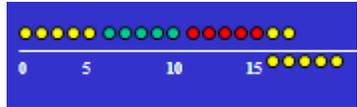


Crudgington Primary School

Calculation policy

Year 5

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

Addition	Subtraction	Multiplication	Division									
<p style="font-size: 1.5em; font-weight: bold; text-decoration: underline;">Year 5</p> <p>Add with increasingly large numbers using the compact method.</p> <p>Extend methods to include decimals to two decimal places.</p>	<p style="font-size: 1.5em; font-weight: bold; text-decoration: underline;">Year 5</p> <p>Subtract with increasingly large numbers using the compact method.</p> <p>Extend methods to include decimals to two decimal places.</p>	<p style="font-size: 1.5em; font-weight: bold; text-decoration: underline;">Year 5</p> <p>Th HTU , HTU , TU x TU and U</p> <p>28 x 27</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr><td>x</td><td>20</td><td>8</td></tr> <tr><td>20</td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td></tr> </table> <p style="font-size: 0.8em;">Addition to be done mentally or across followed by column addition</p> $ \begin{array}{r} 28 \\ \times 27 \\ \hline 56 \text{ (7x8)} \\ 140 \text{ (7 x20)} \\ 160 \text{ (20x8)} \\ \underline{400 \text{ (20x20)}} \\ 756 \end{array} $ <p>Long multiplication with compact notation to be introduced once the expanded method is secure.</p> <p>28 X 27 = 756</p> <p>Multiply in different contexts</p> <p>£2.73 x 3 £2.73 x 3 = 273p x 3</p>	x	20	8	20			7			<p style="font-size: 1.5em; font-weight: bold; text-decoration: underline;">Year 5</p> <p>Know division facts corresponding to tables up to 12 x 12 and be able to apply them.</p> <p>Use the relationship between multiplication and division.</p> <p>Extend chunking (subtraction/addition of multiples of the divisor, towards the dividend) method to include ThHTU by U, with an integer remainder.</p> <p>Dividing up to 10,000 by 10/100.</p> <p>Check with inverse operation. Use of calculator.</p> <p>Use the number line to find remainders and express the quotient as a fraction or decimal.</p> <p>17 ÷ 5 "What do I know? 17 is not a multiple of 5".</p>  
x	20	8										
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		<table border="1" style="margin-bottom: 10px;"> <tr><td>x</td><td>200</td><td>70</td><td>3</td></tr> <tr><td>3</td><td></td><td></td><td></td></tr> </table> <p>Followed by appropriate addition calculation. $273p \times 3 = 819p$ $= \text{£}8.19$</p> <table border="1" style="margin-bottom: 10px;"> <tr><td>x</td><td>4000</td><td>300</td><td>40</td><td>6</td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td></tr> </table> <p>$4346 \times 8 = 34768$</p> $\begin{array}{r} 32000 \\ 2400 \\ 320 \\ + 48 \\ \hline 34768 \end{array}$ $\begin{array}{r} 4346 \\ \times 8 \\ \hline 48 \text{ (} 8 \times 6 \text{)} \\ 320 \text{ (} 8 \times 40 \text{)} \\ 2400 \text{ (} 8 \times 300 \text{)} \\ \hline 32000 \text{ (} 8 \times 4000 \text{)} \\ \hline 34768 \end{array}$ <p>Decision making Children investigate statements and solve word problems using appropriate methods. Children investigate alternative methods such as compensation</p>	x	200	70	3	3				x	4000	300	40	6	8					<div style="background-color: #0000FF; color: white; padding: 5px; display: inline-block; margin-bottom: 10px;"> $3 \frac{2}{5}$ </div> <p>$3 \frac{2}{5} = 3.4$</p> <p>From knowledge of decimal/fraction equivalents or by converting $\frac{2}{5}$ into $\frac{4}{10}$</p> <p style="background-color: yellow;">Short division with 'bus stop' notation</p> <table border="1" style="font-size: small; margin-bottom: 10px;"> <tr><td>80</td><td>0</td><td>6</td><td>9</td><td>✓</td></tr> <tr><td>7</td><td>4</td><td>8</td><td>6</td><td>3</td></tr> <tr><td>80</td><td>0</td><td>3</td><td>4</td><td>✓</td></tr> <tr><td>17</td><td>5</td><td>7</td><td>4</td><td>8</td></tr> </table> <table border="1" style="font-size: small;"> <tr><td>60</td><td>0</td><td>9</td><td>6</td><td>7</td><td>✓</td></tr> <tr><td>7</td><td>8</td><td>7</td><td>4</td><td>3</td><td>4</td></tr> <tr><td>60</td><td>0</td><td>2</td><td>4</td><td>3</td><td>✓</td></tr> <tr><td>6</td><td>3</td><td>6</td><td>8</td><td>4</td><td>8</td></tr> <tr><td>40</td><td>0</td><td>4</td><td>7</td><td>6</td><td>✓</td></tr> <tr><td>2</td><td>1</td><td>9</td><td>4</td><td>4</td><td>4</td></tr> <tr><td>2</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>3</td><td>4</td><td>4</td><td>2</td><td>1</td></tr> <tr><td>4</td><td>7</td><td>2</td><td>1</td><td>1</td><td>1</td></tr> </table> <div style="border: 1px solid black; width: 40px; height: 40px; margin: 10px auto; border-radius: 50%;"></div> <p>"483 divided by 7. 4 hundreds cannot be shared equally between 7, so exchange the 100s for 40 tens. I now have 48 tens which shared equally between 7 is 6 with a remainder of 6 tens. Exchange the 6 tens for 60 units, we now have 63 units. 63 divided equally between 7 equals 9. The answer is 69."</p> <p>Use Diennes or place value equipment to model.</p> <p>Decision making</p> <p>(Word problems, e.g. 200 people attended a concert. $\frac{1}{5}$ of the people had complimentary tickets. The rest paid £7.50</p>	80	0	6	9	✓	7	4	8	6	3	80	0	3	4	✓	17	5	7	4	8	60	0	9	6	7	✓	7	8	7	4	3	4	60	0	2	4	3	✓	6	3	6	8	4	8	40	0	4	7	6	✓	2	1	9	4	4	4	2	1	0	1	1	1	1	3	4	4	2	1	4	7	2	1	1	1
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		<p>strategies and doubling and halving and discuss when these might be most appropriate and efficient.</p> <p>Examples:</p> <p>24x99 could be done using the grid method, but could also be calculated by x100 and subtracting 24x1.</p> <p>24 x25 could be done using the grid method, but could also be calculated by 24x100, halving to find x50 and halving again to find x 25. or using doubling and halving, 24 x25=12x50 =6 x100</p>	<p>each. How much money was collected from selling tickets?</p> <p>Money and measures, e.g. Which is longer: $\frac{3}{4}$ of an hour or 2500 seconds?</p> <p>Long division method Use what they know – multiplication facts and partial table.</p> $\begin{array}{r} 426 \div 12 \\ 12 \overline{) 426} \\ \underline{360} \\ 66 \\ \underline{60} \\ 6 \end{array}$ <p style="text-align: right; margin-right: 20px;">(30×12)</p> <p style="text-align: right; margin-right: 20px;">(5×12)</p> <p>$426 \div 12 = 35 \text{ r } 6$</p> <p>Work out $575 \div 25$, explaining your method.</p> <p>Peter says that, if you want to divide a number by 12, you can divide it by 4 then by 3. Is he right? Explain how you know. Work out $768 \div 12$ using Peter's method and using another method. Do you get the same answer?</p> <p>How many 35p packets of stickers can I buy with £5? Explain how you know.</p> <p>Coaches have 56 seats for passengers. How many coaches are needed to take 275 people on a trip?</p> <p>Complete this calculation: $943 \div 41 = 2 \square$</p>
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			Work out whether or not 29 is a factor of 811.
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