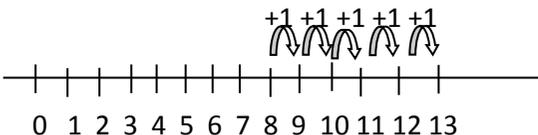
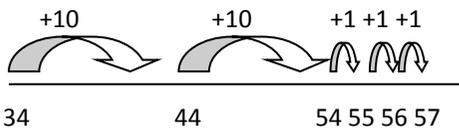
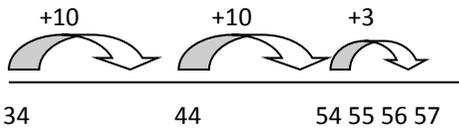
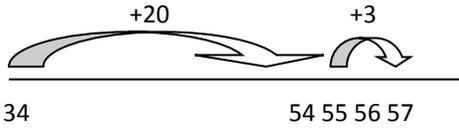


St Francis RC Primary School – Calculation Policy

Addition																																														
Year 1	Year 2	Year 3																																												
<p>Number lines (various selection of size) 100 square Counters Cubes Place the big number in your head Bridging</p> <p>Children to use drawings and practical equipment (100 square, counters, cubes, number lines, base 10 equipment) to calculate addition.</p> <p>Teacher modelling mental calculations by using resources, followed by children using number lines to count on.</p> <p><b>(Base 10)</b> <math>11 + 2 = 13</math></p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td> </tr> <tr style="background-color: #00aaff; height: 15px;"> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> <p><b>(Number line)</b> <math>8 + 5 = 13</math></p> 	1	2	3	4	5	6	7	8	9	10	11	12	13														<p>Children to continue using number lines and resources but with bigger numbers.</p> <p>Partition and recombine. <math>12 + 23 = (10 + 2) + (20 + 3)</math> <math>= 30 + 5 = 35</math></p> <p><b>Count on in tens and ones.</b> <math>34 + 23 = 57</math></p>  <p><b>Count using ones in one jump.</b> <math>34 + 23 = 57</math></p>  <p><b>Count in tens in one jump and ones in one jump.</b> <math>34 + 23 = 57</math></p>  <p>Use Base 10 equipment/ drawings of base 10 equipment, to record calculations. (eg. <math>34 + 23 = 57</math>)</p> 	<p><b>Empty number line</b></p> <p>Number line to count on from largest number irrespective of order of calculation. (number line)</p> <p>Transition from number line into vertical/horizontal method by adding the <b>least significant digits</b> first in preparation for carrying.</p> <p>Children will continue to use the base 10 equipment as a support but not to record this. TU+TU and HTU+TU</p> <p>a) vertical method</p> <table style="width: 100%;"> <tr> <td style="text-align: right;"><math>67</math></td> <td style="text-align: right;"><math>267</math></td> </tr> <tr> <td style="text-align: right;"><math>+ 24</math></td> <td style="text-align: right;"><math>+ 85</math></td> </tr> <tr> <td style="text-align: right;"><math>\hline 91</math></td> <td style="text-align: right;"><math>\hline 12 \text{ (7 + 5)}</math></td> </tr> <tr> <td style="text-align: right;"><math>80</math></td> <td style="text-align: right;"><math>140 \text{ (60 + 80)}</math></td> </tr> <tr> <td style="text-align: right;"><math>11</math></td> <td style="text-align: right;"><math>200 \text{ (200)}</math></td> </tr> <tr> <td></td> <td style="text-align: right;"><math>\hline 352</math></td> </tr> </table> <p>b) horizontal method</p> <table style="width: 100%;"> <tr> <td style="text-align: right;"><math>60 + 7</math></td> <td style="text-align: right;"><math>200 + 60 + 7</math></td> </tr> <tr> <td style="text-align: right;"><math>\hline 20 + 4</math></td> <td style="text-align: right;"><math>\hline 80 + 5</math></td> </tr> <tr> <td style="text-align: right;"><math>80 + 11 = 91</math></td> <td style="text-align: right;"><math>200 + 140 + 12 = 352</math></td> </tr> </table>	$67$	$267$	$+ 24$	$+ 85$	$\hline 91$	$\hline 12 \text{ (7 + 5)}$	$80$	$140 \text{ (60 + 80)}$	$11$	$200 \text{ (200)}$		$\hline 352$	$60 + 7$	$200 + 60 + 7$	$\hline 20 + 4$	$\hline 80 + 5$	$80 + 11 = 91$	$200 + 140 + 12 = 352$
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## St Francis RC Primary School – Calculation Policy

Addition		
Year 4	Year 5	Year 6
<p>Add HTU separately <math>312 + 245</math>  <math>300 + 200</math> <math>10 + 40</math> <math>2 + 5</math> Column Number lines            Children will continue with the expanded column method of addition. (For those that are able, extend to 'carrying' using the base 10 equipment to model how units transfer to tens etc.)            (Example)</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>HTU</p> <math display="block">\begin{array}{r} 625 \\ + 48 \\ \hline 673 \end{array}</math> </div> <div style="text-align: center;"> <p>H T U</p> </div> </div> <p>Use this method to add:            Several numbers with different digits,            Begin to add 2 or more 3 digit sums of money, with or without adjustment from pence to pounds,            Know that the decimal points should line up under each other when adding mixed amounts. E.g. £3.59 + 78p.            (example)</p> $\begin{array}{r} \pounds 3.59 \\ \pounds 0.78 \\ \hline \pounds 4.37 \\ 11 \end{array}$	<p>Column (standard)            Partition            Number lines</p> <p>Children should now use the carrying method and move away from the expanded method of addition.            (example)</p> <div style="display: flex; justify-content: space-around;"> <math display="block">\begin{array}{r} 587 \\ + 475 \\ \hline 1062 \\ 11 \end{array}</math> <math display="block">\begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ 111 \end{array}</math> </div> <p>Use this method to add:            Several numbers with different digits up to 4 digit,            Begin to add 2 or more decimal fractions with up to 3 digits and the same decimal places. Eg. <math>34.6 + 45.7</math>,            Know that the decimal points should line up under each other when adding mixed amounts            E.g. <math>3.2m + 280cm</math>.</p> <p><b>(N.B. Revert to expanded method if children experience difficulty)</b></p>	<p>Children should extend the carrying method to numbers with any number of digits.            (example)</p> $\begin{array}{r} 42 \\ 6432 \\ 786 \\ 3 \\ \hline 4681 \\ \hline 11944 \\ 121 \end{array}$ <p>Use this method to add:            Several numbers with different digits,            Begin to add two or more decimal fractions with up to four digits and either one, two or three decimal places,            Know that the decimal points should line up under each other when adding mixed amounts,            e.g. <math>41.78 + 201.5 + 0.789</math>.</p> <p><b>(N.B. Revert to expanded method if children experience difficulty)</b></p> <p>By the end of year 6, children should have range of calculation methods. They should not go onto the next stage if: they are not ready or not confident.</p>

