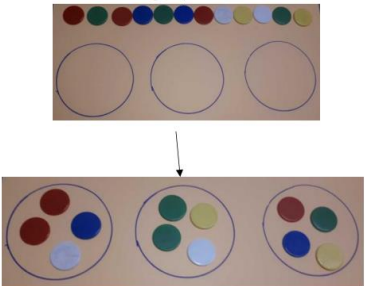
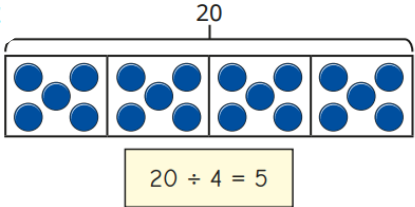
## Division:


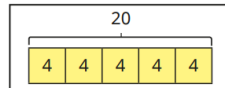
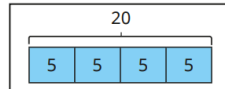
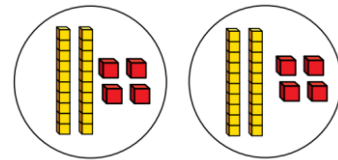
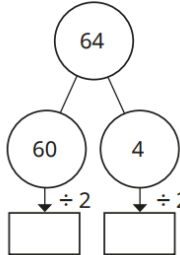
<b>EYFS:</b>			
<b>Vocabulary:</b>	Fair Not fair Share Share equally Groups Equal groups of Divide Odd Even	<b>Manipulatives &amp; scaffolds:</b>	Cubes Counters Plates Pots Real life objects such as cookies, strawberries, snack items
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>
Explore sharing	<p>Sharing involves dividing a set equally between a certain number of groups. Expose children to the concept of sharing into groups and begin to identify when these groups are equal.</p> <p>Is it fair?            How do you know?            Are the groups equal?            Do all the groups have the same amount?            How can we share the strawberries equally?            What if we used 3 plates?</p> 		<p>It is fair because ____</p> <p>It is not fair because ____</p> <p>The ____ have/have not been shared equally</p>

Sharing	<p>Share practically by having a number of objects to share between various people or groups by taking one object at a time and giving it to one child before taking the next object and giving it to the next child. Repeat this process until all the objects are gone or each child has an equal amount.</p> <p>Explore what happens if an amount cannot be shared equally by the number of children that we have.</p> 		<p>The ____ have/have not been shared equally.</p> <p>There are ____ altogether</p> <p>They are shared equally between ____ groups</p>
Explore grouping	<p>Grouping involves dividing a set by placing a certain number of items in each group.</p>  <p>I have 12 pencils. I need 3 in each pot. How many pots will I need?</p>		<p>The groups are equal/not equal because ____</p> <p>There are ____ groups of ____</p> <p>There are ____ altogether</p>
Grouping	<p>Children will group for a purpose and divide a set of objects by placing a certain number of them in each group.</p>  <p>There are 12 cubes.</p> <p>Divide the cubes into groups of 2.</p>		<p>There are ____ altogether.</p> <p>The ____ can be put into equal groups of ____</p> <p>There are ____ groups of ____</p>

	How many groups are there?		
Even and odd sharing	<p>Children identify whether a number is odd or even by sharing into two groups. Using language such as ‘odd’, ‘even’, ‘equal’ and ‘unequal’ will prompt children to make the links to the number of objects they are sharing.</p> <p>In pairs, children select a numeral card and count out the corresponding number of counters. Is this an even or odd number? Encourage them to share the counters between the two of them. Do they have two equal groups or is there one counter left over?</p> 		<p>There are ____ altogether.</p> <p>I have an odd/even number of ____</p> <p>I know because ____</p>
Y1			
Vocabulary:	<p>Odd</p> <p>Even</p> <p>Halve</p> <p>Share</p> <p>Share equally</p> <p>Equal groups of</p> <p>Divide</p> <p>Divided by</p> <p>Left over</p>	Manipulatives & scaffolds:	<p>Cubes</p> <p>Counters</p>
Small step:	Concrete:	Pictorial:	Abstract:

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

<p>Make equal groups – grouping</p>		 <p>Complete the sentences. 12 is made up of _____ equal groups of _____ <math>12 \div 2 = \underline{\hspace{2cm}}</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><math>\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}</math></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 <math>\div</math> 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:								
Sharing and grouping	<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 \_\_\_\_\_ = \_\_\_\_\_</math></p>	<div><p>20 pencils are shared equally between 5 people.</p></div> <div><p>20 pencils are grouped into packs of 5</p></div>	$27 \div 3 =$								
Divide a 2-digit number by a 1-digit number - no exchange	<div><p><math>48 \div 2 = 24</math></p></div> <div><table><tr><th>Tens</th><th>Ones</th></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr><tr><td><div>10</div></td><td><div>1 1 1</div></td></tr></table><div><math>39 \div 3 = 13</math></div></div>	Tens	Ones	<div>10</div>	<div>1 1 1</div>	<div>10</div>	<div>1 1 1</div>	<div>10</div>	<div>1 1 1</div>	<p><math>64 \div 2 = \_\_\_\_\_</math></p> 	$48 \div 4 =$
Tens	Ones										
<div>10</div>	<div>1 1 1</div>										
<div>10</div>	<div>1 1 1</div>										
<div>10</div>	<div>1 1 1</div>										

Divide a 2-digit number by a 1-digit number - flexible partitioning	<p>Ron uses place value counters to work out <math>42 \div 3</math></p> <p>First, he shares the tens into 3 equal groups.</p> <p>He has 1 ten and 2 ones left over.</p> <table><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.</p> <p>Then he shares the ones into 3 equal groups.</p> <table><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	<div><div><div>32</div><div><div>20</div><div>12</div></div><div><div>÷ 2</div><div>÷ 2</div></div><div><div></div><div></div></div></div><div>32 ÷ 2 = _____</div></div>	$96 \div 6 =$
Tens	Ones																		
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10	1 1 1 1 1																		
Divide a 2-digit number by a 1-digit number - with remainders	<p>Esther has 13 lolly sticks.</p> <p>She uses them to make squares.</p> <p>Complete the sentences.</p> <p>There are _____ lolly sticks.</p> <p>There are _____ groups of 4</p> <p>There is _____ lolly stick remaining.</p> <p><math>13 \div 4 =</math> _____ remainder _____</p> <p>Esther can make _____ squares.</p> <div><div></div><div></div><div></div><div></div></div>	<div><div>53 ÷ 4 =</div><div>exchange 1 ten for 10 ones</div><div><div>Tens</div><div>Ones</div></div><div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div><div>...</div></div><div>13 r 1</div></div> <div><div>53</div><div><div>40</div><div>13</div></div><div><div>÷ 4</div><div>÷ 4</div></div><div><div>10</div><div>3</div></div><div>1</div></div>	$38 \div 3 = 12 \text{ r } 2$																
Y4																			
Vocabulary:	Odd Even Halve	Manipulatives & scaffolds:	Part whole models Place value counters Place value charts																

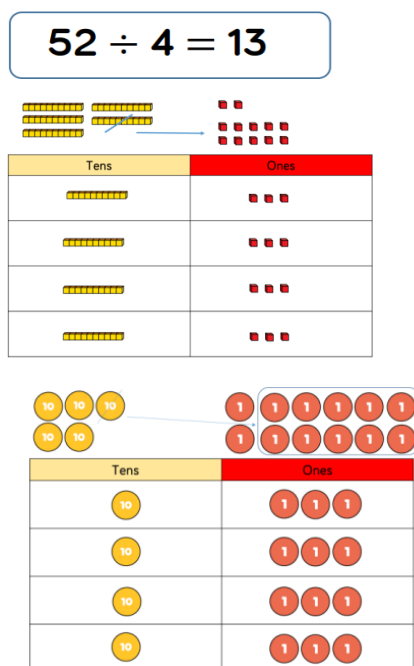


Share  
Share equally  
Equal groups of  
Divide  
Divided by  
Left over  
÷  
Remainders  
2-digit number  
Partitioning  
Flexible partitioning

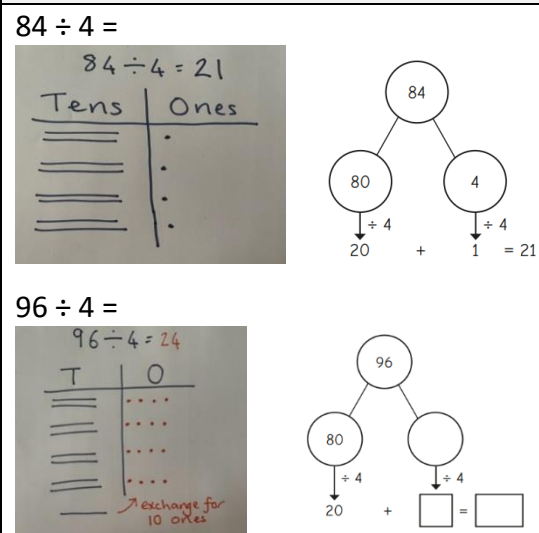
**Small step:**

Divide a 2-digit number by a 1-digit number (no remainders)

**Concrete:**



**Pictorial:**

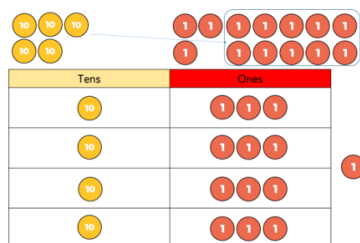
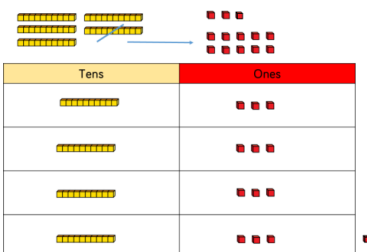


**Abstract:**

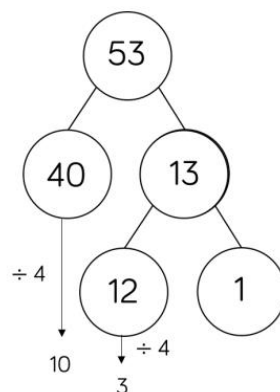
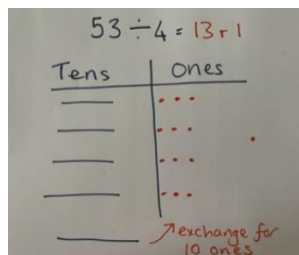
**$78 \div 6 =$**

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

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

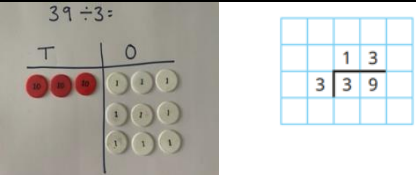
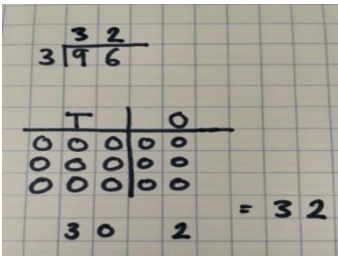
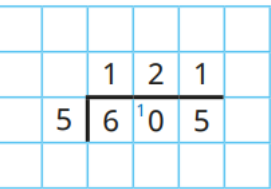
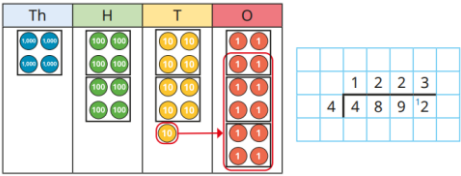
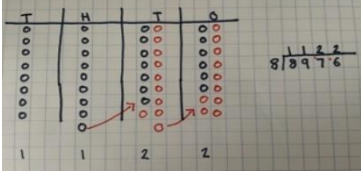
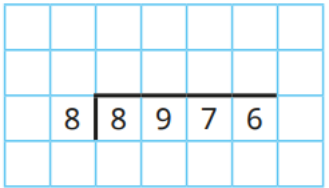
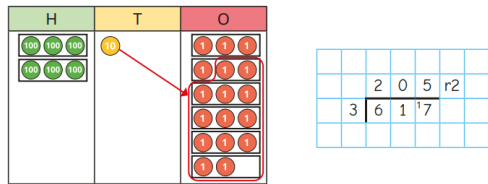
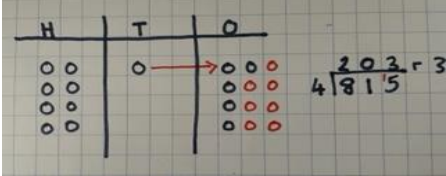
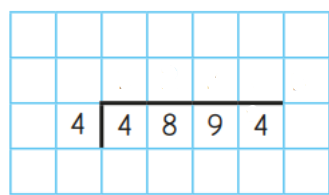


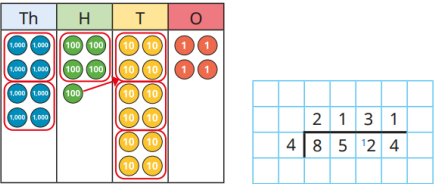
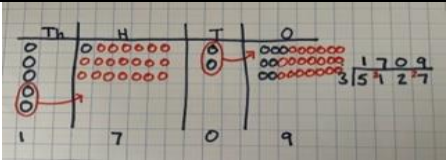
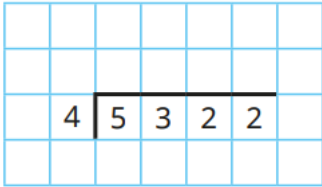
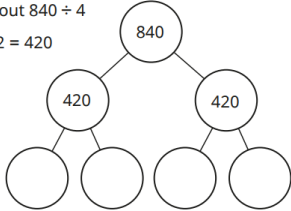
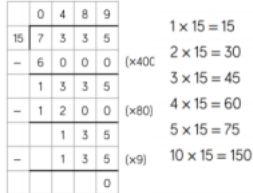
$$53 \div 4 = 13 \text{ r}1$$



$$53 \div 4 =$$

Divide a 3-digit number by a 1-digit number	<div>639 ÷ 3 =</div> <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td><div>100100</div></td><td><div>10</div></td><td><div>111</div></td></tr><tr><td><div>100100</div></td><td><div>10</div></td><td><div>111</div></td></tr><tr><td><div>100100</div></td><td><div>10</div></td><td><div>111</div></td></tr></table> <div>435 ÷ 3 =</div> <table><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr><tr><td><div>100</div></td><td><div>10101010</div></td><td><div>111111</div></td></tr><tr><td><div>100</div></td><td><div>10101010</div></td><td><div>111111</div></td></tr><tr><td><div>100</div></td><td><div>10101010</div></td><td><div>111111</div></td></tr><tr><td><div>100</div></td><td><div>10</div></td><td><div>111111</div></td></tr></table>	Hundreds	Tens	Ones	<div>100100</div>	<div>10</div>	<div>111</div>	<div>100100</div>	<div>10</div>	<div>111</div>	<div>100100</div>	<div>10</div>	<div>111</div>	Hundreds	Tens	Ones	<div>100</div>	<div>10101010</div>	<div>111111</div>	<div>100</div>	<div>10101010</div>	<div>111111</div>	<div>100</div>	<div>10101010</div>	<div>111111</div>	<div>100</div>	<div>10</div>	<div>111111</div>	<div>646 ÷ 2 = 323</div> <table><tr><th>H</th><th>T</th><th>O</th></tr><tr><td><div>000</div></td><td><div>00</div></td><td><div>000</div></td></tr><tr><td><div>000</div></td><td><div>00</div></td><td><div>000</div></td></tr></table> <div><div>646</div><div><div>600</div><div>40</div><div>6</div></div><div><div>÷ 2</div><div>÷ 2</div><div>÷ 2</div></div><div><div>300</div><div>20</div><div>3</div></div></div>	H	T	O	<div>000</div>	<div>00</div>	<div>000</div>	<div>000</div>	<div>00</div>	<div>000</div>	428 ÷ 2 =
Hundreds	Tens	Ones																																					
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Y5																																							
Vocabulary:	<div>Odd</div> <div>Even</div> <div>Halve</div> <div>Share</div> <div>Share equally</div> <div>Equal groups of</div> <div>Divide</div> <div>Divided by</div> <div>Left over</div> <div>÷</div> <div>Remainders</div> <div>Partitioning</div> <div>Flexible partitioning</div> <div>2/3/4-digit number</div> <div>Short division</div>	Manipulatives & scaffolds:	<div>Place value counters</div> <div>Place value charts</div> <div>'Bus stop'</div>																																				
Small step:	Concrete:	Pictorial:	Abstract:																																				

<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 3 <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			
Division using factors		<p>Esther is working out <math>840 \div 4</math> She knows <math>840 \div 2 = 420</math></p>  <p>How can Esther use this fact to help find <math>840 \div 4</math>?</p>	<div>540 ÷ 20</div>
Long division	When children begin to divide larger numbers, written methods become more efficient; concrete and pictorial methods are less effective		<div>7,335 ÷ 15 = 489</div> 

Long division with remainders																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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