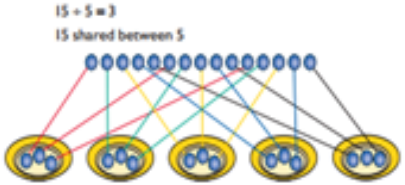
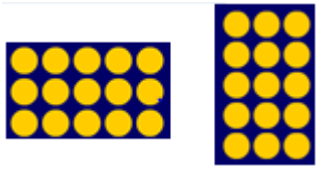
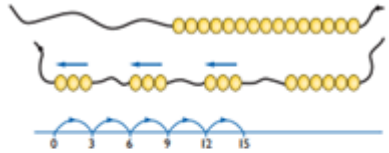
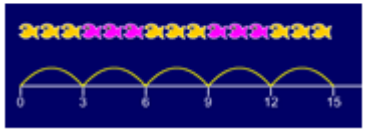
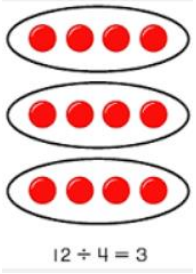
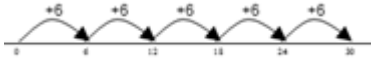
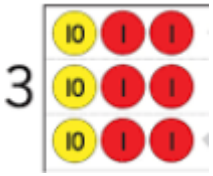
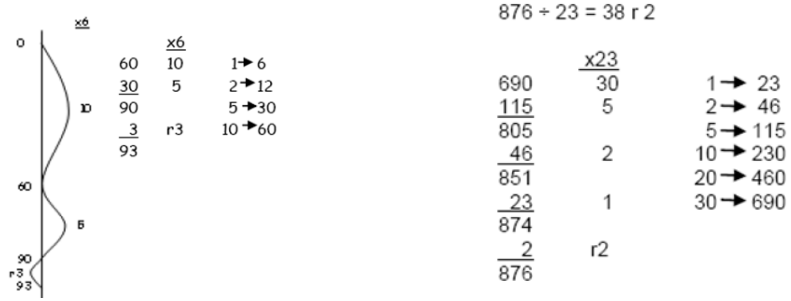
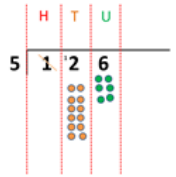
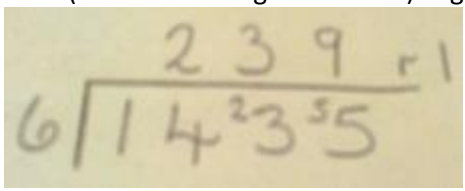
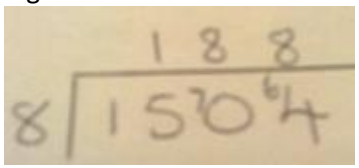
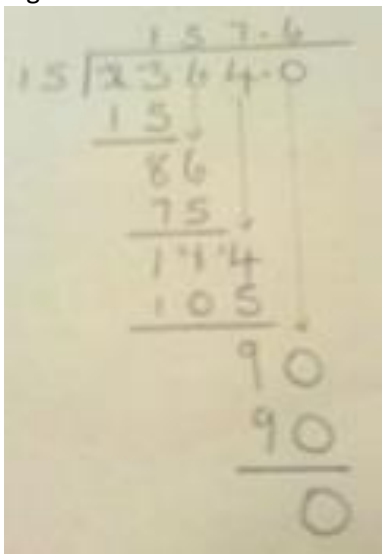
Lyme CP Progression in Division

Year One	Year Two	Year Three
Children must have secure counting skills- being able to confidently count in 2s, 5s and 10s. Children should be given opportunities to reason about what they notice in number patterns. **Group** AND **share small quantities- understanding the difference between the two concepts.** **Sharing** Develops importance of one-to-one correspondence.  Children should be taught to share using concrete apparatus. **Grouping** Children should apply their counting skills to develop some understanding of grouping.  Use of arrays as a pictorial representation for division. 15 ÷ 3 = 5 There are 5 groups of 3. 15 ÷ 5 = 3 There are 3 groups of 5.  Children should be able to find ½ and ¼ and simple fractions of objects, numbers and quantities.	**÷ = signs and missing numbers** 6 ÷ 2 = □ □ = 6 ÷ 2 6 ÷ □ = 3 3 = 6 ÷ □ □ ÷ 2 = 3 3 = □ ÷ 2 □ ÷ ∇ = 3 3 = □ ÷ ∇ Know and understand sharing and grouping- introducing children to the ÷ sign. Children should continue to use grouping and sharing for division using practical apparatus, arrays and pictorial representations. **Grouping using a numberline** Group from zero in jumps of the divisor to find our 'how many groups of 3 are there in 15?'. 15 ÷ 3 = 5   Continue work on arrays. Support children to understand how multiplication and division are inverse. Look at an array – what do you see?  	**÷ = signs and missing numbers** Continue using a range of equations as in year 2 but with appropriate numbers. **Grouping** How many 6's are in 30? 30 ÷ 6 can be modelled as:  Becoming more efficient using a numberline Children need to be able to partition the dividend in different ways. 48 ÷ **4 = 12**  Remainders **49 ÷ 4 = 12 r1**  Sharing – 49 shared between 4. How many left over? Grouping – How many 4s make 49. How many are left over? Place value counters can be used to support children apply their knowledge of grouping. For example: 60 ÷ 10 = How many groups of 10 in 60? 600 ÷ 100 = How many groups of 100 in 600? 

<table>
<tr><th>Year Four</th><th>Year Five</th><th>Year Six</th></tr>
<tr><td colspan="2"><u>÷ = signs and missing numbers</u>
Continue using a range of equations as in year 3 but with appropriate numbers.
<u>Sharing, Grouping and using a number line</u>
Children will continue to explore division as sharing and grouping, and to represent calculations on a number line until they have a secure understanding. Children should progress in their use of written division calculations:
• Using tables facts with which they are fluent
• Experiencing a logical progression in the numbers they use, for example:
1. Dividend just over 10x the divisor, e.g. 84 ÷ 7
2. Dividend just over 10x the divisor when the divisor is a teen number, e.g. 173 ÷ 15
3. Dividend over 100x the divisor, e.g. 840 ÷ 7
4. Dividend over 20x the divisor, e.g. 168 ÷ 7
Children begin by writing a partial table including doubling, ten lots and 5 lots.
 

All of the above stages should include calculations with remainders as well as without.</td><td></td></tr>
<tr><td><u>Formal Written Methods</u>
Formal short division should only be introduced once children have a good understanding of division, its links with multiplication and the idea of 'chunking up' to find a target number (see use of number lines above)
Short division to be modelled for understanding using place value counters as shown below. Calculations with 2 and 3-digit dividends. E.g. fig 1
 
</td><td><u>Formal Written Methods</u>
Continued as shown in Year 4, leading to the efficient use of a formal method. The language of grouping to be used (see link from fig. 1 in Year 4) E.g. 1435 ÷ 6
 

Children begin to practically develop their understanding of how to express the remainder as a decimal or a fraction. Ensure practical understanding allows children to work through this</td><td><u>÷ = signs and missing numbers</u>
Continue using a range of equations but with appropriate numbers
<u>Sharing and Grouping and using a number line</u>
Children will continue to explore division as sharing and grouping, and to represent calculations on a number line as appropriate.
Quotients should be expressed as decimals and fractions
<u>Formal Written Methods – long and short division</u>
E.g. 1504 ÷ 8
 

E.g. 2364 ÷ 15
 
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