

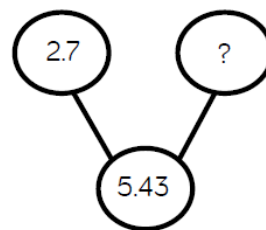
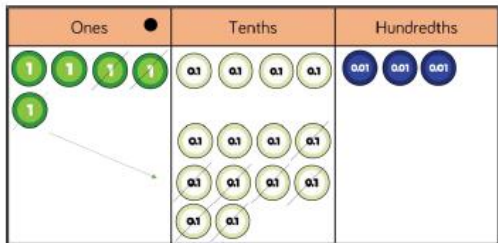
UKS2 Addition

Concept	Concrete	Pictorial	Abstract
Add whole numbers with more than 4 digits using formal written methods			$ \begin{array}{r} \text{TTh Th H T O} \\ \hline 2\ 3\ 4\ 0\ 5 \\ +\ 7\ 8\ 9\ 2 \\ \hline 3\ 1\ 2\ 9\ 7 \\ \hline \end{array} $
Add numbers with up to 3 decimal places using formal written methods			$ \begin{array}{r} \text{O · Tth Hth} \\ \hline 0 · 9\ 2 \\ +\ 0 · 3\ 3 \\ \hline 1 · 2\ 5 \\ \hline \end{array} $

UKS2 Subtraction

Concept	Concrete	Pictorial	Abstract
Subtract whole numbers with more than 4 digits using formal written methods			

Subtract numbers with up to 3 decimal places



$$\begin{array}{r} 4 \ 1 \\ 5.43 \\ - 2.7 \\ \hline 2.73 \end{array}$$

UKS2 Multiplication

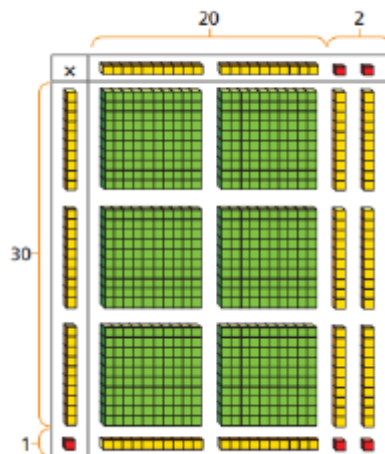
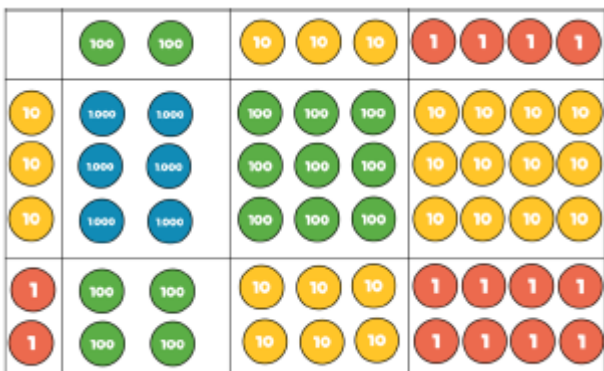
Concept

Concrete

Pictorial

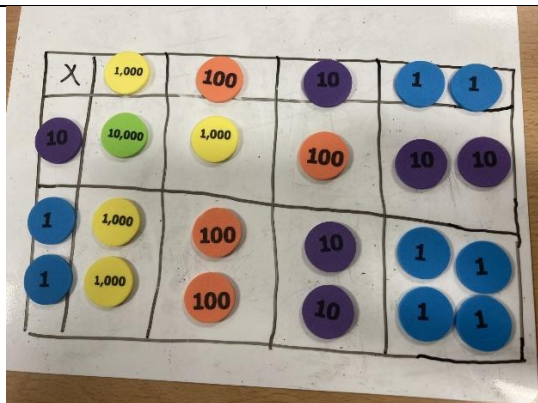
Abstract

Multiply numbers with up to 4 digits by a 2 digit number using an expanded formal written method (Year 5)



x	200	30	4
30	6,000	900	120
2	400	60	8

Multiply numbers with up to 4 digits by a 2 digit number using a compact formal written method (Year 5)



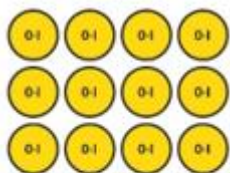
$$\begin{array}{r}
 \begin{array}{cccc} 1 & 2 & 3 & 5 \\ \times & & 2 & 1 \\ \hline 1 & 2 & 3 & 5 \\ 2 & 4 & 7 & 0 & 0 \\ \hline 2 & 5 & 9 & 3 & 5 \end{array} \\
 \begin{array}{l} 1 \times 1,235 \\ 20 \times 1,235 \\ 21 \times 1,235 \end{array}
 \end{array}$$

Multiply multi-digit numbers up to 4 digits by a 2 digit whole number using the formal written method of long multiplication (Y6)

TTh	Th	H	T	O
	2	7	3	9
×			2	8
2	1	9	1	2
2	5	3	7	
1	5	4	7	8
		1		0
	7	6	6	9
				2

1

Multiplying decimals (Year 6)



3 groups of 4 tenths is 12 tenths.
4 groups of 3 tenths is 12 tenths.

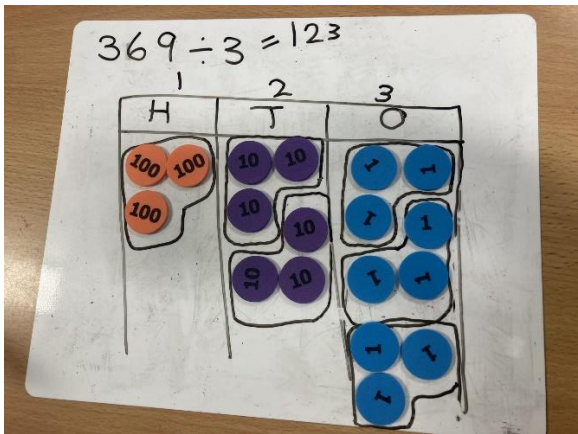
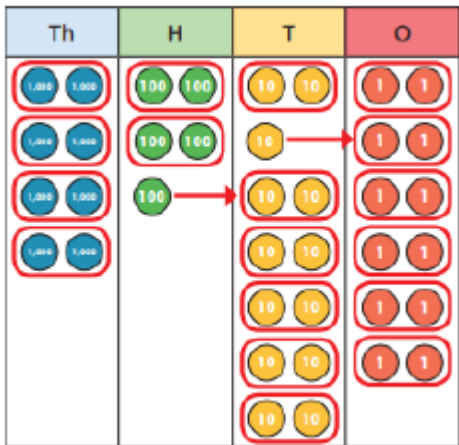
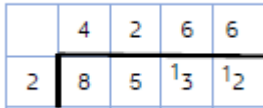

Represent calculations on a place value grid.

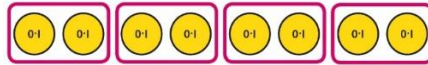
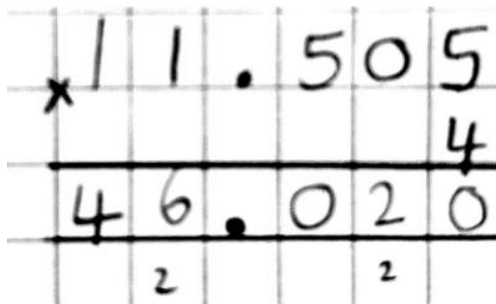
$$3 \times 3 = 9$$

$$3 \times 0.3 = 0.9$$

T	O	•	Tth
		•	

UKS2 Division

Concept	Concrete	Pictorial	Abstract																																																		
<p>Divide up to 4 digit numbers by a 1 digit number using the formal written method of short division and interpret remainders according to context.</p>																																																					
<p>Dividing by a 2 digit number using factors (Y6)</p>	<p>Understand that division by factors can be used when dividing by a number that is not prime.</p>	<p>Use factors and repeated division.</p> $1,260 \div 14 = ?$  $1,260 \div 2 = 630$ $630 \div 7 = 90$ $1,260 \div 14 = 90$	<p>Use factors and repeated division where appropriate.</p> $2,100 \div 12 = ?$ $2,100 \rightarrow +2 \rightarrow +6 \rightarrow$ $2,100 \rightarrow +6 \rightarrow +2 \rightarrow$ $2,100 \rightarrow +3 \rightarrow +4 \rightarrow$ $2,100 \rightarrow +4 \rightarrow +3 \rightarrow$ $2,100 \rightarrow +3 \rightarrow +2 \rightarrow +2 \rightarrow$																																																		
<p>Dividing by a 2 digit number using long division (Y6)</p>			<div style="border: 1px solid black; padding: 5px; display: inline-block;"> $7,335 \div 15 = 489$ </div> <table style="margin-left: 20px;"> <tr><td> </td><td>0</td><td>4</td><td>8</td><td>9</td><td> </td></tr> <tr><td>15</td><td>7</td><td>3</td><td>3</td><td>5</td><td> </td></tr> <tr><td>-</td><td>6</td><td>0</td><td>0</td><td>0</td><td>(x400)</td></tr> <tr><td> </td><td>1</td><td>3</td><td>3</td><td>5</td><td> </td></tr> <tr><td>-</td><td>1</td><td>2</td><td>0</td><td>0</td><td>(x80)</td></tr> <tr><td> </td><td> </td><td>1</td><td>3</td><td>5</td><td> </td></tr> <tr><td>-</td><td> </td><td> </td><td>1</td><td>3</td><td>5</td><td>(x9)</td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>0</td><td> </td></tr> </table> <p style="margin-left: 20px;"> $1 \times 15 = 15$ $2 \times 15 = 30$ $3 \times 15 = 45$ $4 \times 15 = 60$ $5 \times 15 = 75$ $10 \times 15 = 150$ </p>		0	4	8	9		15	7	3	3	5		-	6	0	0	0	(x400)		1	3	3	5		-	1	2	0	0	(x80)			1	3	5		-			1	3	5	(x9)						0	
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15	7	3	3	5																																																	
-	6	0	0	0	(x400)																																																
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-			1	3	5	(x9)																																															
					0																																																

<p>Dividing by a 2 digit number using long division with remainders (Y6)</p>			<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px;"> $372 \div 15 = 24 \text{ r}12$ </div> <table border="1" style="font-size: 8px;"> <tr><td></td><td></td><td>2</td><td>4</td><td>r</td><td>1</td><td>2</td></tr> <tr><td>1</td><td>5</td><td>3</td><td>7</td><td>2</td><td></td><td></td></tr> <tr><td></td><td>-</td><td>3</td><td>0</td><td>0</td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td>7</td><td>2</td><td></td><td></td></tr> <tr><td></td><td>-</td><td></td><td>6</td><td>0</td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td></td></tr> </table> <div style="font-size: 8px;"> $1 \times 15 = 15$ $2 \times 15 = 30$ $3 \times 15 = 45$ $4 \times 15 = 60$ $5 \times 15 = 75$ $10 \times 15 = 150$ </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <table border="1" style="font-size: 8px;"> <tr><td></td><td></td><td>2</td><td>4</td><td>$\frac{4}{5}$</td></tr> <tr><td>1</td><td>5</td><td>3</td><td>7</td><td>2</td></tr> <tr><td></td><td>-</td><td>3</td><td>0</td><td>0</td></tr> <tr><td></td><td></td><td></td><td>7</td><td>2</td></tr> <tr><td></td><td>-</td><td></td><td>6</td><td>0</td></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> </table> <div style="border: 1px solid black; padding: 2px;"> $372 \div 15 = 24 \frac{4}{5}$ </div> </div>			2	4	r	1	2	1	5	3	7	2				-	3	0	0						7	2				-		6	0							1	2				2	4	$\frac{4}{5}$	1	5	3	7	2		-	3	0	0				7	2		-		6	0					1	2
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<p>Dividing decimals (Y6)</p>	<div style="display: flex; justify-content: space-around; align-items: center;">  </div> <p>Use place value equipment to divide decimals into equal groups. <i>8 tenths divided into 4 groups. 2 tenths in each group.</i></p>	<table border="1" style="margin: 0 auto; text-align: center;"> <tr><td colspan="4">0.8</td></tr> <tr><td>?</td><td>?</td><td>?</td><td>?</td></tr> </table> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> $4 \times 2 = 8$ So, $4 \times 0.2 = 0.8$ </div> <div style="text-align: center;"> $8 \div 4 = 2$ $0.8 \div 4 = 0.2$ </div> </div>	0.8				?	?	?	?																																																																		
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