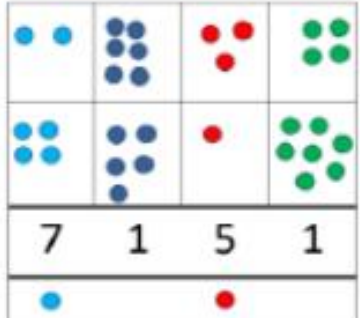
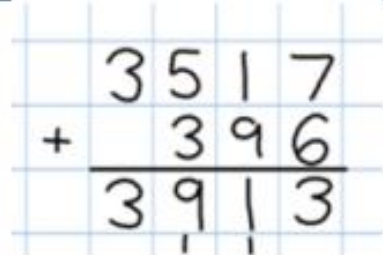
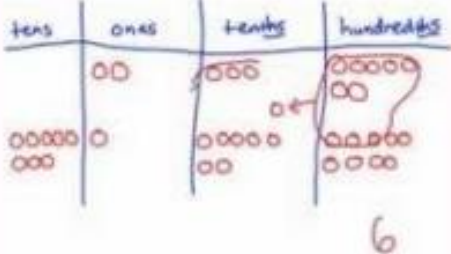




Maths Calculation Policy 2019

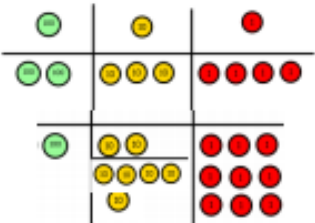
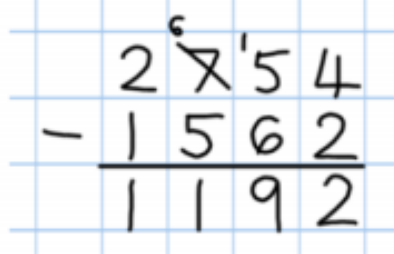
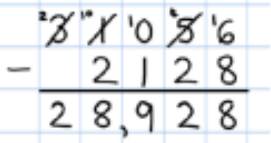
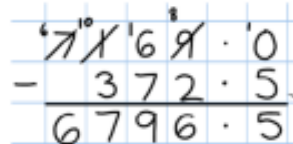
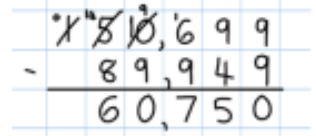
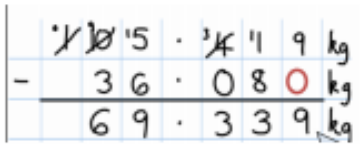
Year 5

Objective & Strategy	Concrete	Pictorial	Abstract																																																																														
<p>Y4—add numbers with up to 4 digits</p>	<p>Children continue to use dienes or pv counters to add, exchanging ten ones for a ten and ten tens for a hundred and ten hundreds for a thousand.</p> <table border="1" data-bbox="470 391 918 582"> <thead> <tr> <th>Hundreds</th> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Hundreds	Tens	Ones							 <p>Draw representations using pv grid.</p>	 <p>Continue from previous work to carry hundreds as well as tens.</p> <p>Relate to money and measures.</p>																																																																					
Hundreds	Tens	Ones																																																																															
<p>Y5—add numbers with more than 4 digits.</p> <p>Add decimals with 2 decimal places, including money.</p>	<p>As year 4</p> <table border="1" data-bbox="481 734 918 901"> <thead> <tr> <th>tens</th> <th>ones</th> <th>tenths</th> <th>hundredths</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Introduce decimal place value counters and model exchange for addition.</p>	tens	ones	tenths	hundredths					<p>2.37 + 81.79</p> 	<p>72.8</p> <p>+ 54.6</p> <p>127.4</p> <p>1 1</p> <table border="1" data-bbox="1601 805 1859 941"> <tbody> <tr> <td>£</td> <td>23</td> <td>·</td> <td>59</td> </tr> <tr> <td>+</td> <td>£</td> <td>7</td> <td>·</td> <td>55</td> </tr> <tr> <td>£</td> <td>31</td> <td>·</td> <td>14</td> </tr> </tbody> </table>	£	23	·	59	+	£	7	·	55	£	31	·	14																																																									
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<p>Y6—add several numbers of increasing complexity</p> <p>Including adding money, measure and decimals with different numbers of decimal points.</p>	<p>As Y5</p>	<p>As Y5</p>	<table border="1" data-bbox="1456 1021 1680 1204"> <tbody> <tr><td>8</td><td>1</td><td>0</td><td>5</td><td>9</td></tr> <tr><td></td><td>3</td><td>6</td><td>6</td><td>8</td></tr> <tr><td></td><td>1</td><td>5</td><td>3</td><td>0</td><td>1</td></tr> <tr><td>+</td><td>2</td><td>0</td><td>5</td><td>5</td><td>1</td></tr> <tr><td></td><td>1</td><td>2</td><td>0</td><td>5</td><td>7</td><td>9</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>Insert zeros for place holders.</p> <table border="1" data-bbox="1646 1236 1892 1420"> <tbody> <tr><td>2</td><td>3</td><td>·</td><td>3</td><td>6</td><td>1</td></tr> <tr><td></td><td>9</td><td>·</td><td>0</td><td>8</td><td>0</td></tr> <tr><td></td><td>5</td><td>9</td><td>·</td><td>7</td><td>7</td><td>0</td></tr> <tr><td>+</td><td>1</td><td>·</td><td>3</td><td>0</td><td>0</td></tr> <tr><td></td><td>9</td><td>3</td><td>·</td><td>5</td><td>1</td><td>1</td></tr> <tr><td></td><td>2</td><td></td><td></td><td>2</td><td></td><td></td></tr> </tbody> </table>	8	1	0	5	9		3	6	6	8		1	5	3	0	1	+	2	0	5	5	1		1	2	0	5	7	9											2	3	·	3	6	1		9	·	0	8	0		5	9	·	7	7	0	+	1	·	3	0	0		9	3	·	5	1	1		2			2		
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Y4-6

ADDITION +

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Objective & Strategy	Concrete	Pictorial	Abstract
Subtracting tens and ones Year 4 subtract with up to 4 digits. <i>Introduce decimal subtraction through context of money</i>	$234 - 179$  Model process of exchange using Numicon, base ten and then move to PV counters.	Children to draw pv counters and show their exchange—see Y3	 Use the phrase 'take and make' for exchange
Year 5- Subtract with at least 4 digits, including money and measures. <i>Subtract with decimal values, including mixtures of integers and decimals and aligning the decimal</i>	As Year 4	Children to draw pv counters and show their exchange—see Y3	 Use zeros for place-holders. 
Year 6—Subtract with increasingly large and more complex numbers and decimal values.			 

Y4-6

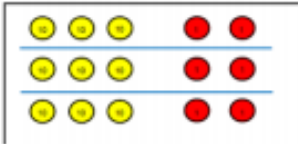


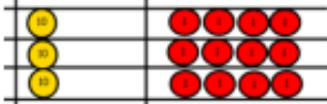
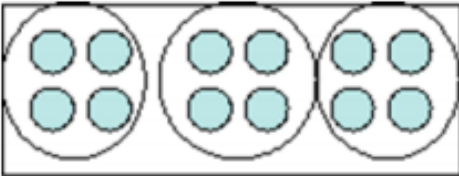
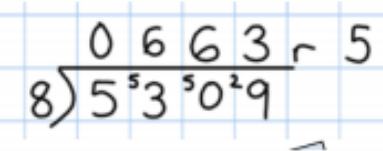
SUBTRACTION -

Activ
Go to !

Y5-6

MULTIPLICATION X

Objective & Strategy	Concrete	Pictorial	Abstract																																																												
Column Multiplication for 3 and 4 digits x 1 digit.	<div style="display: flex; align-items: flex-start;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 100px;"> <tr> <td style="background-color: #f08080;">Hundreds</td> <td style="background-color: #90ee90;">Tens</td> <td style="background-color: #6495ed;">Ones</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> <div style="margin-left: 10px;"> <p>It is important at this stage that they always multiply the ones first.</p> <p>Children can continue to be supported by place value counters at the stage of multiplication. This initially done where there is no regrouping. $321 \times 2 = 642$</p> </div> </div>	Hundreds	Tens	Ones													<table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <tr> <td>x</td> <td>300</td> <td>20</td> <td>7</td> </tr> <tr> <td>4</td> <td>1200</td> <td>80</td> <td>28</td> </tr> </table> <div style="text-align: right; margin-top: 10px;"> </div>	x	300	20	7	4	1200	80	28	<div style="text-align: right; margin-bottom: 20px;"> $\begin{array}{r} 327 \\ \times 4 \\ \hline 28 \\ 80 \\ 1200 \\ \hline 1308 \end{array}$ </div> <div style="text-align: right;"> <p>This will lead to a compact method.</p> </div> <div style="margin-top: 20px;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 100px;"> <tr> <td></td> <td>3</td> <td>2</td> <td>7</td> </tr> <tr> <td>x</td> <td></td> <td></td> <td>4</td> </tr> <tr> <td></td> <td>1</td> <td>3</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td>2</td> <td>8</td> </tr> </table> </div>		3	2	7	x			4		1	3	0			2	8																					
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Column multiplication	<p>Manipulatives may still be used with the corresponding long multiplication modelled alongside.</p>	<table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <tr> <td></td> <td>10</td> <td>8</td> </tr> <tr> <td>10</td> <td>100</td> <td>80</td> </tr> <tr> <td>3</td> <td>30</td> <td>24</td> </tr> </table> <div style="text-align: right; margin-top: 10px;"> </div> <p style="margin-top: 20px;">Continue to use bar modelling to support problem solving</p>		10	8	10	100	80	3	30	24	<table border="1" style="border-collapse: collapse; text-align: center; width: 100px;"> <tr> <td></td> <td>1</td> <td>8</td> </tr> <tr> <td>x</td> <td>1</td> <td>3</td> </tr> <tr> <td></td> <td>5</td> <td>4</td> </tr> <tr> <td></td> <td>2</td> <td></td> </tr> <tr> <td></td> <td>1</td> <td>8</td> </tr> <tr> <td></td> <td>2</td> <td>3</td> </tr> <tr> <td></td> <td>4</td> <td>4</td> </tr> </table> <div style="margin-top: 10px;"> <p>18 x 3 on the first row (8 x 3 = 24, carrying the 2 for 20, then 1 x 3)</p> <p>18 x 10 on the 2nd row. Show multiplying by 10 by putting zero in units first</p> </div> <div style="margin-top: 20px;"> <table border="1" style="border-collapse: collapse; text-align: center; width: 150px;"> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>x</td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td></td> <td>7</td> <td>4</td> <td>0</td> <td>4</td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td>1</td> <td>9</td> <td>7</td> <td>4</td> </tr> </table> <div style="margin-top: 5px;"> <p>(1234 x 6)</p> <p>(1234 x 10)</p> </div> </div>		1	8	x	1	3		5	4		2			1	8		2	3		4	4		1	2	3	4	x				6		7	4	0	4		1	2	3	4					0		1	9	7	4
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Objective & Strategy	Concrete	Pictorial	Abstract						
Divide at least 3 digit numbers by 1 digit. Short Division	<p>$96 \div 3$</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">Tens</td> <td style="text-align: center;">Units</td> </tr> <tr> <td></td> <td style="text-align: center;">3</td> <td style="text-align: center;">2</td> </tr> </table>  <p>Use place value counters to divide using the bus stop method alongside</p>  <p>$42 \div 3 =$</p> <p>Start with the biggest place value, we are sharing 40 into three groups. We can put 1 ten in each group and we have 1 ten left over.</p>  <p>We exchange this ten for ten ones and then share the ones equally among the groups.</p>  <p>We look how much in 1 group so the answer is 14.</p>		Tens	Units		3	2	<p>Students can continue to use drawn diagrams with dots or circles to help them divide numbers into equal groups.</p>  <p>Encourage them to move towards counting in multiples to divide more efficiently.</p>	<p>Begin with divisions that divide equally with no remainder.</p> $\begin{array}{r} 218 \\ 3 \overline{) 872} \end{array}$ <p>Move onto divisions with a remainder.</p> $\begin{array}{r} 86 \text{ r } 2 \\ 5 \overline{) 432} \end{array}$ <p>Finally move into decimal places to divide the total accurately.</p> $\begin{array}{r} 14.6 \\ 35 \overline{) 511.0} \end{array}$ 
	Tens	Units							
	3	2							

Y4-6

DIVISION