

**KEY STAGE 1**

Children in Years 1 and 2 will be given a really solid foundation in the basic building blocks of mental and written arithmetic. Through being taught place value, children will develop an understanding of how numbers work, so that they are confident with 2-digit numbers and beginning to read and say numbers above 100.

**Addition and Subtraction:** A focus on number bonds, first via practical hands-on experiences and subsequently using memorisation techniques, enables a good grounding in these crucial facts, and ensures that all children leave Year 2 knowing the pairs of numbers which make all the numbers up to 10 at least. Children will also have experienced and been taught pairs to 20. Children’s knowledge of number facts enables them to add several 1-digit numbers, and to add/subtract a 1-digit number to/from a 2-digit number. Another important conceptual tool is the ability to add/subtract 1 or 10, and to understand which digit changes and why. This understanding is extended to enable children to add and subtract multiples of 10 to and from any 2-digit number. The most important application of this knowledge is the ability to add or subtract any pair of 2-digit numbers by counting on or back in 10s and 1s. Children may extend this to adding by partitioning numbers into 10s and 1s.

**Multiplication and Division:** Children will be taught to count in 2s, 3s, 5s and 10s, and relate this skill to repeated addition. Children will meet and begin to learn the associated  $\times 2$ ,  $\times 3$ ,  $\times 5$  and  $\times 10$  tables. Engaging in a practical way with the concept of repeated addition and the use of arrays enables children to develop a preliminary understanding of multiplication, and asking them to consider how many groups of a given number make a total will introduce them to the idea of division. Children will also be taught to double and halve numbers, and will thus experience scaling up or down as a further aspect of multiplication and division.

**Fractions:** Fractions will be introduced as numbers and as operators, specifically in relation to halves, quarters and thirds.

**Year 1**

		Mental calculation	Written calculation
Y1 +		Number bonds ('story' of 5, 6, 7, 8, 9 and 10) Count on in 1s from a given 2-digit number Add two 1-digit numbers Add three 1-digit numbers, spotting doubles or pairs to 10 Count on in 10s from any given 2-digit number Add 10 to any given 2-digit number Use number facts to add 1-digit numbers to 2-digit numbers e.g. <i>Use 4 + 3 to work out 24 + 3, 34 + 3</i> Add by putting the larger number first	
Y1 -		Number bonds ('story' of 5, 6, 7, 8, 9 and 10) Count back in 1s from a given 2-digit number Subtract one 1-digit number from another Count back in 10s from any given 2-digit number Subtract 10 from any given 2-digit number Use number facts to subtract 1-digit numbers from 2-digit numbers e.g. <i>Use 7 - 2 to work out 27 - 2, 37 - 2</i>	
Y1 x		Begin to count in 2s, 5s and 10s Begin to say what three 5s are by counting in 5s, or what four 2s are by counting in 2s, etc. Double numbers to 10	
Y1 ÷		Begin to count in 2s, 5s and 10s Find half of even numbers to 12 and know it is hard to halve odd numbers Find half of even numbers by sharing	

Year 2		
	Mental calculation	Written calculation
Y2 +	<p>Number bonds – know all the pairs of numbers which make all the numbers to 12, and pairs with a total of 20</p> <p>Count on in 1s and 10s from any given 2-digit number</p> <p>Add two or three 1-digit numbers</p> <p>Add a 1-digit number to any 2-digit number using number facts, including bridging multiples of 10</p> <p>e.g. <math>45 + 4</math></p> <p>e.g. <math>38 + 7</math></p> <p>Add 10 and small multiples of 10 to any given 2-digit number</p> <p><b>Add any pair of 2-digit numbers</b></p>	
Y2 -	<p>Number bonds – know all the pairs of numbers which make all the numbers to 12</p> <p>Count back in 1s and 10s from any given 2-digit number</p> <p>Subtract a 1-digit number from any 2-digit number using number facts, including bridging multiples of 10</p> <p>e.g. <math>56 - 3</math></p> <p>e.g. <math>53 - 5</math></p> <p>Subtract 10 and small multiples of 10 from any given 2-digit number</p> <p>Subtract any pair of 2-digit numbers by counting back in 10s and 1s or by counting up</p>	
Y2 x	<p>Count in 2s, 5s and 10s</p> <p>Begin to count in 3s</p> <p>Begin to understand that multiplication is repeated addition and to use arrays</p> <p>e.g. <math>3 \times 4</math> is three rows of 4 dots</p> <p>Begin to learn the <math>\times 2</math>, <math>\times 3</math>, <math>\times 5</math> and <math>\times 10</math> tables, seeing these as ‘lots of’</p> <p>e.g. 5 lots of 2, 6 lots of 2, 7 lots of 2</p> <p>Double numbers up to 20</p> <p>Begin to double multiples of 5 to 100</p> <p>Begin to double 2-digit numbers less than 50 with 1s digits of 1, 2, 3, 4 or 5</p>	
Y2 ÷	<p>Count in 2s, 5s and 10s</p> <p>Begin to count in 3s</p> <p>Using fingers, say where a given number is in the 2s, 5s or 10s count</p> <p>e.g. 8 is the fourth number when I count in 2s</p> <p>Relate division to grouping</p> <p>e.g. How many groups of 5 in 15?</p> <p>Halve numbers to 20</p> <p>Begin to halve numbers to 40 and multiples of 10 to 100</p> <p>Find <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math> and <math>\frac{3}{4}</math> of a quantity of objects and of amounts (whole number answers)</p>	

**LOWER KEY STAGE 2**

In Lower Key Stage 2, children build on the concrete and conceptual understandings they have gained in Key Stage 1 to develop a real mathematical understanding of the four operations, in particular developing arithmetical competence in relation to larger numbers

**Addition and subtraction:** Children are taught to use place value and number facts to add and subtract numbers mentally and they will develop a range of strategies to enable them to discard the 'counting in 1s' or fingers-based methods of Key Stage 1. In particular, children will learn to add and subtract multiples and near multiples of 10, 100 and 1000, and will become fluent in complementary addition as an accurate means of achieving fast and accurate answers to 3-digit subtractions. Standard written methods for adding larger numbers are taught, learned and consolidated, and written column subtraction is also introduced.

**Multiplication and division:** This key stage is also the period during which all the multiplication and division facts are thoroughly memorised, including all facts up to  $12 \times 12$ . Efficient written methods for multiplying or dividing a 2-digit or 3-digit number by a 1-digit number are taught, as are mental strategies for multiplication or division with large but straight forward numbers, e.g. when dividing by 5 or multiplying by 20.

**Fractions and decimals:** Children will develop their understanding of fractions, learning to reduce a fraction to its simplest form, as well as finding non-unit fractions of amounts and quantities. The concept of a decimal number is introduced and children consolidate a firm understanding of 1-place decimals, multiplying and dividing whole numbers by 10 and 100.

**Year 3**

	<b>Mental calculation</b>	<b>Written calculation</b>
Y3 +	<p>Know pairs with each total to 20 e.g. <math>2 + 6 = 8</math>, <math>12 + 6 = 18</math>, <math>7 + 8 = 15</math></p> <p>Know pairs of multiples of 10 with a total of 100</p> <p>Add any two 2-digit numbers by counting on in 10s and 1s or by using partitioning</p> <p>Add multiples and near multiples of 10 and 100</p> <p>Perform place-value additions without a struggle e.g. <math>300 + 8 + 50 = 358</math></p> <p>Use place value and number facts to add a 1-digit or 2-digit number to a 3-digit number e.g. <math>104 + 56</math> is 160 since <math>104 + 50 = 154</math> and <math>6 + 4 = 10</math> <math>676 + 8</math> is 684 since <math>8 = 4 + 4</math> and <math>76 + 4 + 4 = 84</math></p> <p>Add simple pairs of 3-digit numbers where the tens boundary is not crossed e.g. <math>320 + 450</math>, <math>410 + 370</math></p> <p>Begin to add amounts of money using partitioning</p>	<p>Use expanded column addition to add two or three 3-digit numbers or three 2-digit numbers</p> <p>Begin to use compact column addition to add numbers with 3 digits</p> <p>Begin to add like fractions e.g. <math>\frac{3}{8} + \frac{1}{8} + \frac{1}{8}</math></p> <p>Recognise fractions that add to 1 e.g. <math>\frac{1}{4} + \frac{3}{4}</math> e.g. <math>\frac{3}{5} + \frac{2}{5}</math></p>
Y3 -	<p>Know pairs with each total to 20 e.g. <math>8 - 2 = 6</math> e.g. <math>18 - 6 = 12</math> e.g. <math>15 - 8 = 7</math></p> <p>Subtract any two 2-digit numbers</p> <p>Perform place-value subtractions where the tens boundary is not crossed e.g. <math>536 - 30 = 506</math></p> <p>Subtract 2-digit numbers from numbers <math>&gt; 100</math> by counting up e.g. <math>143 - 76</math> is done by starting at 76. Then add 4 (80), then add 20 (100), then add 43, making the difference a total of 67</p> <p>Subtract multiples and near multiples of 10 and 100</p> <p>Subtract, when appropriate, by counting back or taking away, using place value and number facts</p> <p>Find change from £1, £5 and £10</p>	<p>Use counting up as an informal written strategy for subtracting pairs of 3-digit numbers e.g. <math>423 - 357</math></p> <p>Begin to subtract like fractions e.g. <math>\frac{7}{8} - \frac{3}{8}</math></p>

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<p>Y3 x</p>	<p>Know by heart all the multiplication facts in the <math>\times 2</math>, <math>\times 3</math>, <math>\times 4</math>, <math>\times 5</math>, <math>\times 8</math> and <math>\times 10</math> tables            Multiply whole numbers by 10 and 100            Recognise that multiplication is commutative            Use place value and number facts in mental multiplication  <i>e.g. <math>30 \times 5</math> is <math>15 \times 10</math></i>            Partition teen numbers to multiply by a 1-digit number  <i>e.g. <math>3 \times 14</math> as <math>3 \times 10</math> and <math>3 \times 4</math></i>            Double numbers up to 50</p>	<p>Use partitioning (grid multiplication) to multiply 2-digit and 3-digit numbers by straightforward 1-digit numbers</p>
<p>Y3 ÷</p>	<p>Know by heart all the division facts derived from the <math>\times 2</math>, <math>\times 3</math>, <math>\times 4</math>, <math>\times 5</math>, <math>\times 8</math> and <math>\times 10</math> tables            Divide whole numbers by 10 or 100 to give whole number answers            Recognise that division is not commutative            Use place value and number facts in mental division  <i>e.g. <math>84 \div 4</math> is half of 42</i>            Divide larger numbers mentally by subtracting the 10th multiple as appropriate, including those with remainders  <i>e.g. <math>57 \div 3</math> is <math>10 + 9</math> as <math>10 \times 3 = 30</math> and <math>9 \times 3 = 27</math></i>            Halve even numbers to 100, halve odd numbers to 20</p>	<p>Perform divisions just above the 10th multiple using horizontal or vertical jottings and understand how to give a remainder as a whole number  <b>Find unit fractions of quantities and begin to find non-unit fractions of quantities</b></p>

Year 4		
	Mental calculation	Written calculation
Y4 +	<p>Add any two 2-digit numbers by partitioning or counting on Know by heart/quickly derive number bonds to 100 and to £1 Add to the next 100, £1 and whole number e.g. <math>234 + 66 = 300</math> e.g. <math>3.4 + 0.6 = 4</math> Perform place-value additions e.g. <math>300 + 8 + 50 + 4000 = 4358</math> Add multiples and near multiples of 10, 100 and 1000 Add £1, 10p, 1p to amounts of money Use place value and number facts to add 1-, 2-, 3- and 4-digit numbers where a mental calculation is appropriate e.g. <math>4004 + 156</math> by knowing that <math>6 + 4 = 10</math> and that <math>4004 + 150 = 4154</math> so the total is 4160</p>	<p>Column addition for 3-digit and 4-digit numbers e.g.</p> $\begin{array}{r} 5347 \\ 2286 \\ +1495 \\ \hline 9128 \end{array}$ <p>Add like fractions e.g. <math>\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}</math> Be confident with fractions that add to 1 and fraction complements to 1 e.g. <math>\frac{2}{3} + \frac{1}{3} = 1</math></p>
Y4 -	<p>Subtract any two 2-digit numbers Know by heart/quickly derive number bonds to 100 Perform place-value subtractions where the hundred and tens boundary is not crossed e.g. <math>4736 - 706 = 4030</math> Subtract multiples and near multiples of 10, 100, 1000, £1 and 10p Subtract multiples of 0.1 Subtract by counting up e.g. <math>503 - 368</math> is done by adding <math>368 + 2 + 30 + 100 + 3</math> (so we added 135) Subtract, when appropriate, by counting back or taking away, using place value and number facts Subtract £1, 10p, 1p from amounts of money Find change from £10, £20 and £50</p>	<p>Use expanded column subtraction for 3- and 4-digit numbers Use complementary addition to subtract amounts of money, and for subtractions where the larger number is a near multiple of 1000 or 100 e.g. <math>2002 - 1865</math> Subtract like fractions e.g. <math>\frac{4}{5} - \frac{3}{5} = \frac{1}{5}</math> Use fractions that add to 1 to find fraction complements to 1 e.g. <math>1 - \frac{2}{3} = \frac{1}{3}</math></p>

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<p>Y4 x</p>	<p>Know by heart all the multiplication facts up to <math>12 \times 12</math>            Recognise factors up to 12 of 2-digit numbers            Multiply whole numbers and 1-place decimals by 10, 100, 1000            Multiply multiples of 10, 100 and 1000 by 1-digit numbers                e.g. <math>300 \times 6</math>                e.g. <math>4000 \times 8</math>            Use understanding of place value and number facts in mental multiplication                e.g. <math>36 \times 5</math> is half of <math>36 \times 10</math>                e.g. <math>50 \times 60 = 3000</math>            Partition 2-digit numbers to multiply by a 1-digit number mentally                e.g. <math>4 \times 24</math> as <math>4 \times 20</math> and <math>4 \times 4</math>            Multiply near multiples by rounding                e.g. <math>33 \times 19</math> as <math>(33 \times 20) - 33</math>            Find doubles to double 100 and beyond using partitioning            Begin to double amounts of money e.g. <math>\pounds 35.60</math> doubled is <math>\pounds 71.20</math></p>	<p>Use a vertical written method to multiply a 1-digit number by a 3-digit number (ladder method)            Use an efficient written method to multiply a 2-digit number by a number between 10 and 20 by partitioning (grid method)</p>
<p>Y4 ÷</p>	<p>Know by heart all the division facts up to <math>144 \div 12</math>            Divide whole numbers by 10, 100, to give whole number answers or answers with 1 decimal place            Divide multiples of 100 by 1-digit numbers using division facts                e.g. <math>3200 \div 8 = 400</math>            Use place value and number facts in mental division                e.g. <math>245 \div 20</math> is half of <math>245 \div 10</math>            Divide larger numbers mentally by subtracting the 10th or 20th multiple as appropriate                e.g. <math>156 \div 6</math> is <math>20 + 6</math> as <math>20 \times 6 = 120</math> and                <math>6 \times 6 = 36</math>            Find halves of even numbers to 200 and beyond using partitioning            Begin to halve amounts of money                e.g. half of <math>\pounds 52.40</math> is <math>\pounds 26.20</math></p>	<p>Use a written method to divide a 2-digit or a 3-digit number by a 1-digit number            Give remainders as whole numbers            Begin to reduce fractions to their simplest forms            Find unit and non-unit fractions of larger amounts</p>

**UPPER KEY STAGE 2**

In Upper Key Stage 2, children move on from dealing mainly with whole numbers to performing arithmetic operations with both decimals and fractions

**Addition and subtraction:** Children will consolidate their use of written procedures in adding and subtracting whole numbers with up to 6 digits and also decimal numbers with up to 2 decimal places. Mental strategies for adding and subtracting increasingly large numbers will also be taught. These will draw upon children’s robust understanding of place value and knowledge of number facts. Negative numbers will be added and subtracted.

**Multiplication and division:** Efficient and flexible strategies for mental multiplication and division are taught and practised, so that children can perform appropriate calculations even when the numbers are large, such as  $40\,000 \times 6$  or  $40\,000 \div 8$ . In addition, it is in Years 5 and 6 that children extend their knowledge and confidence in using written algorithms for multiplication and division.

**Fractions, decimals, percentages and ratio:** Fractions and decimals are also added, subtracted, divided and multiplied, within the bounds of children’s understanding of these more complicated numbers. Children will also calculate simple percentages and ratios.

**Year 5**

	<b>Mental calculation</b>	<b>Written calculation</b>
Y5 +	<p>Know number bonds to 1 and to the next whole number</p> <p>Add to the next 10 from a decimal number e.g. <math>13.6 + 6.4 = 20</math></p> <p>Add numbers with 2 significant digits only, using mental strategies e.g. <math>3.4 + 4.8</math> e.g. <math>23\,000 + 47\,000</math></p> <p>Add 1- or 2-digit multiples of 10, 100, 1000, 10 000 and 100 000 e.g. <math>8000 + 7000</math> e.g. <math>600\,000 + 700\,000</math></p> <p>Add near multiples of 10, 100, 1000, 10 000 and 100 000 to other numbers e.g. <math>82\,472 + 30\,004</math></p> <p>Add decimal numbers which are near multiples of 1 or 10, including money e.g. <math>6.34 + 1.99</math> e.g. <math>\pounds 34.59 + \pounds 19.95</math></p> <p>Use place value and number facts to add two or more numbers, including money and decimals e.g. <math>3 + 8 + 6 + 4 + 7</math> e.g. <math>0.6 + 0.7 + 0.4</math> e.g. <math>2056 + 44</math></p>	<p>Use column addition to add two or three whole numbers with up to 5 digits</p> <p>Use column addition to add any pair of 2-place decimal numbers, including amounts of money</p> <p>Begin to add related fractions using equivalences e.g. <math>\frac{1}{2} + \frac{1}{6} = \frac{3}{6} + \frac{1}{6}</math></p> <p>Choose the most efficient method in any given situation.</p>

<p>Y5 -</p>	<p>Subtract numbers with 2 significant digits only, using mental strategies                      e.g. <math>6.2 - 4.5</math>                      e.g. <math>72\ 000 - 47\ 000</math>                      Subtract 1- or 2-digit multiples of 10, 100, 1000, 10 000 and 100 000                      e.g. <math>8000 - 3000</math>                      e.g. <math>60\ 000 - 200\ 000</math>                      Subtract 1- or 2-digit near multiples of 10, 100, 1000, 10 000 and 100 000 from other numbers                      e.g. <math>82\ 472 - 30\ 004</math>                      Subtract decimal numbers which are near multiples of 1 or 10, including money                      e.g. <math>6.34 - 1.99</math>                      e.g. <math>£34.59 - £19.95</math>                      Use counting up subtraction, with knowledge of number bonds to 10, 100 or £1, as a strategy to perform mental subtraction                      e.g. <math>£10 - £3.45</math>                      e.g. <math>1000 - 782</math>                      Recognise fraction complements to 1 and to the next whole number                      e.g. <math>1\frac{2}{5} + \frac{3}{5} = 2</math></p>	<p>Use compact or expanded column subtraction to subtract numbers with up to 5 digits                      Use complementary addition for subtractions where the larger number is a multiple or near multiple of 1000                      Use complementary addition for subtractions of decimal numbers with up to 2 places, including amounts of money                      Begin to subtract related fractions using equivalences                      e.g. <math>\frac{1}{2} - \frac{1}{6} = \frac{2}{6}</math>                      Choose the most efficient method in any given situation</p>
<p>Y5 x</p>	<p>Know by heart all the multiplication facts up to <math>12 \times 12</math>                      Multiply whole numbers and 1- and 2-place decimals by 10, 100, 1000, 10 000                      Use knowledge of factors and multiples in multiplication                      e.g. <math>43 \times 6</math> is double <math>43 \times 3</math>                      e.g. <math>28 \times 50</math> is <math>\frac{1}{2}</math> of <math>28 \times 100 = 1400</math>                      Use knowledge of place value and rounding in mental multiplication                      e.g. <math>67 \times 199</math> as <math>67 \times 200 - 67</math>                      Use doubling and halving as a strategy in mental multiplication                      e.g. <math>58 \times 5</math> is half of <math>58 \times 10</math>                      e.g. <math>34 \times 4</math> is 34 doubled twice                      Partition 2-digit numbers, including decimals, to multiply by a 1-digit number mentally                      e.g. <math>6 \times 27</math> as <math>6 \times 20</math> (120) plus <math>6 \times 7</math> (42)                      e.g. <math>6.3 \times 7</math> as <math>6 \times 7</math> (42) plus <math>0.3 \times 7</math> (2.1)                      Double amounts of money by partitioning                      e.g. <math>£37.45</math> doubled is <math>£37</math> doubled (£74) plus 45p doubled (90p) giving a total of £74.90</p>	<p>Use short multiplication to multiply a 1-digit number by a number with up to 4 digits                      Use long multiplication to multiply 3-digit and 4-digit numbers by a 2-digit number                      Choose the most efficient method in any given situation                      Find simple percentages of amounts                      e.g. 10%, 5%, 20%, 15% and 50%                      Begin to multiply fractions and mixed numbers by whole numbers <math>\leq 10</math>                      e.g. <math>4 \times \frac{2}{3} = \frac{8}{3} = 2\frac{2}{3}</math></p>

<p>Y5 ÷</p>	<p>Know by heart all the division facts up to <math>144 \div 12</math></p> <p>Divide whole numbers by 10, 100, 1000, 10 000 to give whole number answers or answers with 1, 2 or 3 decimal places</p> <p>Use doubling and halving as mental division strategies e.g. <math>34 \div 5</math> is <math>(34 \div 10) \times 2</math></p> <p>Use knowledge of multiples and factors, as well as tests for divisibility, in mental division e.g. <math>246 \div 6</math> is <math>123 \div 3</math> e.g. <i>We know that 525 divides by 25 and by 3</i></p> <p>Halve amounts of money by partitioning e.g. <math>\frac{1}{2}</math> of <math>\pounds 75.40 = \frac{1}{2}</math> of <math>\pounds 75</math> (<math>\pounds 37.50</math>) plus half of 40p (20p) which is <math>\pounds 37.70</math></p> <p>Divide larger numbers mentally by subtracting the 10th or 100th multiple as appropriate e.g. <math>96 \div 6</math> is <math>10 + 6</math>, as <math>10 \times 6 = 60</math> and <math>6 \times 6 = 36</math> e.g. <math>312 \div 3</math> is <math>100 + 4</math> as <math>100 \times 3 = 300</math> and <math>4 \times 3 = 12</math></p> <p>Know tests for divisibility by 2, 3, 4, 5, 6, 9 and 25</p> <p>Know square numbers and cube numbers</p> <p>Reduce fractions to their simplest form</p>	<p>Use short division to divide a number with up to 4 digits by a number <math>\leq 12</math></p> <p>Give remainders as whole numbers or as fractions</p> <p>Find non-unit fractions of large amounts</p> <p>Turn improper fractions into mixed numbers and vice versa</p> <p>Choose the most efficient method in any given situation</p>
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Year 6		
	Mental calculation	Written calculation
Y6 +	<p>Know by heart number bonds to 100 and use these to derive related facts e.g. <math>3.46 + 0.54</math></p> <p>Derive, quickly and without difficulty, number bonds to 1000</p> <p>Add small and large whole numbers where the use of place value or number facts makes the calculation straightforward mentally e.g. <math>34\ 000 + 8000</math></p> <p>Add multiples of powers of 10 and near multiples of the same e.g. <math>6345 + 199</math></p> <p>Add negative numbers in a context such as temperature where the numbers make sense</p> <p>Add two 1-place decimal numbers or two 2-place decimal numbers less than 1 e.g. <math>4.5 + 6.3</math> e.g. <math>0.74 + 0.33</math></p> <p>Add positive numbers to negative numbers e.g. <i>Calculate a rise in temperature or continue a sequence beginning with a negative number</i></p>	<p>Use column addition to add numbers with up to 5 digits</p> <p>Use column addition to add decimal numbers with up to 3 decimal places</p> <p>Add mixed numbers and fractions with different denominators</p>
Y6 -	<p>Use number bonds to 100 to perform mental subtraction of any pair of integers by complementary addition e.g. <math>1000 - 654</math> as <math>46 + 300</math> in our heads</p> <p>Use number bonds to 1 and 10 to perform mental subtraction of any pair of 1-place or 2-place decimal numbers using complementary addition and including money e.g. <math>10 - 3.65</math> as <math>0.35 + 6</math> e.g. <math>£50 - £34.29</math> as <math>71p + £15</math></p> <p>Use number facts and place value to perform mental subtraction of large numbers or decimal numbers with up to 2 places e.g. <math>467\ 900 - 3005</math> e.g. <math>4.63 - 1.02</math></p> <p>Subtract multiples of powers of 10 and near multiples of the same</p> <p>Subtract negative numbers in a context such as temperature</p>	<p>Use column subtraction to subtract numbers with up to 6 digits</p> <p>Use complementary addition for subtractions where the larger number is a multiple or near multiple of 1000 or 10 000</p> <p>Use complementary addition for subtractions of decimal numbers with up to 3 places, including money</p> <p>Subtract mixed numbers and fractions with different denominators</p>

Copley Junior School – Maths Calculation Policy

<p>Y6 x</p>	<p>Know by heart all the multiplication facts up to <math>12 \times 12</math>            Multiply whole numbers and decimals with up to 3 places by 10, 100 or 1000            e.g. <math>234 \times 1000 = 234\ 000</math>            e.g. <math>0.23 \times 1000 = 230</math>            Identify common factors, common multiples and prime numbers and use factors in mental multiplication            e.g. <math>326 \times 6</math> is <math>652 \times 3</math> which is 1956            Use place value and number facts in mental multiplication            e.g. <math>4000 \times 6 = 24\ 000</math>            e.g. <math>0.03 \times 6 = 0.18</math>            Use doubling and halving as mental multiplication strategies, including to multiply by 2, 4, 8, 5, 20, 50 and 25            e.g. <math>28 \times 25</math> is a quarter of <math>28 \times 100 = 700</math>            Use rounding in mental multiplication            e.g. <math>34 \times 19</math> as <math>(34 \times 20) - 34</math>            Multiply 1- and 2-place decimals by numbers up to and including 10 using place value and partitioning            e.g. <math>3.6 \times 4</math> is <math>12 + 2.4</math>            e.g. <math>2.53 \times 3</math> is <math>6 + 1.5 + 0.09</math>            Double decimal numbers with up to 2 places using partitioning            e.g. <math>36.73</math> doubled is double 36 (72) plus double 0.73 (1.46)</p>	<p>Use short multiplication to multiply a 1-digit number by a number with up to 4 digits            Use long multiplication to multiply a 2-digit number by a number with up to 4 digits            Use short multiplication to multiply a 1-digit number by a number with 1 or 2 decimal places, including amounts of money            Multiply fractions and mixed numbers by whole numbers            Multiply fractions by proper fractions            Use percentages for comparison and calculate simple percentages</p>
<p>Y6 ÷</p>	<p>Know by heart all the division facts up to <math>144 \div 12</math>            Divide whole numbers by powers of 10 to give whole number answers or answers with up to 3 decimal places            Identify common factors, common multiples and primes numbers and use factors in mental division            e.g. <math>438 \div 6</math> is <math>219 \div 3</math> which is 73            Use tests for divisibility to aid mental calculation            Use doubling and halving as mental division strategies, for example to divide by 2, 4, 8, 5, 20 and 25            e.g. <math>628 \div 8</math> is halved three times: 314, 157, 78.5            Divide 1- and 2-place decimals by numbers up to and including 10 using place value            e.g. <math>2.4 \div 6 = 0.4</math>            e.g. <math>0.65 \div 5 = 0.13</math>            e.g. <math>\pounds 6.33 \div 3 = \pounds 2.11</math>            Halve decimal numbers with up to 2 places using partitioning            e.g. Half of 36.86 is half of 36 (18) plus half of 0.86 (0.43)            Know and use equivalence between simple fractions, decimals and percentages, including in different contexts            Recognise a given ratio and reduce a given ratio to its lowest terms</p>	<p>Use short division to divide a number with up to 4 digits by a 1-digit or a 2-digit number            Use long division to divide 3-digit and 4-digit numbers by straightforward 2-digit numbers            Give remainders as whole numbers or as fractions or as decimals            Divide a 1-place or a 2-place decimal number by a number <math>\leq 12</math> using multiples of the divisors            Divide proper fractions by whole numbers</p>