
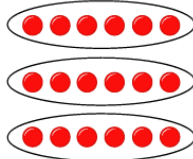
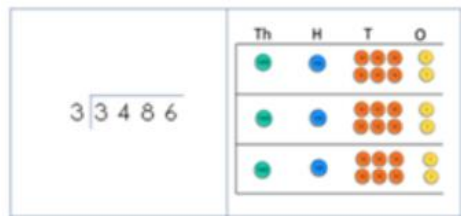
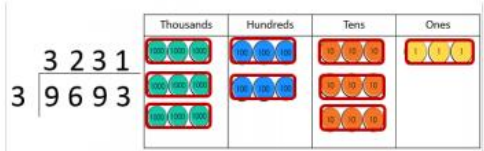
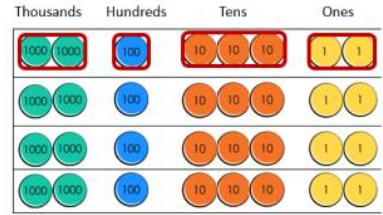
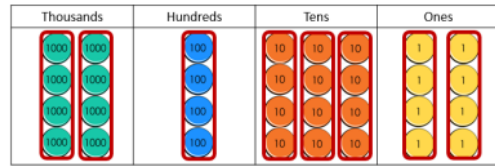
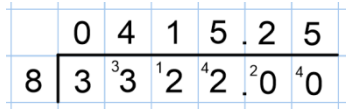


## Written Calculation Policy: Division

Year 3	Year 4	Year 5	Year 6
<p>Through using arrays, children will explore division facts linked to their times tables.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>factor    factor    product</p> <math>3 \times 6 = 18</math> <p>number of groups    number in each group    number in all</p> </div> <div style="text-align: center;">  <p>dividend    divisor    quotient</p> <math>18 \div 3 = 6</math> <p>number in all    number of groups    number in each group</p> </div> </div>	<p><b>Short Division (no regrouping):</b></p> <p>(You may begin with three-digit dividends first depending on your pupils' confidence and knowledge.)</p> <p><b>Division as sharing</b></p>  <p><b>Division as grouping</b></p>  <p><b>Short Division (with regrouping):</b></p> <p>Pupils progress to calculations that require regrouping in the hundreds or tens columns.</p> <p>Pupils build on their conceptual knowledge of division to become confident with dividing numbers where the tens digit is smaller than the divisor, extending this to any digit being smaller than the divisor.</p> <p>NCETM support videos:  <a href="https://www.ncetm.org.uk/resources/43589">https://www.ncetm.org.uk/resources/43589</a></p> <p>These videos demonstrate how to teach the children short division with remainders and short division with exchange.</p>	<p><b>Short Division (with regrouping):</b></p> <p><math>8528 \div 4</math></p> $\begin{array}{r} 2132 \\ 4 \overline{) 8528} \end{array}$ <p><b>Sharing</b></p>  <p>8 thousands shared into 4 equal groups          5 hundreds shared into 4 equal groups          Regroup 1 hundred for 10 tens          12 tens shared into 4 equal groups          8 ones shared into 4 equal groups.</p> <p><b>Grouping</b></p>  <p>How many groups of 4 thousands in 8 thousands?          How many groups of 4 hundreds in 5 hundreds?          Regroup 1 hundred for 10 tens.          How many groups of 4 tens in 12 tens?          How many groups of 4 ones in 8 ones?</p> <p><b>Long Division (no remainders):</b>  <b>(4 digit number divided by 2 digit number)</b></p> <p><math>408 \div 12 = 34</math></p> $\begin{array}{r} 34 \\ 12 \overline{) 408} \\ \underline{36} \phantom{0} \\ 48 \\ \underline{48} \\ 0 \end{array}$	<p>Children consolidate their understanding of the short and long division; they apply it to calculations efficiently involving large numbers. When working with remainders, children can convert these by applying their knowledge of fractions and decimals.</p> <p><b>Expectation of formal method from National Curriculum 2014:</b></p> <p><b>Short Division:</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <math>432 \div 5</math> becomes             <math display="block">\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \end{array}</math> <p>Answer: 86 remainder 2</p> </div> <div style="text-align: center;"> <math>496 \div 11</math> becomes             <math display="block">\begin{array}{r} 45 \text{ r}1 \\ 11 \overline{) 496} \end{array}</math> <p>Answer: <math>45 \frac{1}{11}</math></p> </div> </div> <p>The following example shows how to use short division to calculate a decimal quotient:</p>  <p><b>Long Division:</b></p> <p><math>432 \div 15</math> becomes</p> $\begin{array}{r} 28.8 \\ 15 \overline{) 432.0} \\ \underline{30} \phantom{0} \\ 132 \\ \underline{120} \phantom{0} \\ 120 \\ \underline{120} \\ 0 \end{array}$ <p>Answer: 28.8</p>

