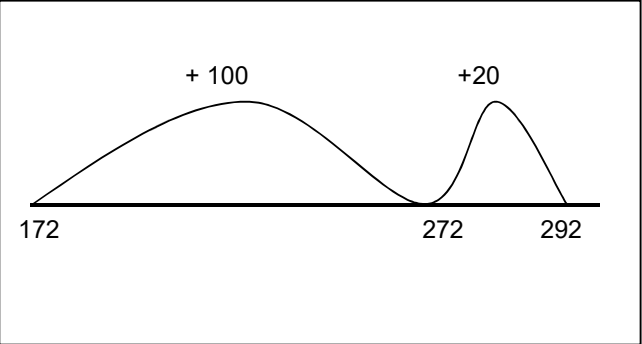
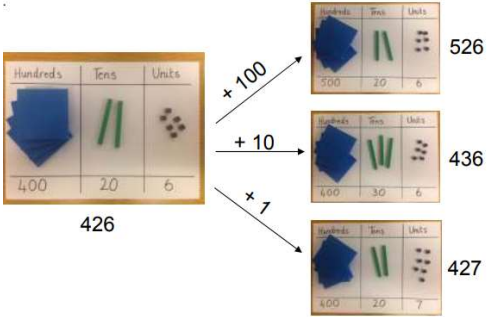
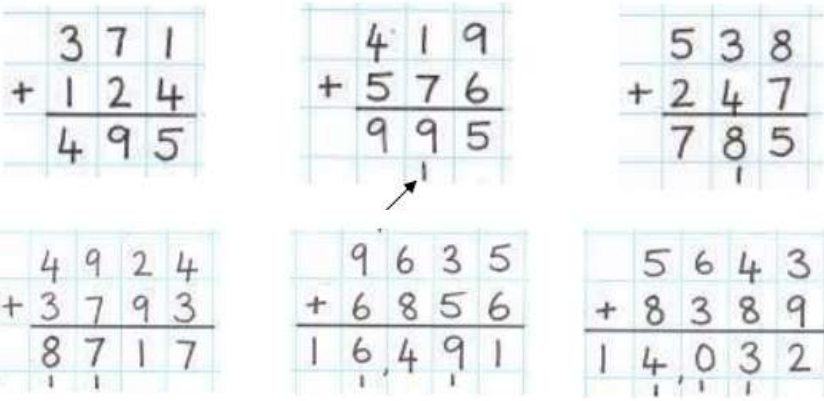


Addition

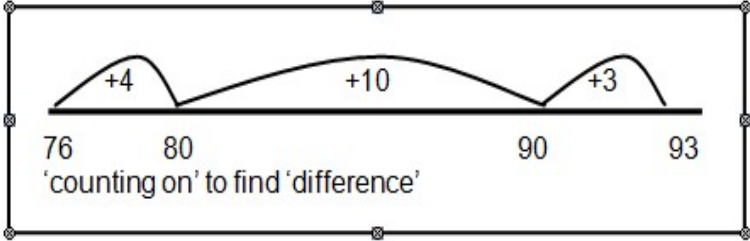
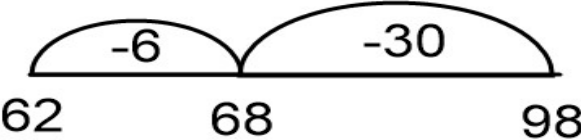
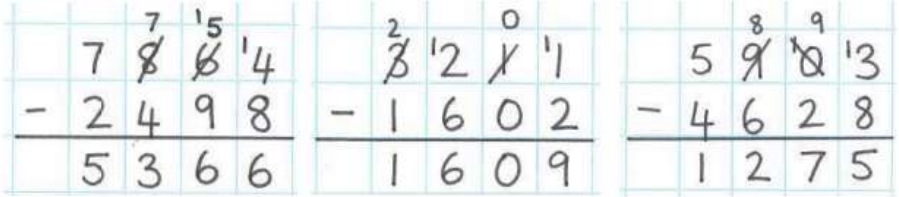
Year 3	Year 4
<ul style="list-style-type: none"> * number lines with larger jumps * mentally add – three-digit numbers and ones; three-digit numbers and tens; three-digit numbers and hundreds * expanded method of columnar addition including carrying with numbers up to three digits 	<ul style="list-style-type: none"> * develop the compact columnar method of addition with numbers up to 4 digits, including carrying * continue to practise mental strategies with increasingly large numbers
<p>Vocabulary As KS1 plus: Increase, increased by..., ones, tens, hundreds, tenths, hundredths etc, boundary, carry</p>	
<p>Numberline with 3-digit numbers with no boundary crossing.</p>  <p>Numberline to bridge through ten (and/or 100) using number bond knowledge. Include 3-digit add 2-digit and 3-digit add 3-digit.</p> 	 <p>Also include 4-digit add 2-digit and 4-digit add 3-digit to address any issues with lining up the digits.</p>



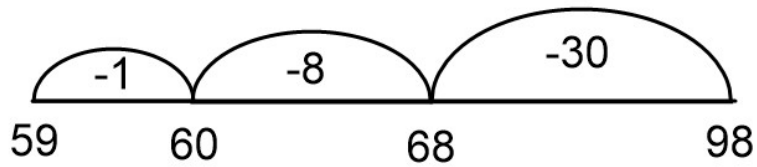
$$538 + 247 = ?$$

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

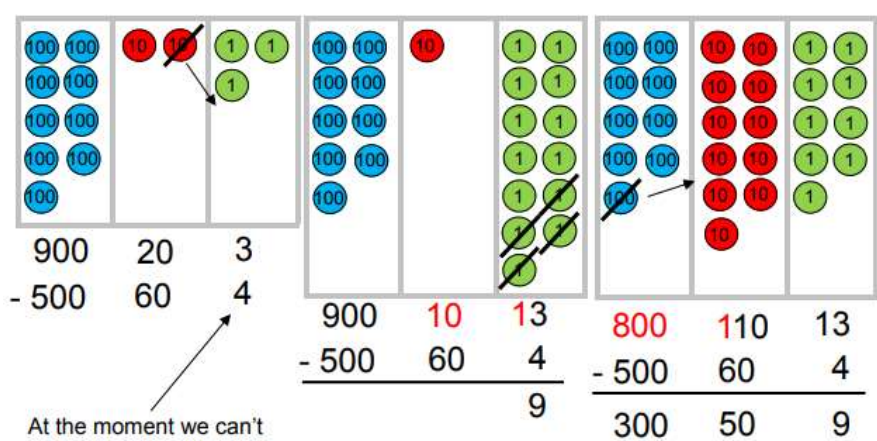
Subtraction

Year 3	Year 4
<ul style="list-style-type: none"> *use number lines, including bridging tens, when finding the difference and taking away, partitioning the second number * expanded column method including decomposition and exchanging with increasingly large numbers up to three digits * mentally subtract – three-digit numbers and ones; three-digit numbers and tens; three-digit numbers and hundreds 	<ul style="list-style-type: none"> * expanded column method involving exchanging with increasingly large numbers up to 4 digits * begin to use standard columnar written method of subtraction (compact method with no exchanging initially leading to exchanging) * continue to practise mental methods of subtraction
<p>Vocabulary As KS1 plus: Increase, increased by..., ones, tens, hundreds, tenths, hundredths etc, boundary, carry</p>	
<p>As Y2.</p>  <p>With 2-digit – 2-digit, 3-digit – 2-digit and 3-digit – 3-digit.</p> <p>Counting back on a number line with no crossing through ten.</p> $98 - 36 = 62$  <p>Counting back on a number line, using number bonds to cross through ten or 100.</p>	<p>As Y3.</p> 

$$98 - 39 = 59$$



	6	0	0	+	7	0	+	4				
-	1	0	0	+	2	0	+	1				
	5	0	0	+	5	0	+	3	=	5	5	3



At the moment we can't do $3 - 4$ so we exchange a ten for 10 units. Now we can do $13 - 4 = 9$

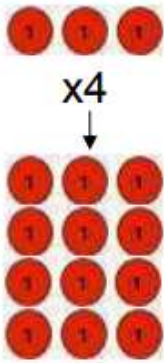
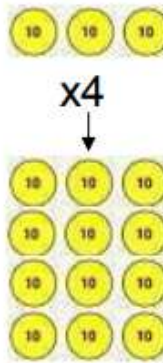
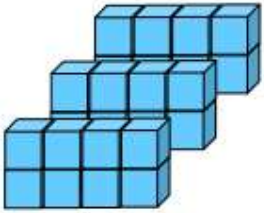
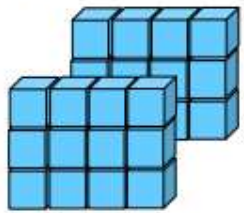
However, we now can't do $10 - 60$ so we need to exchange a hundred for 10 tens.

Now we can do $110 - 60 = 50$ and $800 - 500 = 300$

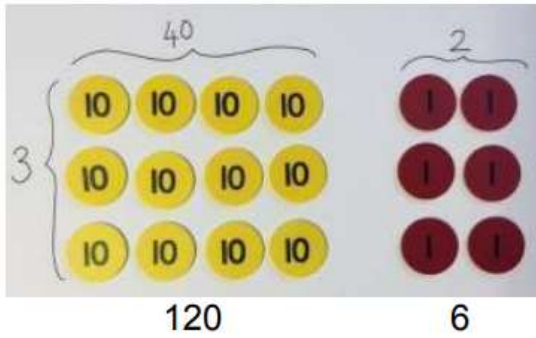
$$\begin{array}{r} 700 + \overset{40}{\cancel{50}} + '2 \\ - 300 + 10 + 8 \\ \hline 400 + 30 + 4 = 434 \end{array}$$

$$\begin{array}{r} 800 \quad '10 \\ \cancel{900} + \cancel{20} + '3 \\ - 500 + 60 + 4 \\ \hline 300 + 50 + 9 = 359 \end{array}$$

Multiplication

Year 3	Year 4
<ul style="list-style-type: none"> * recall and use 3, 4 and 8 multiplication tables * grid method when multiplying two-digit numbers by one digit * scaling and correspondence problems * practise mental methods of multiplication to two-digit numbers eg 20×3 	<ul style="list-style-type: none"> * recall multiplication facts for tables up to 12×12 * grid method when multiplying two-digit and three-digit numbers by one digit, moving to expanded formal written method of 2 and 3-digit numbers multiplied by a single digit * integer scaling problems and harder correspondence problems * practise mental methods of multiplication to three-digit numbers eg 200×3
<p>Vocabulary As KS1 plus: Inverse, product</p>	
<p>As Y2.</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: fit-content; margin-bottom: 20px;"> <p>If $3 \times 4 = 12$, then $30 \times 4 = 120$.</p> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>$3 \times 4 = 12$</p> </div> <div style="text-align: center;">  <p>$30 \times 4 = 120$</p> </div> </div> <div style="margin-top: 20px;"> <p>$36 \times 5 = ?$</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 10px;"> $36 \rightarrow 30 \text{ and } 6$ </div> <div style="text-align: center;"> $30 \times 5 = 150$ </div> <div style="margin: 0 10px;">+</div> <div style="text-align: center;"> $6 \times 5 = 30$ </div> <div style="margin-left: 10px;">= 180</div> </div> </div>	<p>As Y3. Multiplying 3 one-digit numbers.</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  <p>$(2 \times 4) \times 3$ $8 \times 3 = 24$</p> </div> <div style="text-align: center;"> <p>$2 \times 4 \times 3 = ?$</p>  <p>$2 \times (4 \times 3)$ $2 \times 12 = 24$</p> </div> </div>

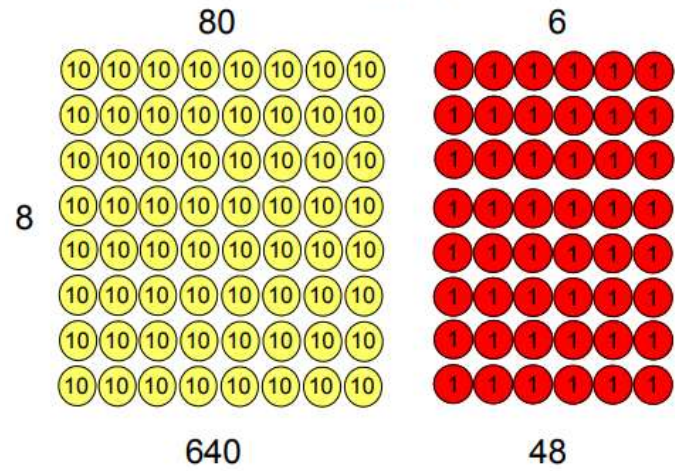
$42 \times 3 = 126$



$53 \times 3 = 159$

	50	3	
3	150	9	159

86×8



Grid method: 2x1digit, 3x1digit.

$69 \times 7 = ?$

	60	9	
7	420	63	483

$69 \times 7 = 483$


$453 \times 6 = 2718$

	400	50	3	
6	2400	300	18	2718

Expanded formal written method.

$$\begin{array}{r} 69 \\ \times 7 \\ \hline 63 \\ 420 \\ \hline 483 \end{array}$$

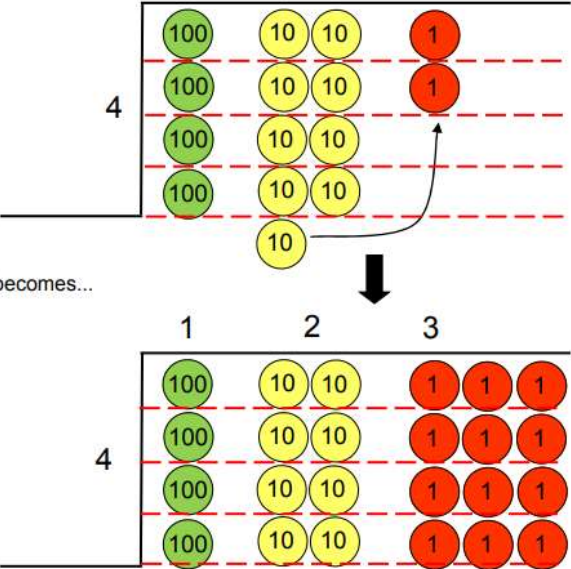
(7×9) (7×60)



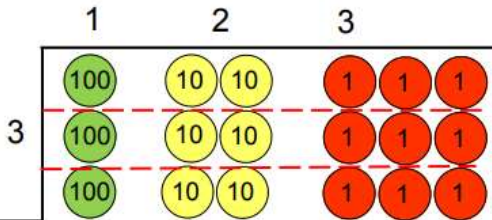
$$\begin{array}{r} 453 \\ \times 6 \\ \hline 18 \\ 300 \\ 2400 \\ \hline 2718 \end{array}$$

(6×3)
 (6×50)
 (6×400)

Division

Year 3	Year 4
<ul style="list-style-type: none"> *recall and use division facts for 3, 4 and 8 * introduce short division with two-digit numbers by a single digit and with multiplication facts children can recall rapidly * develop mental methods eg $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$ 	<ul style="list-style-type: none"> *recall and use all division facts to 12×12 * extend short division to three-digit numbers divided by a single digit with exact answers * practise mental methods extending to three-digit numbers to derive facts eg $600 \div 3 = 200$
<p>Vocabulary As KS1 plus: Remainder, divided into, divisible by, factor, quotient</p>	
<p>As Y2.</p> <p>$98 \div 7$ becomes</p> $\begin{array}{r} 14 \\ 7 \overline{) 98} \end{array}$ <p>Answer: 14</p>	<p>As Y3.</p> <p>Examples where exchange is required should also be provided: $492 \div 4 = ?$</p>  <p>becomes...</p> $\begin{array}{r} 123 \\ 4 \overline{) 492} \end{array}$

$$369 \div 3 = 123$$



$$\begin{array}{r} 123 \\ 3 \overline{)369} \end{array}$$