

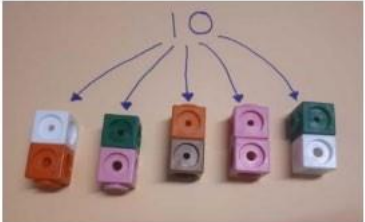
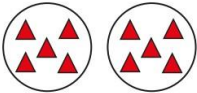


# Calculation Policy

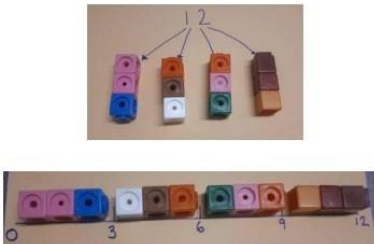
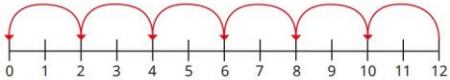
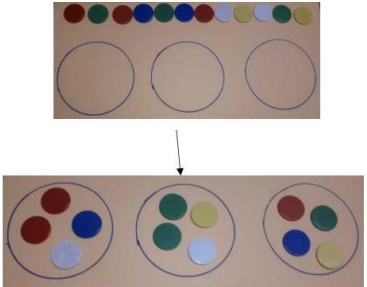
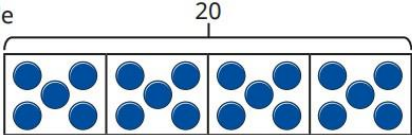
## Division

September 2023

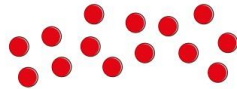
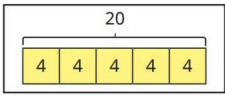
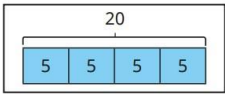
**Division:**

<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		 <p>There are _____ altogether.                  There are _____ equal groups of _____</p>	There are _____ altogether. There are _____ equal groups of _____
Make equal groups – sharing		<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>	___ are shared equally into ___ groups. There are ___ in each group.
<b>Y2</b>			

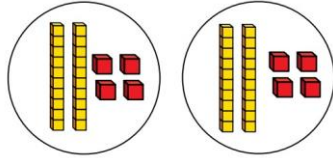
Vocabulary:	Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷	Manipulatives & scaffolds:	Counters Number line Bar models Part whole models
Small step:	Concrete:	Pictorial:	Abstract:
Make equal groups – grouping		 <p>▶ Complete the sentences.                      12 is made up of ____ equal groups of ____                      12 ÷ 2 = ____</p>	$15 \div 5 =$
Make equal groups – sharing	<p>I have 12 cubes, can you share them equally into 3 groups?</p> 	 <p>? <span style="border: 1px solid black; padding: 2px;"><math>20 \div 4 = 5</math></span></p>	$\_ \div \_ = \_$
<b>Y3</b>			

<b>Vocabulary:</b>	Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders 2-digit number Partitioning Flexible partitioning	<b>Manipulatives &amp; scaffolds:</b>	Counters Lolly sticks Bar models Part whole models Place value counters Place value charts
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Small step:	Concrete:	Pictorial:	Abstract:
<b>Sharing and grouping</b>	<p>Here are 14 counters.</p>  <p>► Share the counters equally into 2 groups. Complete the sentences.</p> <p>There are _____ counters altogether.</p> <p>There are _____ groups.</p> <p>There are _____ counters in each group.</p> <p><math>14 \div \underline{\quad} = \underline{\quad}</math></p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">                 20 pencils are shared equally between 5 people.             </div>  <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">                 20 pencils are grouped into packs of 5             </div> 	$27 \div 3 =$

Divide a  
2digit  
number by  
a 1-digit  
number - no  
exchange

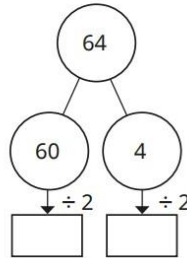
$$48 \div 2 = 24$$



Tens	Ones
10	1 1 1 1
10	1 1 1 1
10	1 1 1 1

$$39 \div 3 = 13$$

$$64 \div 2 = \underline{\quad}$$



$$48 \div 4 =$$

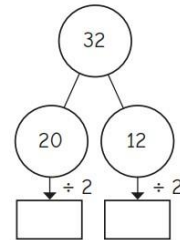
Divide a  
2digit  
number by  
a 1-digit  
number -  
flexible  
partitionin  
g

Ron uses place value counters to work out  $42 \div 3$   
First, he shares the tens into 3 equal groups.  
He has 1 ten and 2 ones left over.

Tens	Ones
10	1
10	10
10	1


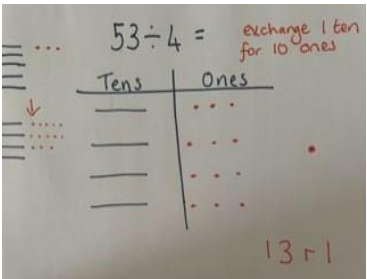
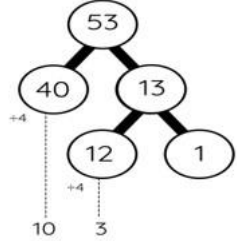
Ron exchanges the remaining ten for 10 ones.  
Then he shares the ones into 3 equal groups.

Tens	Ones
10	1 1 1 1 1 1 1 1 1 1
10	1 1 1 1 1 1 1 1 1 1
10	1 1 1 1 1 1 1 1 1 1

$$42 \div 3 = 14$$


$$32 \div 2 = \underline{\quad}$$

$$96 \div 6 =$$

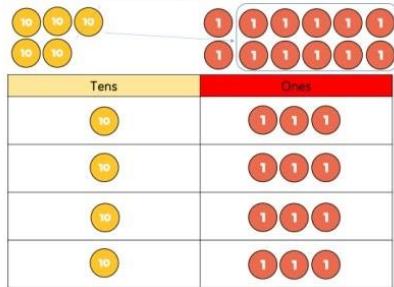
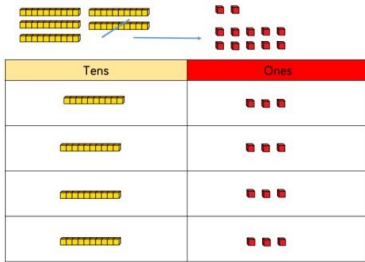
<p>Divide a 2digit number by a 1-digit number - with remainders</p>	<p>Esther has 13 lolly sticks. She uses them to make squares.  Complete the sentences. There are ____ lolly sticks. There are ____ groups of 4 There is ____ lolly stick remaining. <math>13 \div 4 =</math> ____ remainder ____ Esther can 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>

	Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders 2-digit number Partitioning Flexible partitioning		
<b>Small step:</b>	<b>Concrete:</b>	<b>Pictorial:</b>	<b>Abstract:</b>

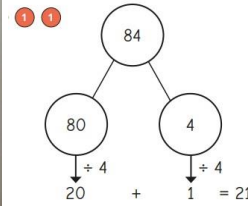
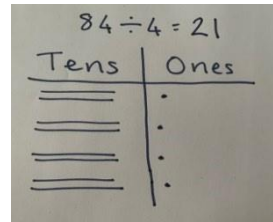


Divide a  
2digit  
number by  
a 1-digit  
number  
(no  
remainders)

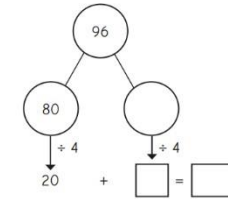
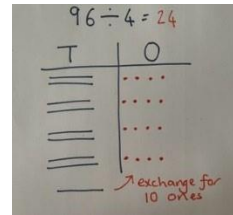
$$52 \div 4 = 13$$



$$84 \div 4 =$$



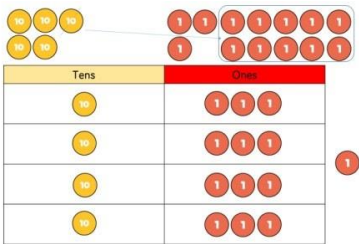
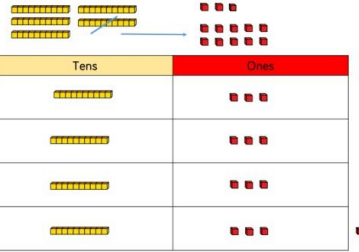
$$96 \div 4 =$$



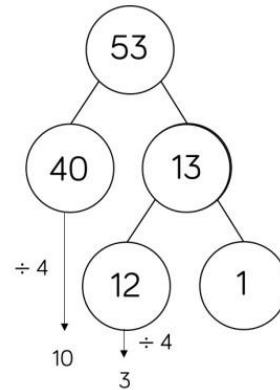
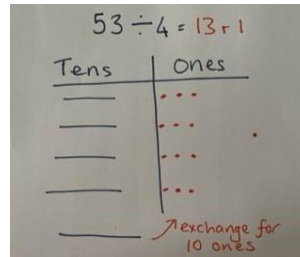
$$78 \div 6 =$$

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

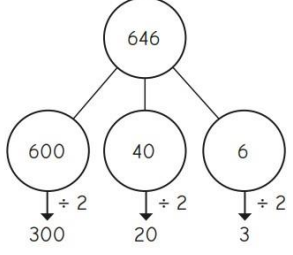
$$53 \div 4 = 13 \text{ r}1$$



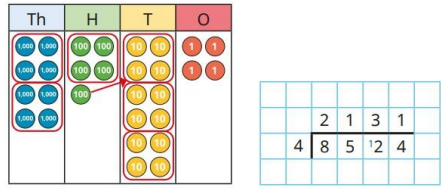
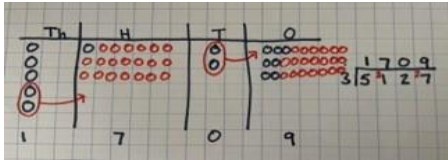
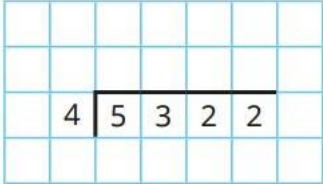
$$53 \div 4 = 13 \text{ r}1$$

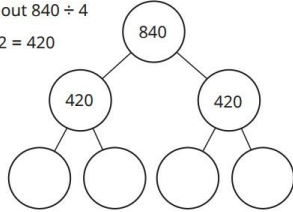


$$53 \div 4 =$$

<p>Divide a 3digit 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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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																																					
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H	T	O																																					
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>																																				

Small step:	Concrete:	Pictorial:	Abstract:
Short division	<p>We are dividing by 3.</p> <p>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>	
Divide a 4digit number by a 1-digit number			
Divide with remainders			
Y6			

<b>Vocabulary:</b>	Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over $\div$	<b>Manipulatives &amp; scaffolds:</b>	Place value counters Place value charts 'Bus stop'
	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>Division using factors</p>		<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 style="border: 1px solid black; padding: 5px; display: inline-block;"><math>540 \div 20</math></div>																																														
<p>Long division</p>	<p>When children begin to divide larger numbers, written methods become more efficient; concrete and pictorial methods are less effective</p>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"><math>7,335 \div 15 = 489</math></div> <table style="margin-left: 20px;"> <tr><td>0</td><td>4</td><td>8</td><td>9</td><td></td></tr> <tr><td>15</td><td>7</td><td>3</td><td>3</td><td>5</td></tr> <tr><td>-</td><td>6</td><td>0</td><td>0</td><td>0</td><td>(x400)</td></tr> <tr><td></td><td>1</td><td>3</td><td>3</td><td>5</td><td></td></tr> <tr><td>-</td><td>1</td><td>2</td><td>0</td><td>0</td><td>(x80)</td></tr> <tr><td></td><td></td><td>1</td><td>3</td><td>5</td><td></td></tr> <tr><td>-</td><td></td><td>1</td><td>3</td><td>5</td><td>(x9)</td></tr> <tr><td></td><td></td><td></td><td></td><td>0</td><td></td></tr> </table>	0	4	8	9		15	7	3	3	5	-	6	0	0	0	(x400)		1	3	3	5		-	1	2	0	0	(x80)			1	3	5		-		1	3	5	(x9)					0	
0	4	8	9																																														
15	7	3	3	5																																													
-	6	0	0	0	(x400)																																												
	1	3	3	5																																													
-	1	2	0	0	(x80)																																												
		1	3	5																																													
-		1	3	5	(x9)																																												
				0																																													
<p>Long division with remainders</p>			<table style="border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">0</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="border: 1px solid black; padding: 2px;">4</td> <td style="border: 1px solid black; padding: 2px;">r</td> <td style="border: 1px solid black; padding: 2px;">12</td> <td></td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">15</td> <td style="border: 1px solid black; padding: 2px;">3</td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td></td> <td></td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;"></td> <td style="border: 1px solid black; padding: 2px;">3</td> <td style="border: 1px solid black; padding: 2px;">0</td> <td style="border: 1px solid black; padding: 2px;">0</td> <td></td> <td>(15 × 20)</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;"></td> <td style="border: 1px solid black; padding: 2px;">7</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;"></td> <td style="border: 1px solid black; padding: 2px;">6</td> <td style="border: 1px solid black; padding: 2px;">0</td> <td></td> <td></td> <td>(15 × 4)</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;"></td> <td style="border: 1px solid black; padding: 2px;">1</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Multiples of 15:</b> <math>15 \times 1 = 15</math>  <math>15 \times 2 = 30</math>  <math>15 \times 3 = 45</math>  <math>15 \times 4 = 60</math></p>	0	2	4	r	12		15	3	7	2				3	0	0		(15 × 20)		7	2					6	0			(15 × 4)		1	2													
0	2	4	r	12																																													
15	3	7	2																																														
	3	0	0		(15 × 20)																																												
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