Lyme CP Progression in Division

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| **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?    Counting in multiples – looking for patterns.  3, 6, 9, 12, 15, 18, 21, 24 | **÷ = 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? |

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| **Year Four** | **Year Five** | **Year Six** |
| **÷ = signs and missing numbers**  Continue using a range of equations as in year 3 but with appropriate numbers.  **Sharing, Grouping and using a number line**  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. | | **÷ = signs and missing numbers**  Continue using a range of equations but with appropriate numbers  **Sharing and Grouping and using a number line**  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  **Formal Written Methods – long and short division**  E.g. 1504 ÷ 8    E.g. 2364 ÷ 15 |
| **Formal Written Methods**  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 | **Formal Written Methods**  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 |