Lanivet School

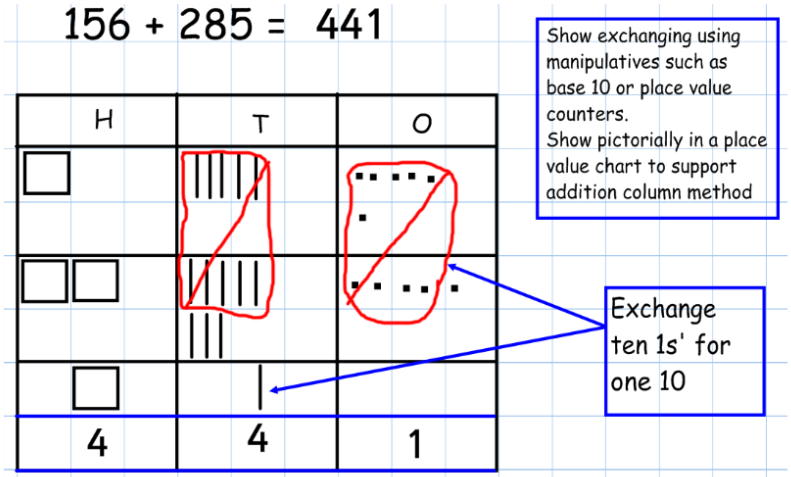
Calculation Written Method Policy

September 2019

Addition - Key Stage 2

Year 3

156 + 285 = 441



Show exchanging using manipulatives such as base 10 or place value counters.
Show pictorially in a place value chart to support addition column method

Exchange ten 1s' for one 10

	H	T	O
	1	5	6
+	2	8	5
	4	4	1
	1	1	

Progress to formal column method for adding three digit numbers

Year 4

2456 + 3728 =6184

	Th	H	T	O
	2	4	5	6
+	3	7	2	8
	6	1	8	4
	1		1	

Following on from year 3 methods to adding 4 digit numbers with exchanging.

Addition - Key Stage 2

Year 5 and 6

Formal column method to add more than 4 digits.

29456 + 34728 = 64184

	Tth	Th	H	T	O
	2	9	4	5	6
+	3	4	7	2	8
	6	4	1	8	4
	1	1		1	

Year 5 and 6 (adding decimals)

Add decimals upto 3 decimal places varying in decimal places

42.956 + 13.785 = 56.741

	T	O	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
	4	2	•	9	5	6
+	1	3	•	7	8	5
	5	6	•	7	4	1
		1		1	1	

42.95 + 3.785 = 46.735

Ensure they place the digits in the correct place value columns

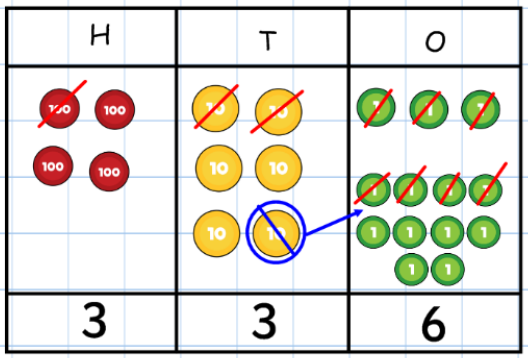
	T	O	•	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
	4	2	•	9	5	0
+		3	•	7	8	5
	4	6	•	7	3	5
		1		1		

Place 0 in decimal columns so they understand it has a value of 0 not nothing.

Subtraction - Key Stage 2

Year 3

463 - 127 = 336



Use manipulatives such as place value counters and base 10. Show pictorially using a place value chart to support understanding of exchanging in the formal column method.

Exchange one 10 for ten 1s'.

463 - 127 = 336

	H	T	O
	4	~~5~~ 6	~~1~~ 3
-	1	2	7
	3	3	6

Formal column method to subtract three digit numbers with exchanging.

Year 4

7483 - 2736 =4747

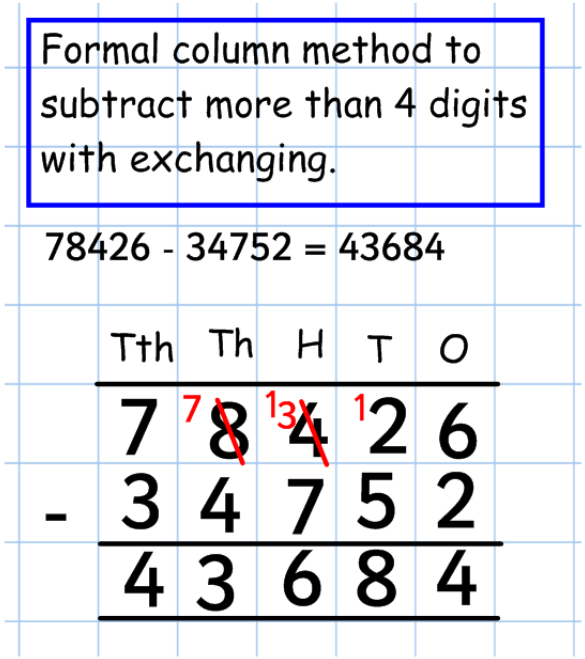
	Th	H	T	O
	~~6~~ 7	~~1~~ 4	~~7~~ 8	~~1~~ 3
+	2	7	3	6
	4	7	4	7

Following on from year 3 methods to subtract 4 digit numbers with exchanging.

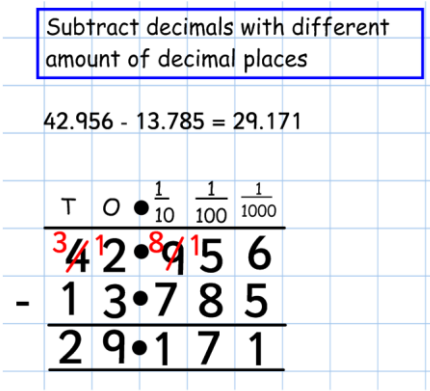
Subtraction - Key Stage 2

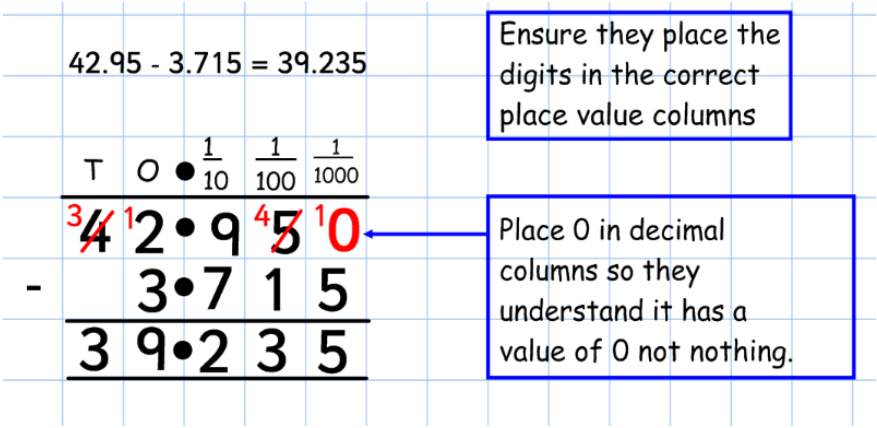
Year 5 and 6

Use manipulatives and model using place value charts with base 10 and place value counters to support where needed.



Year 5 and 6 (Subtracting decimals)





Division - Key Stage 2

Year 3

To divide two digits by a single digit number

$$69 \div 3 = 23$$

Use place value counters and share them equally into a place value chart, which is split into equal groups.

Tens	Ones
10 10	1 1 1
10 10	1 1 1
10 10	1 1 1

$$42 \div 3 =$$

Recognise that you need to exchange one 10 for ten 1s'

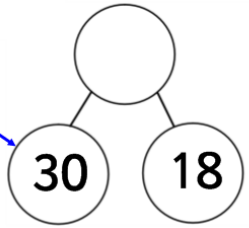
Tens	Ones
10	1 1 1 1
10	1 1 1 1
10	1 1 1 1

Year 3

Progress to partitioning using a part-whole model and divide each part by the divisor.

$$48 \div 3 = 16$$

Use multiple of 10 facts of divisor.
e.g: 10 x 3 = 30



$30 \div 3 = 10$
$18 \div 3 = 6$
$10 + 6 = 16$
$48 \div 3 = 16$

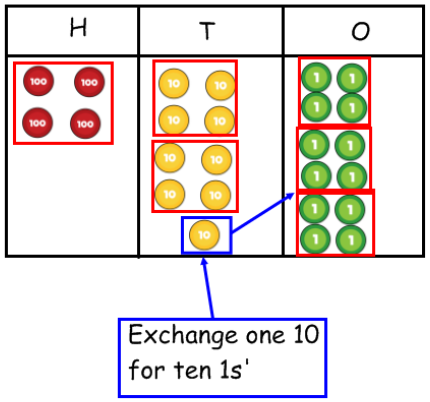
Division - Key Stage 2

Year 4

Continue with year 3 division method for dividing two digits by a single digit, with remainders, until confident.

Progress to the short division method, using place value counters to support where needed.

492 ÷ 4 =

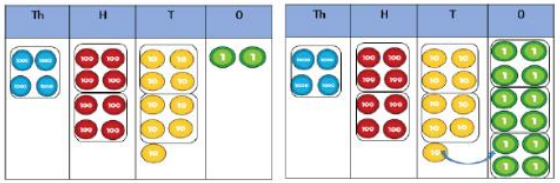


$$\begin{array}{r} 1\,2\,3 \\ 4\overline{)\,4\,9\,{}^{1}2} \end{array}$$

Year 5

Use place value counters and a place value chart to support understanding of the short division method where needed.

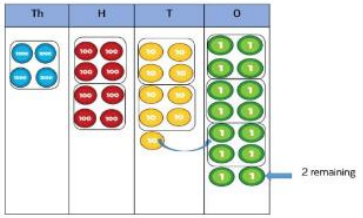
4892 ÷ 4 = 1223



$$\begin{array}{r} 1223 \\ 4\overline{)\,4892} \end{array}$$

4894 ÷ 4 = 1223

Dividing with remainders



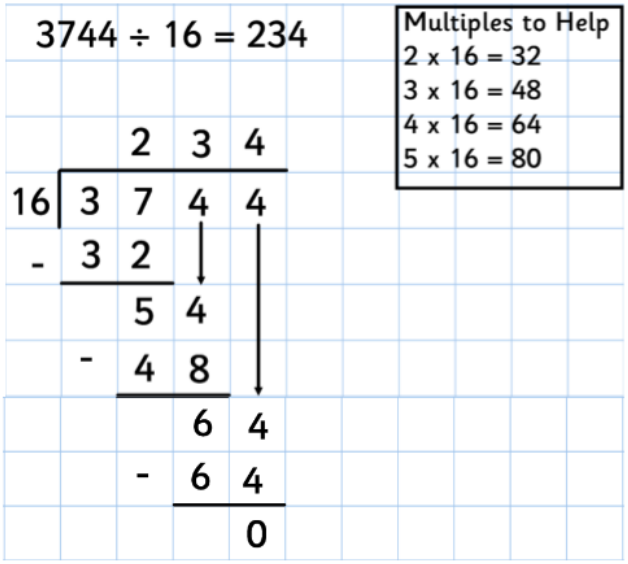
$$\begin{array}{r} 1223 \\ 4\overline{)\,4894}\ \text{r}2 \end{array}$$

Division - Key Stage 2

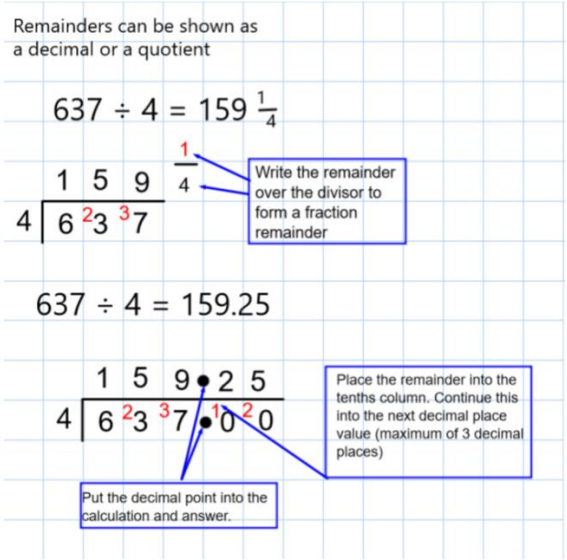
Year 6

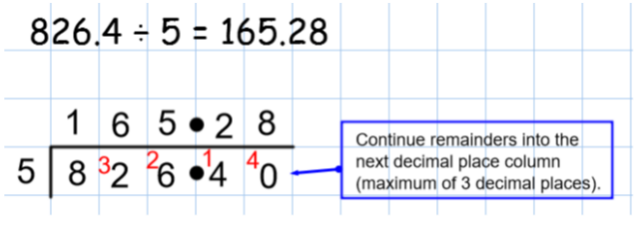
Use the same short method for division as in year 5. Also use the short division method if dividing by 11 and 12.

Long division method



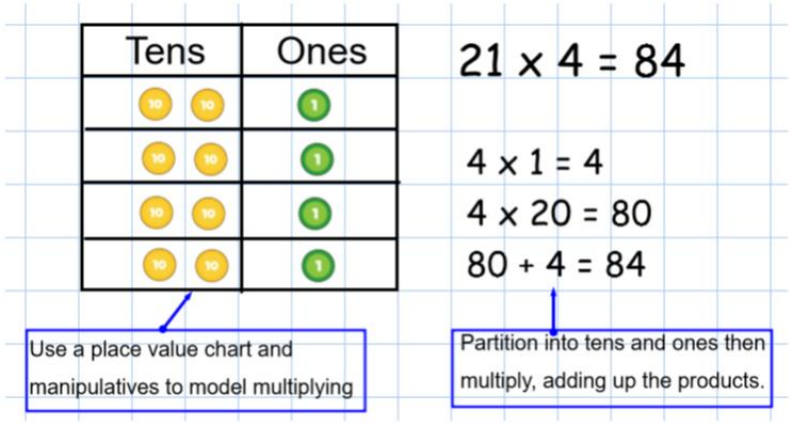
Year 5 and 6 (dividing with remainders and decimals)

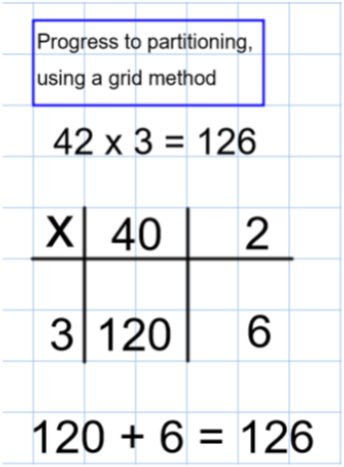




Multiplication - Key Stage 2

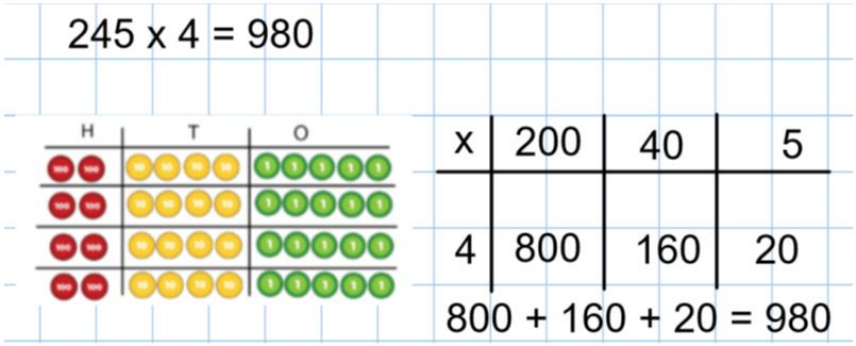
Year 3

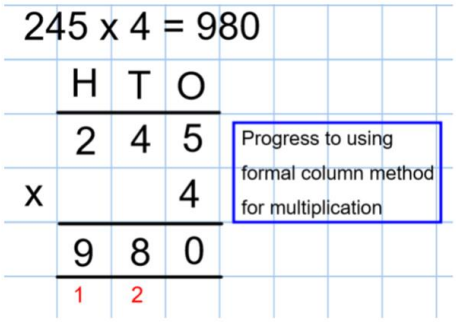




Year 4

Support understanding using manipulatives in a place value chart.
Use a grid method to multiply three digit by two digit numbers.



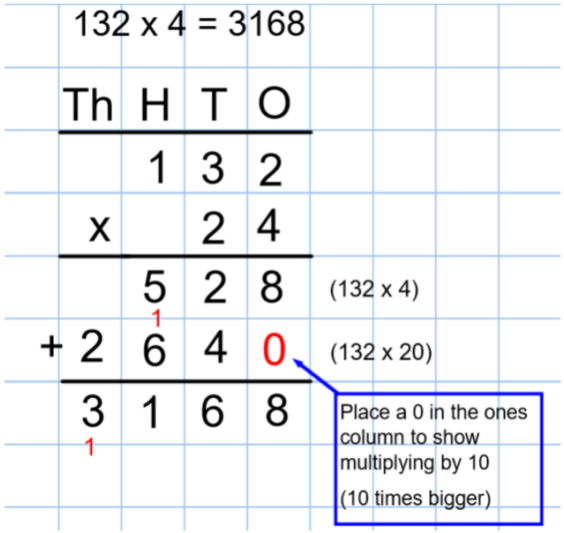


Multiplication - Key Stage 2

Year 5 and Year 6

Short multiplication using the same grid and formal method as year 4 using four digits multiplied by one digit.

Long multiplication



Progress to removing brackets from the expanded method.

Year 5 and Year 6

For year 6 carry out the same short and long multiplication method as year 5 (Progress to removing brackets from expanded method)

Multiplying one digit numbers by decimals up to two decimal places.