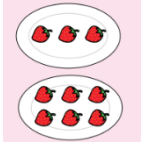




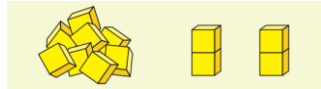
Calculation Policy


Division

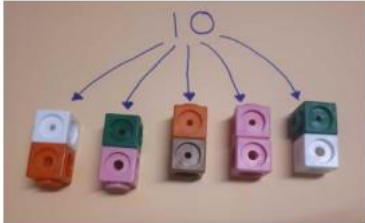
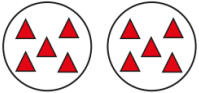


April 2024


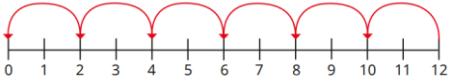
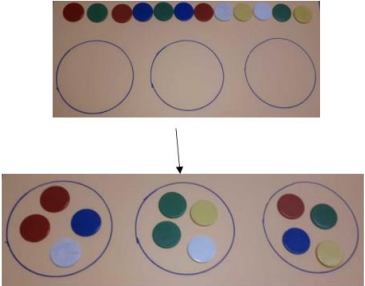
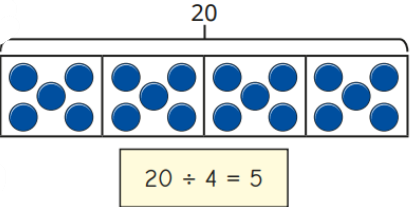
Division:


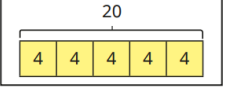
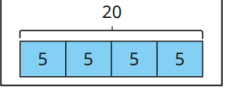
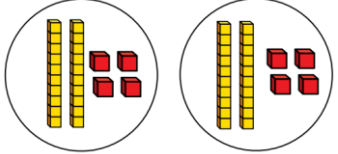
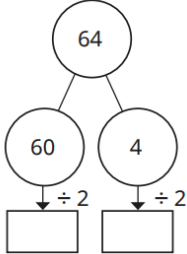
EYFS:			
Vocabulary:	Fair Not fair Share Share equally Groups Equal groups of Divide Odd Even	Manipulatives & scaffolds:	Cubes Counters Plates Pots Real life objects such as cookies, strawberries, snack items
Small step:	Concrete:	Pictorial:	Abstract:
Explore sharing	Sharing involves dividing a set equally between a certain number of groups. Expose children to the concept of sharing into groups and begin to identify when these groups are equal. 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?		It is fair because ____ It is not fair because ____ The ____ have/have not been shared equally

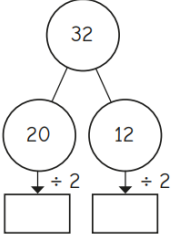

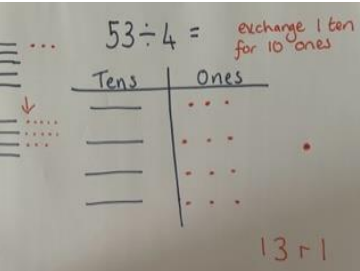
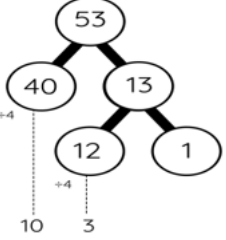
<p>Sharing</p>	<p>Share practically by having a number of objects to share between various people or groups by taking one object at a time and giving it to one child before taking the next object and giving it to the next child. Repeat this process until all the objects are gone or each child has an 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>
<p>Explore grouping</p>	<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>
<p>Grouping</p>	<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>

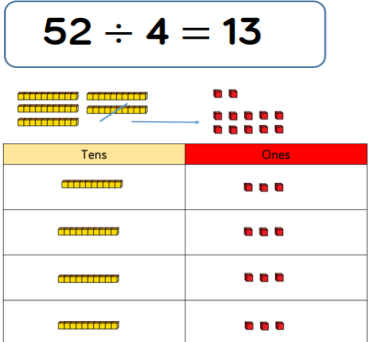
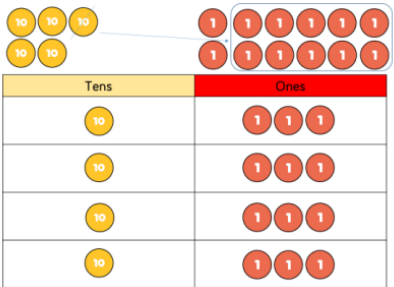
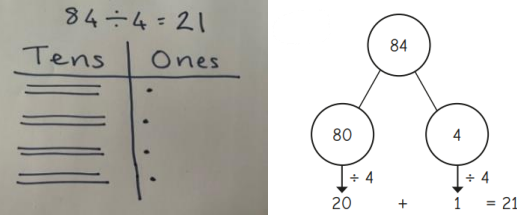
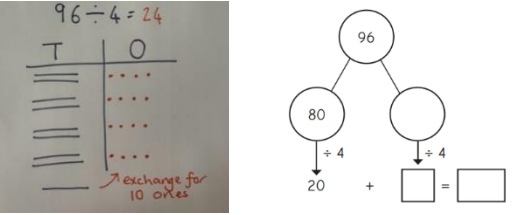
	How many groups are there?		
Even and odd sharing	<p>Children identify whether a number is odd or even by sharing into two groups. Using language such as 'odd', 'even', 'equal' and 'unequal' will prompt children to make the links to the number of objects they are sharing.</p> <p>In pairs, children select 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 Even Halve Share Share equally Equal groups of Divide Divided by Left over</p>	Manipulatives & scaffolds:	<p>Cubes 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>Y2</p>			
<p>Vocabulary:</p>	<p>Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷</p>	<p>Manipulatives & scaffolds:</p>	<p>Counters Number line Bar models Part whole models</p>
<p>Small step:</p>	<p>Concrete:</p>	<p>Pictorial:</p>	<p>Abstract:</p>

<p>Make equal groups – grouping</p>		 <p>▶ Complete the sentences. 12 is made up of _____ equal groups of _____ $12 \div 2 =$ _____</p>	<p>$15 \div 5 =$</p>
<p>Make equal groups – sharing</p>	<p>I have 12 cubes, can you share them equally into 3 groups?</p> 		<p>___ ÷ ___ = ___</p>
<p>Y3</p>			
<p>Vocabulary:</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>Manipulatives & scaffolds:</p>	<p>Counters Lolly sticks Bar models Part whole models Place value counters Place value charts</p>

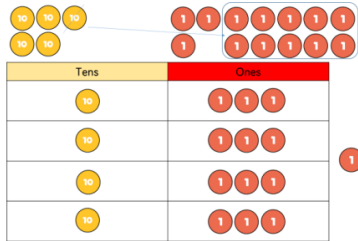
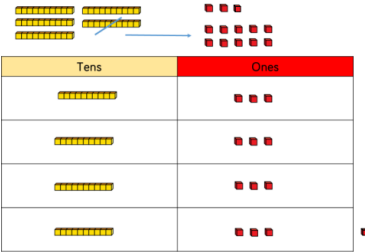
Small step:	Concrete:	Pictorial:	Abstract:								
<p>Sharing and grouping</p>	<p>Here are 14 counters.</p>  <p>► Share the counters equally into 2 groups. Complete the sentences. There are ____ counters altogether. There are ____ groups. There are ____ counters in each group. $14 \div ___ = ___$</p>	<p>20 pencils are shared equally between 5 people.</p>  <p>20 pencils are grouped into packs of 5</p> 	<p>$27 \div 3 =$</p>								
<p>Divide a 2-digit number by a 1-digit number - no exchange</p>	<p>$48 \div 2 = 24$</p>  <table border="1" data-bbox="389 927 622 1090"> <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>$39 \div 3 = 13$</p>	Tens	Ones	10	1 1 1	10	1 1 1	10	1 1 1	<p>$64 \div 2 = ______$</p> 	<p>$48 \div 4 =$</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 $42 \div 3$. First, he shares the tens into 3 equal groups. He has 1 ten and 2 ones left over.</p> <table border="1" data-bbox="510 279 739 391"> <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" data-bbox="510 462 705 574"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>10</td> </tr> <tr> <td>10</td> <td>10</td> </tr> <tr> <td>10</td> <td>10</td> </tr> </tbody> </table> <p>$42 \div 3 = 14$</p>	Tens	Ones	10		10		10		Tens	Ones	10	10	10	10	10	10	<p>$32 \div 2 = \underline{\quad}$</p> 	<p>$96 \div 6 =$</p>
Tens	Ones																		
10																			
10																			
10																			
Tens	Ones																		
10	10																		
10	10																		
10	10																		
<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. $13 \div 4 =$ _____ remainder _____ Esther can make _____ squares.</p>	<p>$53 \div 4 =$</p>  	<p>$38 \div 3 = 12 \text{ r } 2$</p>																
<p>Y4</p>																			
<p>Vocabulary:</p>	<p>Odd Even Halve</p>	<p>Manipulatives & scaffolds:</p>	<p>Part whole models Place value counters Place value charts</p>																

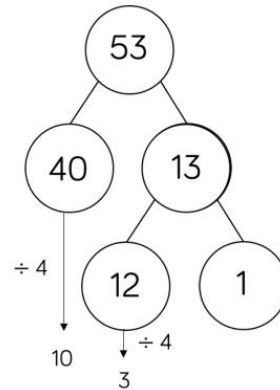
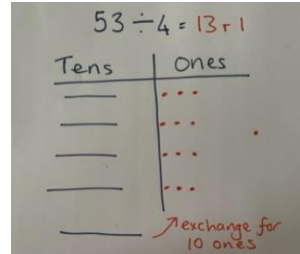
	<p>Share Share equally Equal groups of Divide Divided by Left over ÷ Remainders 2-digit number Partitioning Flexible partitioning</p>		
<p>Small step:</p>	<p>Concrete:</p>	<p>Pictorial:</p>	<p>Abstract:</p>
<p>Divide a 2-digit number by a 1-digit number (no remainders)</p>	<p>52 ÷ 4 = 13</p>  	<p>84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

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

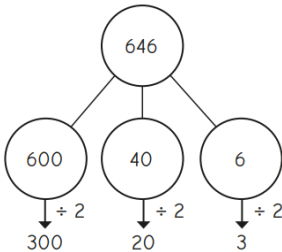
$$53 \div 4 = 13 \text{ r}1$$

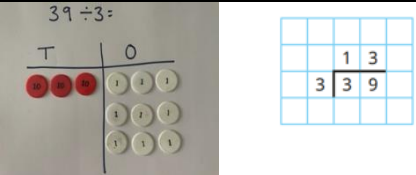
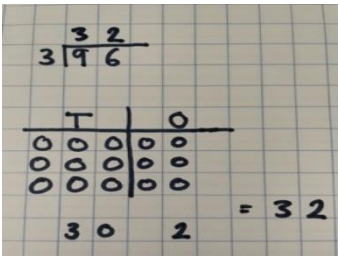
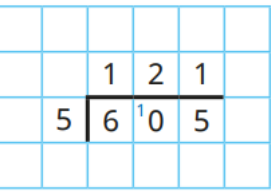
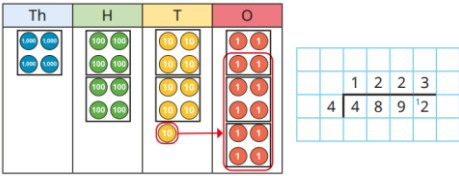
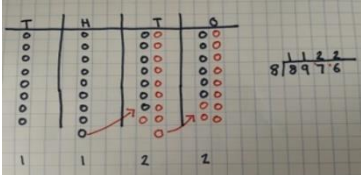
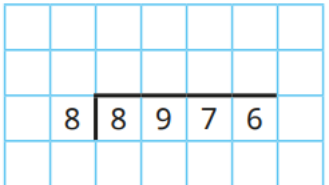
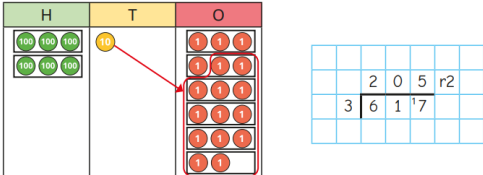
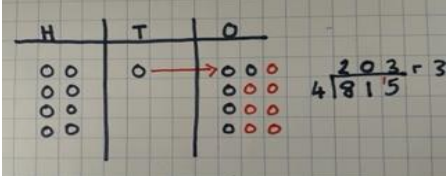
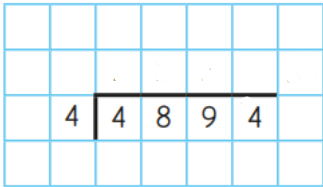


$$53 \div 4 = 13 \text{ r}1$$



$$53 \div 4 =$$

<p>Divide a 3-digit number by a 1-digit number</p>	<p>$639 \div 3 =$</p> <table border="1" data-bbox="398 245 855 456"> <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>$435 \div 3 =$</p> <table border="1" data-bbox="387 560 855 711"> <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>$646 \div 2 = 323$</p> <table border="1" data-bbox="902 193 1193 360"> <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>$428 \div 2 =$</p>
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																																					
H	T	O																																					
0 0 0	0 0	0 0 0																																					
0 0 0	0 0	0 0 0																																					
<p>Y5</p>																																							
<p>Vocabulary:</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>Manipulatives & scaffolds:</p>	<p>Place value counters Place value charts 'Bus stop'</p>																																				
<p>Small step:</p>	<p>Concrete:</p>	<p>Pictorial:</p>	<p>Abstract:</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. $39 \div 3 = 10$ and $3 = 13$</p>	<p>$96 \div 3 =$</p> 	
<p>Divide a 4-digit number by a 1-digit number</p>			
<p>Divide with remainders</p>			
<p>Y6</p>			
<p>Vocabulary:</p>	<p>Odd Even Halve Share Share equally Equal groups of Divide Divided by Left over ÷</p>	<p>Manipulatives & scaffolds:</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		
Small step:	Concrete:	Pictorial:	Abstract:
Short division	<p>A concrete representation of short division. On the left, there are base ten blocks representing 1000 (four blue blocks), 100 (two green blocks), 10 (two yellow blocks), and 1 (two red blocks). A red box highlights the 100 blocks, and a green box highlights the 10 blocks. To the right is a 10x10 grid with the numbers 2, 1, 3, 1 in the top row and 4, 8, 5, 2, 4 in the bottom row.</p>	<p>A pictorial representation of short division. It shows a place value chart with columns for Thousands (Th), Hundreds (H), Tens (T), and Ones (O). The number 1709 is represented by base ten blocks. A red box highlights the 1000 block, and a green box highlights the 700 blocks. A red arrow points from the 1000 block to the 700 blocks, and another red arrow points from the 700 blocks to the 100 block.</p>	<p>An abstract representation of short division using a 10x10 grid. The number 45322 is written in the grid, with a vertical line to the left of the 4, representing the division 45322.</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. The 1 nodes are represented by empty circles.</p> <p>How can Esther use this fact to help find $840 \div 4$?</p>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> $540 \div 20$ </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;"> $7,335 \div 15 = 489$ </div> <p>A written long division method for $7335 \div 15 = 489$. The division is shown in a standard long division format. To the right of the division are the multiplication facts: $1 \times 15 = 15$, $2 \times 15 = 30$, $3 \times 15 = 45$, $4 \times 15 = 60$, $5 \times 15 = 75$, and $10 \times 15 = 150$.</p>

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)