



Hazlemere Church of England School

## Written Calculation Policy

At Hazlemere Church of England we embrace the Mastery approach to teaching mathematics. Our teachers will ensure that mathematical skills are taught every day following the Herts for Learning Essential Maths mastery approach programme.

This policy sets out the approaches for written calculations and operations across KS1 and KS2. Whilst Year 1 and EYFS are introduced to calculations there is no requirement for them to use a written method, formal or informal. As well as developing children's written methods in maths, mental maths and the learning of different strategies is paramount. This document maps the Herts for Learning (HfL) ESSENTIAL maths pathway to the required written formal calculation methods as outlined in the National Curriculum (2013) Mathematics Appendix 1: Examples of formal written methods for addition, subtraction, multiplication and division.

This policy has been adapted from the HfL ESSENTIAL maths Written Calculation Progression to meet the needs of the children at Hazlemere Church of England School. Teachers are to refer to the full document as well as long term planning to see where each method is taught.

Through the teaching of mastery in maths children will approach calculations in many different ways linking the key concrete experiences with pictorial and abstract representations (written symbolic and spoken). This supports pupils to move with confidence and deep conceptual understanding through each strand of calculation.

# Year 2

## Addition

### NC Statement:

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- a two-digit number and ones
- a two-digit number and tens
- two, two-digit numbers

*Expanded written method with no regrouping (2-digit numbers)*

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 40 \quad 3 \\ + 30 \quad 5 \\ \hline 70 \quad 8 \end{array}$
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; display: inline-block;"> <math>43 + 35 = 78</math> </div>		

*Expanded written method with regrouping of ones (2-digit numbers)*

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 50 + 7 \\ + 20 + 5 \\ \hline 80 + 12 \\ \hline 90 + 2 \\ \hline 92 \end{array}$
<div style="border: 1px solid black; border-radius: 10px; padding: 5px; display: inline-block;"> <math>57 + 25 = 92</math> </div>		

The sum of ... ones and ... ones is ... ones.  
 The sum of ... tens and ... tens is ... tens.  
 So, ... + ... is equal to ... tens and ... ones, which is ...

The sum of ... ones and ... ones is ... ones.  
 This is regrouped into ... ten and ... ones.  
 The sum of ... tens and ... tens is ... tens.  
 So, ... + ... is equal to ... tens and ... ones, which is ...

# Subtraction

## NC Statement:

add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- a two-digit number and ones
- a two-digit number and tens
- two, two-digit numbers.

Expanded written subtraction, a 2-digit number from a 2-digit number with no regrouping

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 80 + 7 \\ - 30 + 4 \\ \hline 50 + 3 \end{array}$ <div style="border: 1px solid green; border-radius: 10px; padding: 5px; text-align: center; background-color: #e0f0e0;"> <math>87 - 34 = 53</math> </div>

Expanded written subtraction, a 2-digit number from a 2-digit number with regrouping

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 60 \quad 13 \\ 70 + 3 \\ - 40 + 6 \\ \hline 20 + 7 \end{array}$ <div style="border: 1px solid green; border-radius: 10px; padding: 5px; text-align: center; background-color: #e0f0e0;"> <math>73 - 46 = 27</math> </div>

... ones take away ... ones leaves ... ones.  
 ... tens take away ... tens leaves ... tens.  
 So, ... - ... is equal to ... tens and ... ones, which is ... .

I can see that there aren't enough ones for me to take away ... ones without regrouping.  
 Regroup one ten into ten ones.  
 There are now ... tens and ... ones.  
 ... ones take away ... ones leaves ... ones.  
 ... tens take away ... tens leaves ... tens.  
 So, ... - ... is equal to ... tens and ... ones, which is ... .

# Year 3

## Addition

### NC Statement:

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

*Formal written addition with no regrouping (up to three-digit numbers)*

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 142 \\ + 334 \\ \hline 476 \end{array}$ <p style="text-align: center; background-color: #fce4ec; padding: 5px;"><math>142 + 334 = 476</math></p>

*Formal written addition with regrouping of ones (up to three-digit numbers)*

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 247 \\ + 135 \\ \hline 382 \end{array}$ <p style="text-align: center; background-color: #fce4ec; padding: 5px;"><math>247 + 135 = 382</math></p>

*Formal written addition with regrouping tens only (up to three-digit numbers)*

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 276 \\ + 50 \\ \hline 326 \end{array}$ <p style="text-align: center; background-color: #fce4ec; padding: 5px;"><math>276 + 50 = 326</math></p>

Formal written addition with regrouping tens and ones (up to three-digit numbers)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 276 \\ + 56 \\ \hline 332 \end{array}$
		$276 + 56 = 332$

The sum of ... ones and ... ones is ... ones.  
 The sum of ... tens and ... tens is ...tens.  
 The sum of ... hundreds and ... hundreds is ... hundreds.  
 So, ... + ... is equal to ... hundreds, ... tens and ... ones,  
 which is ....

## Subtraction

**NC Statement:**

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.

Formal written subtraction with no regrouping (up to three-digit numbers)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 345 \\ - 124 \\ \hline 221 \end{array}$
		$345 - 124 = 221$

Formal written subtraction - regrouping tens into ones only (up to three-digit numbers)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} \overset{7}{\cancel{8}} \overset{10}{0} \\ - 24 \\ \hline 56 \end{array}$
$80 - 24 = 56$		

Formal written subtraction - regrouping hundreds into tens only (up to three-digit numbers)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} \overset{2}{\cancel{3}} \overset{12}{2} \overset{3}{3} \\ - 141 \\ \hline 182 \end{array}$
$323 - 141 = 182$		

Formal written subtraction - regrouping hundreds and tens (up to three-digit numbers)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} \overset{3}{\cancel{4}} \overset{10}{0} \overset{14}{4} \\ - 226 \\ \hline 178 \end{array}$
$404 - 226 = 178$		

... ones take away ... ones leaves ... ones.  
 I can see that there aren't enough tens for me to take away ... tens without regrouping.  
 Regroup one hundred into ten tens.  
 There are now ... hundreds and ... tens.  
 ... tens take away ... tens leaves ... tens.  
 ... hundreds take away ... hundreds leaves ... hundreds  
 So, ... - ... is equal to ... hundreds, ... tens and ... ones, which is ...

# Multiplication

## NC Statement:

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

### Introducing short multiplication with no regrouping

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 12 \\ \times 3 \\ \hline 36 \end{array}$ <p style="text-align: center; background-color: #f9cb9c; padding: 5px;"><math>12 \times 3 = 36</math></p>

### Short multiplication with regrouping of ones into tens only

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 24 \\ \times 3 \\ \hline 72 \end{array}$ <p style="text-align: center; background-color: #f9cb9c; padding: 5px;"><math>24 \times 3 = 72</math></p>

### Short multiplication with regrouping of ones into tens only

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 27 \\ \times 5 \\ \hline 135 \end{array}$ <p style="text-align: center; background-color: #f9cb9c; padding: 5px;"><math>27 \times 5 = 135</math></p>

... groups of ... ones is ... ones.  
 ... groups of ... tens is ... tens.  
 ... tens added to ... ones is ...  
 The product of ... and ... is ...

... groups of ... ones is ... ones.  
 I can regroup the ... ones into ... **ten(s)** and ... one(s).  
 ... groups of ... tens is ... tens.  
 ... **ten(s)** added to ... **ten(s)** is ..  
 I can regroup the ... tens into ... **hundred(s)** and ... **ten(s)**  
 The product of ... and ... is ...

# Division

## NC Statement:

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

### Introduce the long division method (sharing ones)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 3 \\ 4 \overline{) 13} \\ \underline{- 12} \\ 1 \end{array}$ <p style="text-align: center; background-color: #f8d7da; padding: 5px;"><math>13 \div 4 = 3 \text{ r } 1</math></p>

### Long division of tens and ones with no regrouping (sharing structure)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 4 \quad 2 \\ 2 \overline{) 84} \\ \underline{- 8} \quad 4 \\ 0 \quad 4 \\ \underline{- 4} \\ 0 \end{array}$ <p style="text-align: center; background-color: #f8d7da; padding: 5px;"><math>84 \div 2 = 42</math></p>

### Long division of tens and ones with no regrouping (sharing structure)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 3 \quad 7 \\ 2 \overline{) 74} \\ \underline{- 6} \quad 4 \\ 1 \quad 4 \\ \underline{- 1} \quad 4 \\ 0 \end{array}$ <p style="text-align: center; background-color: #f8d7da; padding: 5px;"><math>74 \div 2 = 37</math></p>

I am sharing ... ones into ... equal groups.  
 There are ... ones in each group.  
 I have ... one(s) remaining.  
 The quotient is ... with ... remainders.

First, I am sharing ... tens into ... equal groups.  
 There are ... tens in each group.  
 I have ... ten(s) remaining.  
 I need to regroup the remaining ... ten(s) into ... ones.  
 I now have ... ones in total.  
 Then, I am sharing ... ones into ... equal groups.  
 There are ... ones in each group.  
 I have ... one(s) remaining.  
 The quotient is ... with ... remainders.

# Year 4

## Addition

Once pupils have fully understood and rehearsed regrouping within formal column addition of 3-digit numbers, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to 4-digit numbers, larger numbers, decimal numbers, money and measures.

### NC Statement:

Add numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

## Subtraction

Once pupils have fully understood and rehearsed regrouping within formal subtraction, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to multi-digit, decimal numbers, money and measures.

### NC Statement:

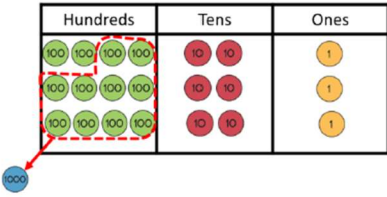
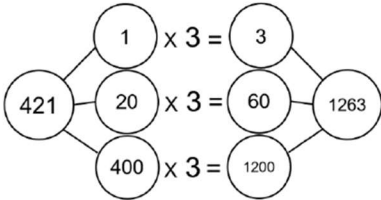
Subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate

## Multiplication

### NC Statement:

Multiply 2-digit and 3-digit numbers by a one-digit number using formal written layout (short multiplication)

*Formal written multiplication with regrouping which generates a new column.*

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 421 \\ \times \quad 3 \\ \hline 1263 \end{array}$ <div style="border: 1px solid orange; padding: 5px; display: inline-block; margin-top: 10px;"><math>421 \times 3 = 1263</math></div>

... groups of ... ones is ... ones. (Do I need to regroup?)  
 ... groups of ... tens is ... tens. (Do I need to regroup?)  
 ... groups of ... hundreds is ... hundreds. (Do I need to regroup?)  
 (... hundreds can be regrouped to ... thousands and ... hundreds)  
 The product of ... and ... is ... .

## Division

### NC Statement:

Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers (non-statutory guidance)

### Long division with regrouping hundreds into tens (sharing structure)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 142 \\ 3 \overline{) 426} \\ \underline{- 3} \phantom{00} \\ 12 \phantom{0} \\ \underline{- 12} \phantom{0} \\ 06 \\ \underline{- 06} \\ 0 \end{array}$ <p style="text-align: center; background-color: #f0e6e6; border: 1px solid #ccc; border-radius: 10px; padding: 5px;"><math>426 \div 3 = 142</math></p>

### Introducing formal short division (sharing structure)

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 142 \\ 3 \overline{) 426} \\ \underline{4} \phantom{00} \\ 2 \phantom{0} \\ \underline{6} \phantom{0} \\ 06 \\ \underline{06} \\ 0 \end{array}$ <p style="text-align: center; background-color: #f0e6e6; border: 1px solid #ccc; border-radius: 10px; padding: 5px;"><math>426 \div 3 = 142</math></p>

First, I am sharing ... hundreds into ... equal groups.  
 There are ... hundreds in each group.  
 I have ... hundred(s) remaining.  
 I need to regroup the remaining ... hundreds into ... **tens**.  
 I now have ... tens in total.  
 Next, I am sharing ... tens into .. equal groups.

# Year 5

## Addition

Once pupils have fully understood and rehearsed regrouping within formal column addition of 3-digit numbers, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to 4-digit numbers, larger numbers, decimal numbers, money and measures.

### NC Statement:

Add numbers with more than 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

## Subtraction

Once pupils have fully understood and rehearsed regrouping within formal subtraction, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to multi-digit, decimal numbers, money and measures.

### NC Statement:

Subtract numbers with more than 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

## Multiplication

### NC Statement:

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.

*Expanded vertical multiplication 2-digit by 2-digit*

Concrete		Pictorial - Jottings		Abstract - Written symbolic																												
<table border="1"> <tr><td>x</td><td>30</td><td>2</td></tr> <tr><td>10</td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td></tr> </table>	x	30	2	10			4			<table border="1"> <tr><td>x</td><td>30</td><td>2</td></tr> <tr><td>10</td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td></tr> </table>	x	30	2	10			4			<table border="1"> <tr><td>x</td><td>30</td><td>2</td></tr> <tr><td>10</td><td>300</td><td>20</td></tr> <tr><td>4</td><td>120</td><td>8</td></tr> </table>	x	30	2	10	300	20	4	120	8	= 320		
x	30	2																														
10																																
4																																
x	30	2																														
10																																
4																																
x	30	2																														
10	300	20																														
4	120	8																														
			= 128																													
					$\begin{array}{r} 32 \\ \times 14 \\ \hline 8 \\ 120 \\ 300 \\ \hline 448 \end{array}$																											
					$32 \times 14 = 448$																											

Long multiplication 2-digit by 2-digit with simple regrouping

Concrete	Pictorial - Jottings	Abstract - Written symbolic												
	<table border="1"> <tr> <td>x</td> <td>30</td> <td>2</td> <td></td> </tr> <tr> <td>10</td> <td>300</td> <td>20</td> <td>= 320</td> </tr> <tr> <td>4</td> <td>120</td> <td>8</td> <td>= 128</td> </tr> </table>	x	30	2		10	300	20	= 320	4	120	8	= 128	$\begin{array}{r} 32 \\ \times 14 \\ \hline 128 \\ 320 \\ \hline 448 \end{array}$ <p style="text-align: center; border: 1px solid orange; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;"><math>32 \times 14 = 448</math></p>
x	30	2												
10	300	20	= 320											
4	120	8	= 128											

Long multiplication 2-digit by 2-digit, focusing on regroup in first partial product

Concrete	Pictorial	Abstract - Written symbolic												
	<table border="1"> <tr> <td>x</td> <td>30</td> <td>2</td> <td></td> </tr> <tr> <td>10</td> <td>300</td> <td>20</td> <td>= 320</td> </tr> <tr> <td>6</td> <td>180</td> <td>12</td> <td>= 192</td> </tr> </table>	x	30	2		10	300	20	= 320	6	180	12	= 192	$\begin{array}{r} 32 \\ \times 16 \\ \hline 192 \\ 320 \\ \hline 512 \end{array}$ <p style="text-align: center; border: 1px solid orange; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;"><math>32 \times 16 = 512</math></p>
x	30	2												
10	300	20	= 320											
6	180	12	= 192											

Long multiplication 2-digit by 2-digit regrouping in first and second stage

Concrete	Pictorial - Jottings	Abstract - Written symbolic																		
	<table border="1"> <tr> <td>2</td> <td><math>\times 6 = 12</math></td> <td></td> </tr> <tr> <td>30</td> <td><math>\times 6 = 180</math></td> <td>792</td> </tr> <tr> <td>100</td> <td><math>\times 6 = 600</math></td> <td></td> </tr> <tr> <td>2</td> <td><math>\times 40 = 80</math></td> <td></td> </tr> <tr> <td>30</td> <td><math>\times 40 = 1200</math></td> <td>5,280</td> </tr> <tr> <td>100</td> <td><math>\times 40 = 4,000</math></td> <td></td> </tr> </table>	2	$\times 6 = 12$		30	$\times 6 = 180$	792	100	$\times 6 = 600$		2	$\times 40 = 80$		30	$\times 40 = 1200$	5,280	100	$\times 40 = 4,000$		$\begin{array}{r} 132 \\ \times 46 \\ \hline 792 \\ 5280 \\ \hline 6072 \end{array}$ <p style="text-align: center; border: 1px solid orange; border-radius: 10px; padding: 5px; width: fit-content; margin: 0 auto;"><math>132 \times 46 = 6,072</math></p>
2	$\times 6 = 12$																			
30	$\times 6 = 180$	792																		
100	$\times 6 = 600$																			
2	$\times 40 = 80$																			
30	$\times 40 = 1200$	5,280																		
100	$\times 40 = 4,000$																			

First, I need to consider the ones in the multiplier.  
 ... groups of ... ones is ... ones. (Do I need to regroup?)  
 ... groups of ... tens is ... tens. (Any regroups to add? Do I need to regroup?)  
 Then, considering tens in the multiplier.  
 ... groups of ... ones is ... ones. (Do I need to regroup?)  
 ... groups of ... tens is ... tens. (Any regroups to add? Do I need to regroup?)  
 The total of all the partial products is ...  
 The product of ... and ... is ...

# Division

## NC Statement:

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.

### Introducing formal short division regroup from tens to ones (grouping structure)

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 13 \\ 4 \overline{) 52} \\ \underline{40} \phantom{0} \\ 12 \\ \underline{12} \\ 0 \end{array}$ <p style="text-align: center; border: 1px solid black; border-radius: 10px; padding: 5px;"><math>52 \div 4 = 13</math></p>

### Short division for numbers up to 4-digits (grouping structure)

Concrete	Pictorial - Jottings	Abstract - Written symbolic
		$\begin{array}{r} 146 \\ 3 \overline{) 438} \\ \underline{30} \phantom{00} \\ 13 \phantom{0} \\ \underline{12} \phantom{0} \\ 18 \\ \underline{18} \\ 0 \end{array}$ <p style="text-align: center; border: 1px solid black; border-radius: 10px; padding: 5px;"><math>438 \div 3 = 146</math></p>

### Short division (grouping structure) - expressing quotients with fractions

Concrete	Pictorial	Abstract - Written symbolic
		$\begin{array}{r} 12 \frac{1}{2} \\ 6 \overline{) 75} \\ \underline{60} \phantom{0} \\ 15 \\ \underline{12} \\ 3 \\ \underline{3} \\ 0 \end{array}$ <p style="text-align: center; border: 1px solid black; border-radius: 10px; padding: 5px;"><math>75 \div 6 = 12 \frac{1}{2}</math></p>

### Short division (grouping structure) - expressing quotients with decimals

Concrete	Pictorial - Jottings	Abstract - Written symbolic
	<p>Jottings: multiples of the divisor</p> <ul style="list-style-type: none"> <li>6</li> <li>12</li> <li>18</li> <li>24</li> <li>30</li> <li>36</li> <li>42</li> <li>48</li> <li>54</li> <li>60</li> </ul>	$\begin{array}{r} 12.5 \\ 6 \overline{) 75.0} \\ \underline{60} \phantom{0} \\ 15 \phantom{0} \\ \underline{12} \phantom{0} \\ 30 \\ \underline{30} \\ 0 \end{array}$ <p style="text-align: center; border: 1px solid black; border-radius: 10px; padding: 5px;"><math>75 \div 6 = 12.5</math></p>

I have a remainder of ... .

I need to regroup the ... ones into ... tenths.

How many groups of ... tenths are in ... tenths, without regrouping?

I can make ... group(s) of ... tenths.

There are ... groups of ... in ... .

# Year 6

## Addition

Once pupils have fully understood and rehearsed regrouping within formal column addition of 3-digit numbers, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to 4-digit numbers, larger numbers, decimal numbers, money and measures.

**NC Statement:**

Add numbers with more than 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Solve addition multi-step problems in contexts, deciding which operations and methods to use and why.

## Subtraction

Once pupils have fully understood and rehearsed regrouping within formal subtraction, this learning continues to be rehearsed and applied throughout Years 4, 5 and 6, including to multi-digit, decimal numbers, money and measures.

**NC Statement:**

Subtract numbers with more than 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Solve subtraction multi-step problems in contexts, deciding which operations and methods to use and why

# Multiplication

## NC Statement:

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

*Formal written multiplication involving numbers with up to 2 decimal places multiplied by a 1-digit number*

Concrete				Pictorial - Jottings	Abstract - Written symbolic
				Jottings: multiples of tricky multipliers 6 12 18 24 30 36 42 48 54 60 66 72	$\begin{array}{r} \phantom{0}^2 \phantom{0}^1 \\ 34.2 \\ \times \phantom{0}6 \\ \hline 205.2 \end{array}$ <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; display: inline-block; margin-top: 10px;"> <math>34.2 \times 6 = 205.2</math> </div>

... groups of ... tenths is ... tenths. (Do I need to regroup?)  
 ... groups of ... ones is ... ones. (Any regroup to add? Do I need to regroup?)  
 ... groups of ... tens is ... tens. (Any regroup to add? Do I need to regroup?)  
 The product of ... and ... is ...

# Division

## NC Statement:

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

*Long division for numbers up to 4 digits*

Concrete				Pictorial - Jottings	Abstract - Written symbolic
				Jottings: multiples of the divisor 13 26 39 52 65 78 91 104	$\begin{array}{r} \phantom{0}^0 \phantom{0}^2 \phantom{0}^3 \phantom{0}^2 \\ 13 \overline{) 3016} \\ \underline{- 30} \phantom{0} \\ \phantom{0} 1 \phantom{0} \\ \underline{- 26} \phantom{0} \\ \phantom{0} 4 \phantom{0} \\ \underline{- 39} \\ \phantom{0} 2 \phantom{0} \\ \underline{- 26} \\ \phantom{0} 0 \end{array}$ <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; display: inline-block; margin-top: 10px;"> <math>3016 \div 13 = 232</math> </div>

I want to know how many groups of ... are in ... .  
 How many groups of ... thousand are in ...thousand, without regrouping?  
 I can make ... group(s) of ...thousand. There is/are ... thousand(s) remaining.  
 I need to regroup the ... thousand(s) into ...hundreds.

## Additional Year 6 Examples

Long division for numbers up to 4 digits - expressing quotients with fractions

Abstract speaking frame	Pictorial - Jottings	Abstract - Written symbolic
<p>I have a remainder of 9.            This is 9 out of the 15 which I need for another group.            This can be written as a fraction <math>\frac{9}{15}</math>.            This can be simplified to <math>\frac{3}{5}</math>.            There are <math>37\frac{3}{5}</math> in each of the 15 groups.</p>	<p>Jottings: multiples of the divisor</p> <p>15 30 45 60 75 90 105 120 135 150</p>	<p>Abstract - Written symbolic</p> $  \begin{array}{r}  0 \ 3 \ 7 \ \overset{3}{\overline{5}} \\  15 \overline{) 564} \\  \underline{- 0} \quad \downarrow \quad \downarrow \\  5 \ 6 \quad \downarrow \\  \underline{- 4 \ 5} \quad \downarrow \\  1 \ 1 \ 4 \\  \underline{- 1 \ 0 \ 5} \\  9  \end{array}  $ <p><math>\frac{9}{15} = \frac{3}{5}</math></p> <p><math>564 \div 15 = 37\frac{3}{5}</math></p>

Long division for numbers up to 4 digits - expressing quotients with decimals

Abstract speaking frame	Pictorial - Jottings	Abstract - Written symbolic
<p>I have a remainder of 9.            I need to regroup the 9 ones into 90 tenths.            How many groups of 15 tenths are in 90 tenths, without regrouping?            I can make 6 groups of 15 tenths.            There is nothing remaining.            There are 37.6 groups of 15 in 564.</p>	<p>Jottings: multiples of the divisor</p> <p>15 30 45 60 75 90 105 120 135 150</p>	<p>Abstract - Written symbolic</p> $  \begin{array}{r}  0 \ 3 \ 7 \ \overset{6}{\overline{.0}} \\  15 \overline{) 564.0} \\  \underline{- 0} \quad \downarrow \quad \downarrow \quad \downarrow \\  5 \ 6 \quad \downarrow \quad \downarrow \\  \underline{- 4 \ 5} \quad \downarrow \\  1 \ 1 \ 4 \\  \underline{- 1 \ 0 \ 5} \\  9 \ 0 \\  \underline{- 9 \ 0} \\  0  \end{array}  $ <p><math>564 \div 15 = 37.6</math></p>

Long multiplication; up to 4-digit by 2-digit

