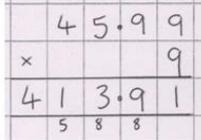
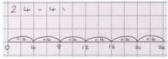
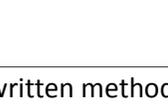


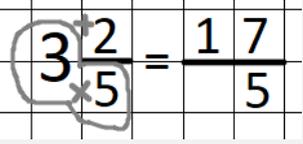
Year Five Autumn Term Arithmetic			Knowledge Organiser Vocabulary	Knowledge Organiser Visuals																																														
Week 1	National Curriculum Statements	<p><b>Addition</b>  <b>Teach for Y4:</b> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate  <b>Teach for Y5:</b> add whole numbers with more than 4 digits, including using formal written methods  <b>Teach for Y6:</b> use their knowledge of the order of operations to carry out calculations involving the 4 operations</p>	Addition Add Regroup	<table border="1"> <tr> <td rowspan="4">Y3</td> <td rowspan="4">Expanded addition</td> <td><math>422 + 125 =</math></td> <td rowspan="4">Partitioned and set out in columns.</td> <td></td> </tr> <tr> <td><math>400 + 20 + 2</math></td> <td></td> </tr> <tr> <td><math>+ 100 + 20 + 5</math></td> <td></td> </tr> <tr> <td><math>500 + 40 + 7</math></td> <td></td> </tr> <tr> <td colspan="2"></td> <td><math>= 547</math></td> <td colspan="2"></td> </tr> </table>	Y3	Expanded addition	$422 + 125 =$	Partitioned and set out in columns.		$400 + 20 + 2$		$+ 100 + 20 + 5$		$500 + 40 + 7$				$= 547$			<table border="1"> <tr> <td rowspan="3">Y4 Y5 Y6</td> <td rowspan="3">Column addition</td> <td><math>9874</math></td> <td rowspan="3">Set out in columns. Regrouping underneath the barrier.</td> <td><math>17.21</math></td> </tr> <tr> <td><math>+ 1294</math></td> <td><math>+ 4.31</math></td> </tr> <tr> <td><math>11168</math></td> <td><math>21.52</math></td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> <td><math>175.412 + 7.91</math></td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> <td><math>175.412</math></td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> <td><math>+ 7.910</math></td> </tr> <tr> <td colspan="2"></td> <td></td> <td></td> <td><math>183.312</math></td> </tr> </table>	Y4 Y5 Y6	Column addition	$9874$	Set out in columns. Regrouping underneath the barrier.	$17.21$	$+ 1294$	$+ 4.31$	$11168$	$21.52$					$175.412 + 7.91$					$175.412$					$+ 7.910$					$183.312$
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Week 2	National Curriculum Statements	<p><b>Subtraction</b>  <b>Teach for Y4:</b> add and subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate  <b>Teach for Y5:</b> subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)  <b>Teach for Y6:</b> use their knowledge of the order of operations to carry out calculations involving the 4 operations</p>	Subtraction Subtract Exchange	<table border="1"> <tr> <td rowspan="4">Y3</td> <td rowspan="4">Expanded subtraction</td> <td><math>827 - 356 =</math></td> <td rowspan="4">Partitioned and set out in columns. Regrouping as shown.</td> <td></td> </tr> <tr> <td><math>700</math></td> <td></td> </tr> <tr> <td><math>- 300 + 50 + 6</math></td> <td></td> </tr> <tr> <td><math>400 + 70 + 1</math></td> <td></td> </tr> <tr> <td colspan="2"></td> <td><math>= 471</math></td> <td colspan="2"></td> </tr> </table>	Y3	Expanded subtraction	$827 - 356 =$	Partitioned and set out in columns. Regrouping as shown.		$700$		$- 300 + 50 + 6$		$400 + 70 + 1$				$= 471$			<table border="1"> <tr> <td rowspan="3">Y4 Y5 Y6</td> <td rowspan="3">Column subtraction</td> <td><math>6925</math></td> <td rowspan="3">Set out in columns. Regrouping clear.</td> <td><math>827.353</math></td> </tr> <tr> <td><math>- 4619</math></td> <td><math>- 9.600</math></td> </tr> <tr> <td><math>2306</math></td> <td><math>817.753</math></td> </tr> </table>	Y4 Y5 Y6	Column subtraction	$6925$	Set out in columns. Regrouping clear.	$827.353$	$- 4619$	$- 9.600$	$2306$	$817.753$																				
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Week 3	National Curriculum Statements	<p><b>Equivalent Fractions</b></p> <p><b>Teach for Y4:</b> recognise and show, using diagrams, families of common equivalent fractions</p> <p><b>Teach for Y5:</b> identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</p> <p><b>Teach for Y6:</b> -</p>	<p>Equivalent Numerator</p> <p>Denominator</p> <p>Equivalent Arrows</p>																			
	Know Your Facts	<p><b>Call and Response Statements</b></p> <p>Equivalent means the ... <b>same</b></p> <p>The top number is the ... <b>numerator</b></p> <p>The bottom number is the ... <b>denominator</b></p> <p>Whatever I do to the numerator ... I do to the <b>denominator</b> (swap it around)</p>																				
Week 4	National Curriculum Statements	<p><b>Add and Subtract Fractions</b></p> <p><b>Teach for Y4:</b> add and subtract fractions with the same denominator</p> <p><b>Teach for Y5:</b> add and subtract fractions with the same denominator and denominators that are multiples of the same number</p> <p><b>Teach for Y6:</b> add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</p>	<p>Equivalent Numerator</p> <p>Denominator</p> <p>Equivalent Arrows</p> <p>Whole</p> <p>Common Denominator</p>																			
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Week 5	National Curriculum Statements	<p><b>Multiply and Divide by 10, 100 and 1000</b></p> <p><b>Teach for Y4:</b> find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</p> <p><b>Teach for Y5:</b> multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000</p> <p><b>Teach for Y6:</b> identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places</p>	<p>Multiply</p> <p>Divide</p> <p>Place Value</p> <p>Digits</p> <p>MLDR</p> <p>Multiply Left</p> <p>Divide Right</p>	<p><b>Multiplying and Dividing by 10, 100 and 1000</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>10 000</td> <td>1000</td> <td>100</td> <td>10</td> <td>1</td> <td>•</td> <td>1/10</td> <td>1/100</td> <td>1/1000</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td></td> <td></td> <td></td> </tr> </table> <p><b>Multiplying</b></p> <p>X 10    digits move LEFT 1 space</p> <p>X 100    digits move LEFT 2 spaces</p> <p>X 1000    digits move LEFT 3 spaces</p> <p>←</p> <p><b>Dividing</b></p> <p>÷ 10    digits move RIGHT 1 space</p> <p>÷ 100    digits move RIGHT 2 spaces</p> <p>÷ 1000    digits move RIGHT 3 spaces</p> <p>→</p>	10 000	1000	100	10	1	•	1/10	1/100	1/1000						•			
	10 000	1000	100	10	1	•	1/10	1/100	1/1000													
					•																	
Know Your Facts	<p><b>Call and Response Statements</b></p> <p>MLDR stands for ... <b>Multiply Left Divide Right</b></p> <p>When I multiply by a whole number it gets ... <b>bigger</b></p> <p>When I divide by a whole number it gets ... <b>smaller</b></p>																					

Week 6	National Curriculum Statements	<p><b>Multiplication</b>  <b>Teach for Y4:</b> multiply two-digit and three-digit numbers by a one-digit number using formal written layout  <b>Teach for Y5:</b> multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers  <b>Teach for Y6:</b> multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. multiply one-digit numbers with up to 2 decimal places by whole numbers</p>	Multiply Multiplication Regroup	<p>Y3 Y4</p> <p>Expanded multiplication</p>  <p>Partitioned first. Phrased as top number multiplied by bottom number.</p>	
	Know Your Facts	<p><b>Call and Response Statements Multiplication</b>            Anything multiplied by zero is ... <b>zero</b>            Anything multiplied by one ... <b>stays the same</b></p>		<p>Y5 Y6</p> <p>Short multiplication</p>  <p>Regrouping underneath the barrier.</p>  <p>Regrouping for first line above and second line below. Underneath the barrier is regrouping for the adding section.</p>	
Week 7	National Curriculum Statements	<p><b>Division</b>  <b>Teach for Y4:</b> -  <b>Teach for Y5:</b> divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context  <b>Teach for Y6:</b> divide numbers up to 4 digits by a two-digit number where appropriate, interpreting remainders according to the context</p>	Divide Division Exchange	<p>Y3</p> <p>Number line</p>  <p>Start at zero and count up in the second number until you reach the given number.</p>	
	Know Your Facts	<p><b>Call and Response Statements Division</b>            Anything divided by zero is ... <b>zero</b>            Anything divide by one ... <b>stays the same</b></p>		<p>Y4 Y5 Y6</p> <p>Short division</p>  <p>Exchanging clear.</p>    	
				<p>Y6</p> <p>Long division</p>  <p>Up to ten multiplied the divisor should be written out. Use additional space for any subtraction required.</p>	

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Week 8	National Curriculum Statements	<p><u>Mixed and Improper Fractions</u></p> <p>Teach for Y4: -</p> <p>Teach for Y5: recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements &gt; 1 as a mixed number [for example, <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>]</p> <p>Teach for Y6: -</p>	<p>Mixed Number</p> <p>Improper Fraction (top heavy fraction)</p> <p>Whole number</p> <p>Fraction</p> <p>Numerator</p> <p>Denominator</p> <p>Equivalent</p>		<p><math>\frac{21}{4}</math> How many 4s go into 21? 5</p> <p>That means there is 5 whole ones.</p> <p>5 How many are left over? 1</p> <p>We keep the denominator so the remainder becomes 1 over 4, one quarter.</p> <p><math>\frac{21}{4}</math> and <math>5\frac{1}{4}</math> are equivalent.</p>
Week 9		<p><u>Consolidation Week</u></p>			
Week 10		<p><u>Consolidation Week</u></p>			