
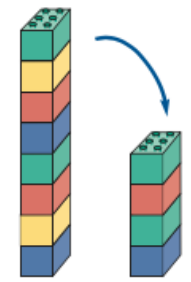
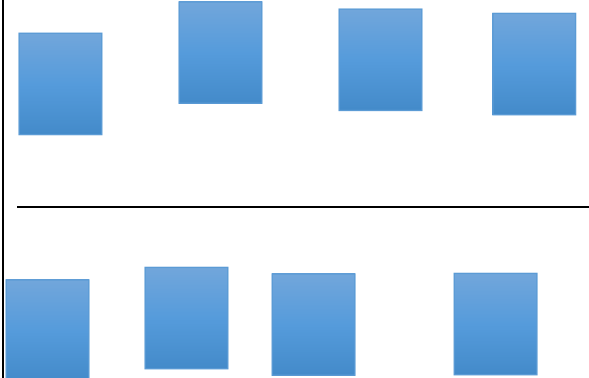
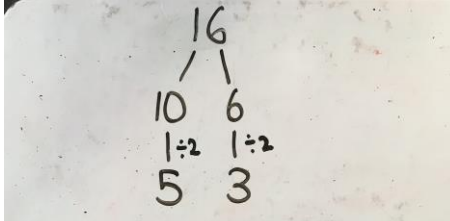

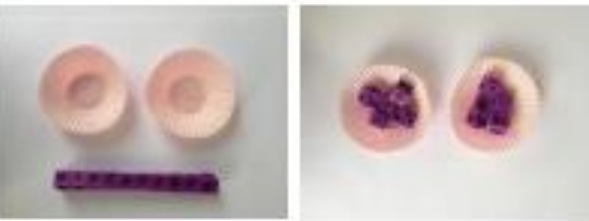



DIVISION STAGE 1

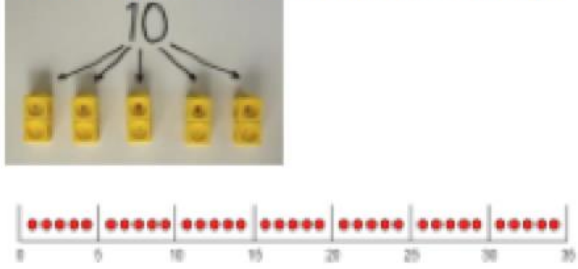
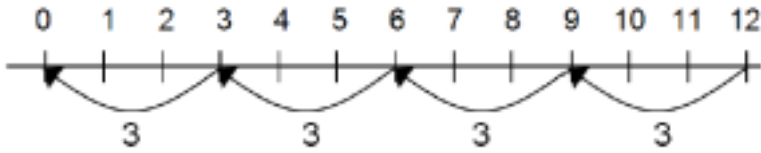
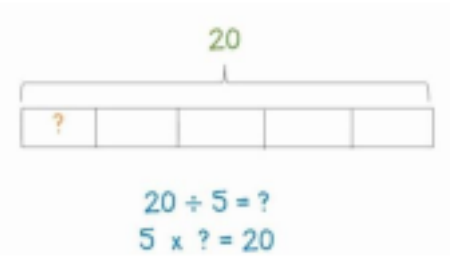
Progression	Concrete	Pictorial	Abstract
Sharing objects in role play and real life contexts.	 <p>6 apples shared between 3 children. They get 2 apples each.</p>		
Halves Year 1 – Halves to 10. Year 2 – Halves to 20.	<p>Use practical activities to show how to halve a number.</p>  <p>half of 8 is 4 <math>8 \div 2 = 4</math></p> <p>When confident with halving introduce the concept that halving is the same as dividing by 2.</p>	<p>Draw pictures to show how to halve a number.</p> <p>Half of 8 is 4</p> 	 <p>Partition a number and then halve each part before recombining it back together.</p>

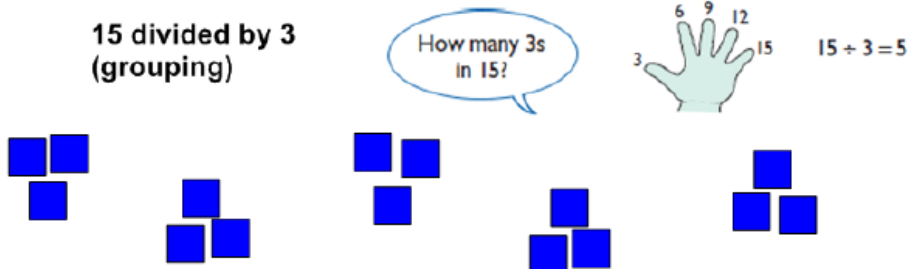
Underlying skills	Active Learning Through Models and Images		
<ul style="list-style-type: none"> <li>• Accurate counting.</li> <li>• One to one correspondence.</li> <li>• Understanding that sharing means that everyone has the same.</li> </ul>	<p>You have 3 and I have 3. We have the same.</p> 		

DIVISION STAGE 2


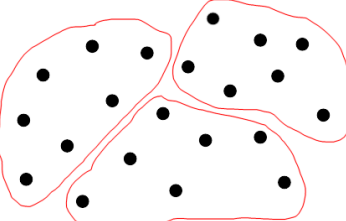

Progression	Concrete	Pictorial	Abstract
Sharing objects into groups.	 <p>I have 10 cubes, can you share them equally in 2 groups?</p>	<p>Children use pictures or shapes to share quantities.</p>  <p><math>8 \div 2 = 4</math></p>	<p>Share 9 buns between three people.</p> <p><math>9 \div 3 = 3</math></p>

			$28 \div 7 = 4$ Divide 28 into 7 groups. How many are in each group?
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Division as grouping/repeated subtraction.  (Grouping objects to solve a problem faster than sharing.)	<p>Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.</p>  <p><math>10 \div 2 = 5</math> because you are grouping in 2s.</p> <p><math>35 \div 5 = 7</math> because you are grouping in 5s.</p>	$12 \div 3 = 4$  Use a number line to show jumps in groups. The number of jumps equals the number of groups.  <p>Think of the bar as a whole. Split it into the number of groups you are dividing by and work out how many would be within each group.</p> 	$28 \div 7 = ?$  Children use mental subtraction and jottings to work out how many 7s they would be able to take away. $28 - 7 = 21$ $21 - 7 = 14$ $14 - 7 = 7$ $7 - 7 = 0$ <p>I took away 4 lots of 7s therefore the answer is 4</p>
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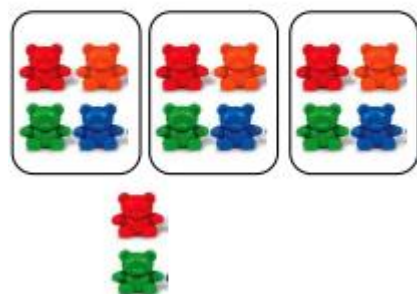
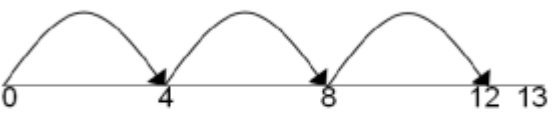

<p><b>Underlying skills</b></p> <ul style="list-style-type: none"> <li>Recognise what small groups of an object looks like without needing to count.</li> </ul>	<p><b>Active Learning Through Models and Images</b></p> <p>15 divided by 3 (grouping)</p> 
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**DIVISION STAGE 3**

<b>Progression</b>	<b>Concrete</b>	<b>Pictorial</b>	<b>Abstract</b>
<p>Division within arrays.</p>	<p>Link division to multiplication by creating an array and thinking about the number sentences that can be created.</p>  <p>Eg <math>15 \div 3 = 5</math>    <math>5 \times 3 = 15</math>  <math>15 \div 5 = 3</math>    <math>3 \times 5 = 15</math></p>	<p>Draw an array and use lines to split the array into groups to make multiplication and division sentences.</p>  <p>21 divided by 7 = 3</p> 	<p>Find the inverse of multiplication and division sentences by creating four linking number sentences.</p> <p><math>7 \times 4 = 28</math>  <math>4 \times 7 = 28</math>  <math>28 \div 7 = 4</math>  <math>28 \div 4 = 7</math></p>

<p><b>Underlying skills</b></p> <ul style="list-style-type: none"> <li>Reliable counting.</li> <li>Organisation skills.</li> </ul>			
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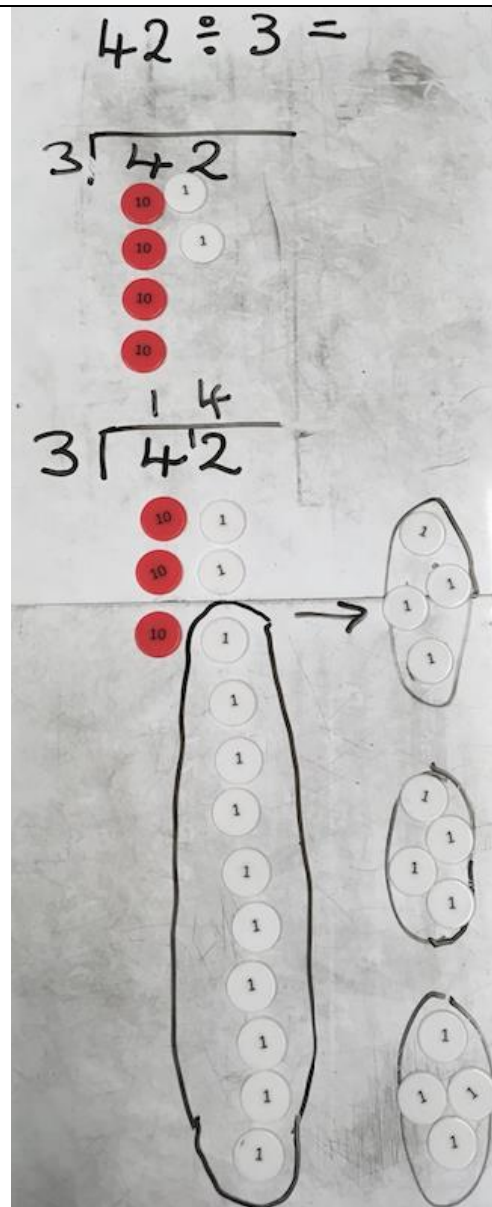
**DIVISION STAGE 4**

<b>Progression</b>	<b>Concrete</b>	<b>Pictorial</b>	<b>Abstract</b>
<p>Division with a remainder.</p>	<p><math>14 \div 3 =</math> Divide objects between groups and see how much is left over</p> 	<p><math>13 \div 4 = 3 \text{ r } 1</math> Jump forward in equal jumps on a number line then see how many more you need to jump to find a remainder.</p>  <p>Draw dots and group them to divide an amount and clearly show a remainder.</p>  <p><math>14 \div 4 = 3 \text{ r } 2</math></p>	<p>Complete written divisions and show the remainder using r.</p> <p><math>29 \div 8 = 3 \text{ REMAINDER } 5</math></p> <p>↑    ↑    ↑                                    ↑ dividend    divisor    quotient                                    remainder</p>

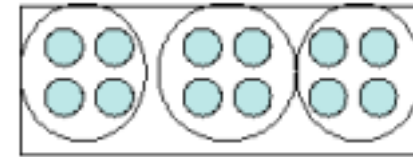
**DIVISION STAGE 5**

<b>Progression</b>	<b>Concrete</b>	<b>Pictorial</b>	<b>Abstract</b>
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Short division.



Students can continue to use drawn diagrams with dots or circles to help them divide numbers into equal groups.

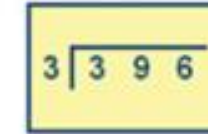


Encourage them to move towards counting in multiples to divide more efficiently.

$$12 \div 3 = 4$$

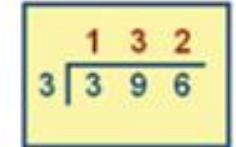
Begin with divisions that divide equally with no remainders.

396 ÷ 3 can be written like this:

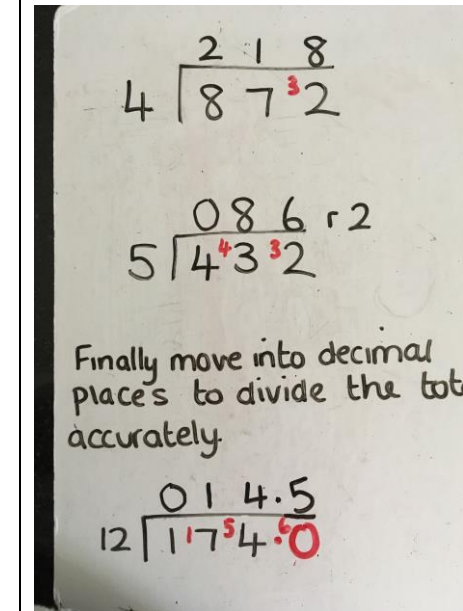


To work this out, divide 3 into 396 one digit at a time, starting from the left with the digit 3 (which represents 300 in the number 396). Put the result of each division on top of the line.

The 3 into 3 goes 1 time exactly,  
3 into 9 goes 3 times,  
3 into 6 goes 2 times exactly.  
396 ÷ 3 = 132



Check if this is correct by multiplying 3 by 132:  $3 \times 132 = 396$



Children need to be taught to write remainders as remainders, fractions and decimals and select which to use based on the context of the problem. Children should be taught to use equivalent fractions to help change to decimals where appropriate.

**Underlying Skills**

- Rapid recall of multiplication facts.
- Understanding of the relationship between  $\times$  and  $\div$ .

$$1 \times 4 = 4$$

$$4 \div 4 = 1$$

$$2 \times 4 = 8$$

$$8 \div 4 = 2$$

$$3 \times 4 = 12$$

$$12 \div 4 = 3$$



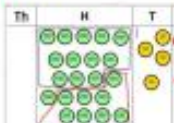
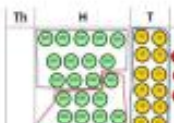
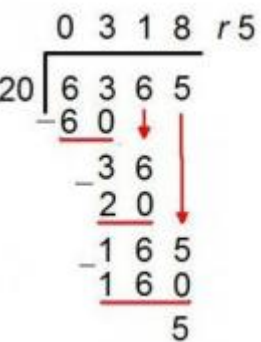
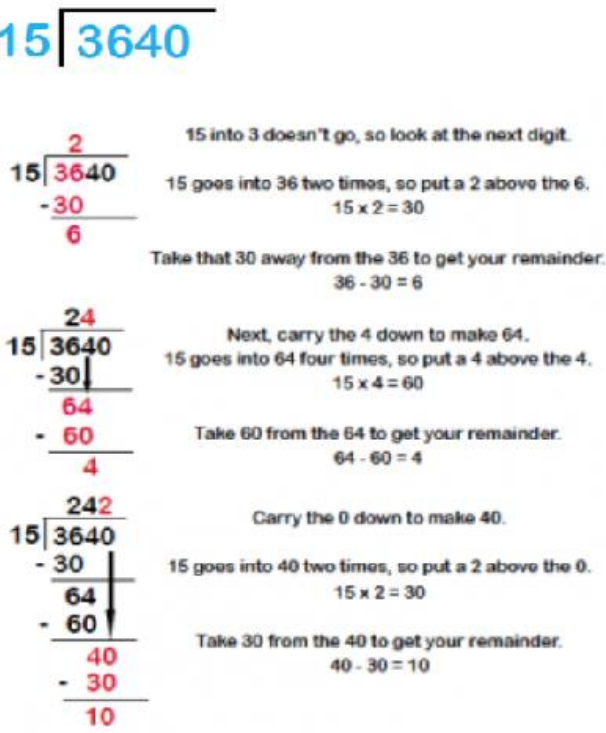
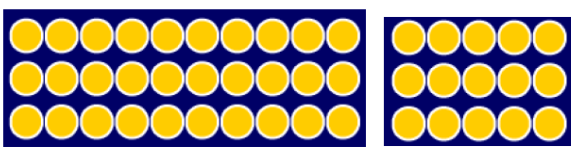
DIVISION STAGE 6

**Progression**

**Concrete**

**Pictorial**

**Abstract**

<p>Long division.</p>	<p>2544 + 12 How many groups of 12 thousands do we have? None</p> <p>Exchange 2 thousand for 20 hundreds.</p>  <p>How many groups of 12 are in 25 hundreds? 2 groups. Circle them. We have grouped 24 hundreds so can take them off and we are left with one.</p>  <p>Exchange the one hundred for ten tens so now we have 14 tens. How many groups of 12 are in 14? 1 remainder 2</p>  <p>Exchange the two tens for twenty ones so now we have 24 ones. How many groups of 12 are in 24? 2</p> 	<p>Instead of using physical counters, students can draw the counters and circle the groups on a whiteboard or in their books.</p> <p>Use this method to explain what is happening and as soon as they have understood what move on to the abstract method as this can be a time consuming process.</p>	 
<p><b>Underlying Skills</b></p> <ul style="list-style-type: none"> <li>• Rapid recall of multiplication facts.</li> <li>• Using known number facts and knowledge of place value to help work out others.</li> </ul>	 <p>So... <math>10 \times 3 = 30</math>      <math>5 \times 3 = 15</math></p> <p><math>15 \times 3 = 45</math></p> <p><math>3 \times 4 = 12</math> so <math>30 \times 4 = 120</math></p>		
<p>DIVISION STAGE 7</p>			
<p><b>Progression</b></p>	<p><b>Concrete</b></p>	<p><b>Pictorial</b></p>	<p><b>Abstract</b></p>

Division with decimals.			<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <math display="block">  \begin{array}{r}  7 \overline{) 87.5} \\  \underline{70.0} \\  17.5 \\  \underline{14.0} \\  3.5 \\  \underline{3.5} \\  0  \end{array}  </math> </div> <div style="width: 45%;"> <p><b>FACT BOX</b></p> <p><math>10 \times 7 = 70</math></p> <p><math>2 \times 7 = 14</math></p> <p><math>5 \times 7 = 35</math></p> <p><math>0.5 \times 7 = 3.5</math></p> <p>= 12.5</p> </div> </div> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <math display="block">  \begin{array}{r}  6 \overline{) 97.5} \\  \underline{60.0} \\  37.8 \\  \underline{36.0} \\  1.8 \\  \underline{1.8} \\  0  \end{array}  </math> </div> <div style="width: 45%;"> <p><b>FACT BOX</b></p> <p><math>10 \times 6 = 60</math></p> <p><math>6 \times 6 = 36</math></p> <p><math>3 \times 6 = 18</math></p> <p><math>0.3 \times 6 = 1.8</math></p> <p>= 16.3</p> </div> </div>
<u>Underlying Skills</u>	As above		