

Primary School Calculation policy Year 6

Policy reflects: concrete (do it!) abstract (see it!) visual (remember it!) communication (record it!)

Addition	Subtraction	Multiplication	Division
<p style="text-align: center;"><u>Year 6</u></p> <p>Promote decision making so that pupils choose an appropriate method/strategy.</p> <p>Continue the use of informal methods and number lines.</p> <p>Ensure understanding of standard written method.</p> <p>Continue ThHTU + ThHTU then calculations with any number of digits.</p> <p>Approximate using the most significant digits and a feel for the 'whole' number.</p> <p>Appropriate teaching/use of the calculator including interpreting the display, e.g. money or measures.</p> <p><i>Calculator display 0.37 is then interpreted as 37p in the context of money. Remind 4p = 0.04 Calculator display £1.4 is interpreted as £1.40</i></p> $\begin{array}{r} 7648 \\ + 1486 \\ \hline 9134 \\ \hline \end{array}$ <p>Decimal points are fixed on the line with digits in the squares.</p> <p>Decimals, fill 'empty columns' with zeros.</p>	<p style="text-align: center;"><u>Year 6</u></p> <p>ThHTU – ThHTU then any number of digits.</p> <p>Appropriate use of a calculator including interpretation of displays.</p> <p>Money, measures and real life contexts.</p> $6467 - 2684$ $\begin{array}{r} 5 \ 13 \ 1 \\ 6467 \\ - 2684 \\ \hline 3783 \\ \hline \end{array}$ $3249 - 725$ $\begin{array}{r} 1 \ 1 \ 8 \ 1 \\ 32490 \\ - 725 \\ \hline 31765 \\ \hline \end{array}$ <p>13.6 – 2.8 =</p> $\begin{array}{c} +0.2 \quad +10.6 \\ \hline 2.8 \quad 3 \quad 13.6 \end{array}$ $13.6 - 2.8 = 10.8$	<p style="text-align: center;"><u>Year 6</u></p> <p>ThHTU x TU and HTU x TU and including decimals.</p> <p>TU x TU</p> $\begin{array}{r} 78 \\ \times 42 \\ \hline 16 \quad (2 \times 8) \\ 140 \quad (2 \times 70) \\ 320 \quad (40 \times 8) \\ +2800 \quad (40 \times 70) \\ \hline 3276 \\ \hline \end{array}$ <p>Compact (long)</p> $\begin{array}{r} 78 \\ \times 42 \\ \hline 156 \\ +3120 \\ \hline 3276 \\ \hline \end{array}$ <p>Involve decimals, money and measures through approximation and appropriate use of the calculator.</p> <p>Addition either mentally or by column addition.</p>	<p style="text-align: center;"><u>Year 6</u></p> <p>Know all multiplication facts and corresponding division facts to 12 x 12 and beyond and be able to apply them.</p> <p>Explain the effect of dividing by 1000.</p> <p>Extend methods to include Th HTU by TU.</p> <p>Continue to use the short division method when the two digit divisor is up to 12 or is a easily recognisable multiple eg 20, 25 or 50.</p> <p>Use a calculator appropriately, approximating first.</p> <p>Use of calculator for interpreting the quotient by entering a fraction to find the decimal equivalent.</p> <p>Mathsonline.org-long division</p> <p>Use long division only with pupils who are secure with number sense and place value.</p> <p>384 ÷ 16 <i>"What do I know about the divisor?"</i> <i>Record partial tables.</i></p>

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<p>1249 + 7.25</p> $\begin{array}{r} 124.90 \\ + 7.25 \\ \hline 132.15 \\ 11 \end{array}$	<p>leading to</p> <p>14.6 – 2.76</p> <p style="text-align: center; color: red;">+0.04 +0.2 +1.16</p>	<p>Decimals. Teach children how to use known facts to build new facts according to the place value required, e.g.</p> <p>$3 \times 4 = 12$ $3 \times 0.4 = 1.2$ $3 \times 0.04 = 0.12$</p> <p>0.75 x 6</p> <p>0.7 x 6 = 4.2 0.05 x 6 = 0.3 0.75 x 6 = 4.5</p> <p>Grid method based upon very secure place value.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;">x</td> <td style="padding: 2px;">0.7</td> <td style="padding: 2px;">0.05</td> </tr> <tr> <td style="padding: 2px;">6</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table> <p>Overcoming Barriers L4/5</p> <p>Mike works out that $14 \times 12 = 168$. What is 14×1.2? How do you know?</p> <p>Use a written method to calculate 24×13. What do you need to change to show a similar method to work out 2.4×13?</p> <p>Use a written method to find the area of a swimming pool which is 25 m long and 7.5 m wide.</p> <p>Complete the missing sections to work out 35×2.1 :</p>	x	0.7	0.05	6			<p><i>Long division (thinking not generally recorded)</i></p> $\begin{array}{r} \underline{24} \\ 16 \overline{) 3864} \\ \underline{-32} \\ 64 \\ \underline{-64} \\ 0 \end{array}$ <p><i>(38 ÷ 16 = 2 r 6; 2 × 16 = 32) (bring the 4 down)</i></p> <p><i>(16 into 64 = 4; 4 × 16 = 64)</i></p> <p><i>(no remainder)</i></p> <p><i>This does not need recording this is the verbal explanation</i></p> <p>944 ÷ 22 = What do I know about the divisor? Express the remainder as a fraction or decimal.</p> <p>Overcoming Barriers L4/5</p> <p>Division giving a decimal answer, e.g. Divide 9 by 5 giving your answer as a decimal.</p> <p>Missing number calculations, e.g.</p> <p><input type="text"/> ÷ 8 = 0.04;</p> <p>0.6 × <input type="text"/> = 4.2</p>
x	0.7	0.05							
6									

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X	<input type="checkbox"/>	0.1
30	60	<input type="checkbox"/>
5	<input type="checkbox"/>	0.5

Which is closer to 100: 5.2×17 or 7.2×15 ?
Use written methods to prove your answer.

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