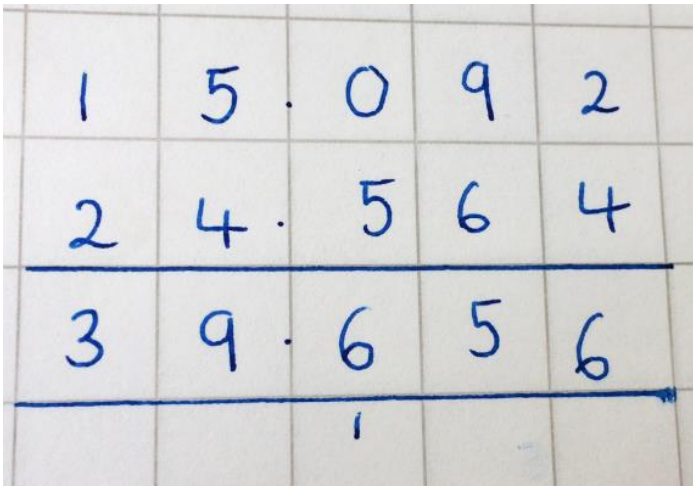
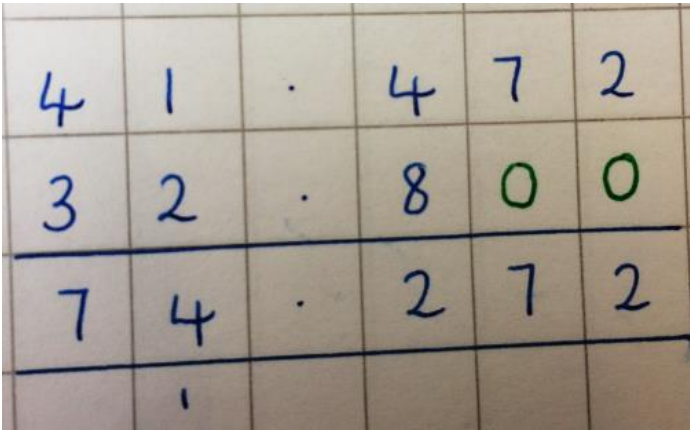


Year Six Addition

Year Six	<p>Pupils should be able to:</p> <p>In year six children continue to practise column method for addition for bigger numbers and decimal numbers up to three decimal places</p>
Columnar Addition with Decimals	
<p>$15.092 + 24.564 = 39.656$</p> 	<p>Zero (0) should be used as a place holder to ensure that the numbers are to the same decimal place Zero is added to show there is no value to add</p> <p>$41.472 + 32.8 = 74.272$</p> 
<p>$3.06 + 12.421 + 9.9 = 25.381$</p>	<p>Children use the column method to add several numbers with different numbers of decimal places Tenths, hundredths and thousandths should be correctly aligned including the decimal point</p>

$$\begin{array}{r}
 + \quad \quad 3.060 \\
 + \quad 12.421 \\
 + \quad \quad 9.900 \\
 \hline
 25.381 \\
 \hline
 1 \quad 1
 \end{array}$$

$$23.361 + 9.08 + 59.77 + 1.3 = 93.511$$

$$\begin{array}{r}
 \quad \quad 23.361 \\
 + \quad \quad 9.080 \\
 + \quad 59.770 \\
 + \quad \quad 1.300 \\
 \hline
 93.511 \\
 \hline
 2 \quad 1 \quad 2
 \end{array}$$

Children use the column method to add several numbers with different numbers of decimal places
Tenths, hundredths and thousandths should be correctly aligned including the decimal point

Column Addition to One Million

$$302432 + 110709 = 413141$$

$$396042 + 525738 = 921780$$

3	0	2	4	3	2
1	1	0	7	0	9
<hr/>					
4	1	3	1	4	1
<hr/>					
		1		1	

+	3	9	6	0	4	2
	5	2	5	7	3	8
<hr/>						
	9	2	1	7	8	0
<hr/>						
	1				1	

Adding several numbers together with an increasing level of complexity

$$81059 + 3668 + 15301 + 20551 = 120579$$

	8	1	0	5	9
		3	6	6	8
	1	5	3	0	1
	2	0	5	5	1
<hr/>					
1	2	0	5	7	9
<hr/>					
	1		1		1

$$42372 + 4789 + 3113 + 41321 = 91595$$

	4	2	3	7	2
		4	7	8	9
		3	1	1	3
	4	1	3	2	1
<hr/>					
9	1	5	9	5	
<hr/>					
	1		1		1

The numbers are a combination of thousands and tens of thousands

Subtraction

Year Six

In year six children continue to practise column method for subtraction for bigger numbers and decimal numbers up to three decimal places

Columnar Subtraction with Decimals

Subtraction up to 3 decimal places

$$39.656 - 24.564 =$$

$$\begin{array}{r} 39.656 \\ - 24.564 \\ \hline 15.092 \end{array}$$

Zero (0) should be used as a place holder to ensure that the numbers are to the same decimal place

Zero is added to show there is no value to subtract

$$74.272 - 32.472 =$$

$$\begin{array}{r} 74.272 \\ - 32.472 \\ \hline 41.800 \end{array}$$

Columnar Subtraction to One Million

No regrouping

$$\begin{array}{r} 387759 \\ - 145638 \\ \hline 241121 \end{array}$$

Regrouping

$$\begin{array}{r} 2876128 \\ - 176253 \\ \hline 111375 \end{array}$$

Multiplication

Year Six

Pupils should be able to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

Short Multiplication

Practise and consolidation of multiplying a number by a one digit may be needed in year six so that children can confidently use the short method of multiplication to solve:

to x o=

hto x o=

th h t o x o=

Please refer to previous years guidance for short multiplication exemplification

Long Multiplication

Children consolidate using long HTO X TO multiplication for multiplying a number up to four digits by two digit number

124 x 26=

Answer: 3224

A photograph of a handwritten long multiplication problem on grid paper. The problem is 124 multiplied by 26, resulting in 3224. The calculation is shown in three rows: the first row is 124, the second row is 26, and the third row is 3224. The multiplication is performed using the formal written method, with the partial products 744 and 2480 being added to get the final result 3224.

$$\begin{array}{r} 124 \\ \times 26 \\ \hline 744 \\ 2480 \\ \hline 3224 \end{array}$$

ThHTO x TO

$$262 \times 29 = 7598$$

	2	6	2						
	⁵ 2	'6	2						
x		2	9	→	x		2	9	
	2	3	5	8		2	3	5	8
						5	2	4	0
						7	5	9	8

$$2951 \times 17 = 50167$$

	2	9	5	1					
	2	⁶ 9	³ 5	1					
x				1	7				
	2	0	6	5	7				
	2	9	5	1	0				
	5	0	1	6	7				

Division

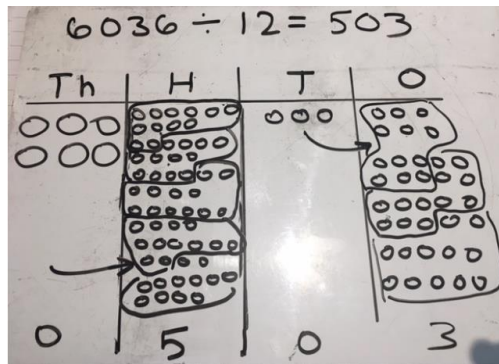
Year Six

Pupils should be able to:

- Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division
- Where appropriate for the context 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
- Solve problems involving division
- Use written division methods in cases where the answer has up to two decimal place

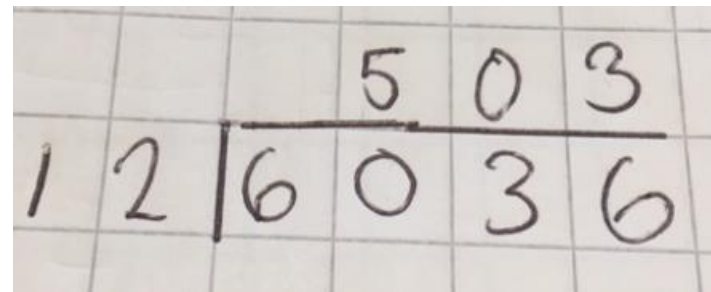
Formal Short Division

ThHTO X TO



Children can use pictorial methods to grasp concept before solving through the formal short method

$$6036 \div 12 = 503$$



$$2569 \div 4 = 642 \text{ r}1$$
$$\begin{array}{r} 642 \text{ r}1 \\ 4 \overline{) 2569} \end{array}$$

$$2569 \div 4 = 642.25$$
$$\begin{array}{r} 642.25 \\ 4 \overline{) 2569.00} \end{array}$$

$$1435 \div 3 = 478 \text{ r}1$$
$$\begin{array}{r} 478 \\ 3 \overline{) 1435} \end{array}$$

$$1435 \div 3 =$$
$$\begin{array}{r} 0478 \text{ r} \frac{1}{3} \\ 3 \overline{) 1435} \end{array}$$

$$£ 96.48 \div 6 = £ 16.08$$

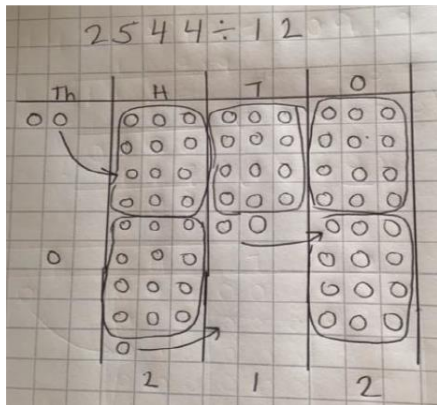
$$\begin{array}{r} 16.08 \\ 6 \overline{) £ 936.48} \end{array}$$

Long Division

$$2544 \div 12 = 212$$

Children can use pictorial methods to support understanding of long division

$$2544 \div 12 = 212$$



432 ÷ 12 = 36

$$\begin{array}{r} 36 \\ 12 \overline{) 432} \\ \underline{- 360} \quad (12 \times 3) \\ 72 \\ \underline{- 72} \quad (12 \times 6) \\ 0 \end{array}$$

$$\begin{array}{r} 0212 \\ 12 \overline{) 22544} \\ \underline{- 24} \\ 14 \\ \underline{- 12} \\ 24 \\ \underline{- 24} \\ 0 \end{array}$$

1426 ÷ 13 = 109 r9

$$\begin{array}{r} 109r9 \\ 13 \overline{) 1426} \\ \underline{- 1300} \quad (13 \times 100) \\ 0126 \\ \underline{- 117} \quad (13 \times 9) \\ 009 \end{array}$$

$$520 \div 16 = 32.5$$

$$\begin{array}{r} 16 \overline{) 520.0} \\ \underline{-48} \\ 032 \\ \underline{-32} \\ 000 \\ \underline{-00} \\ 000 \end{array}$$