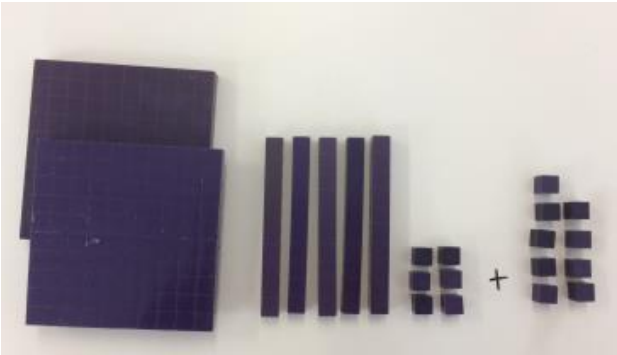
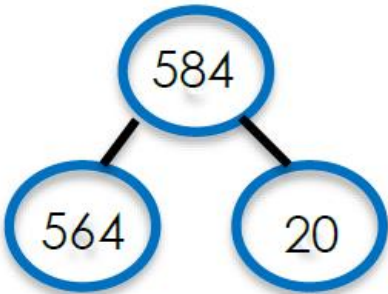
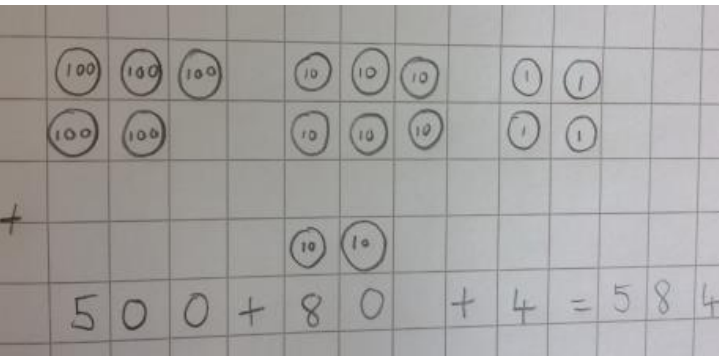
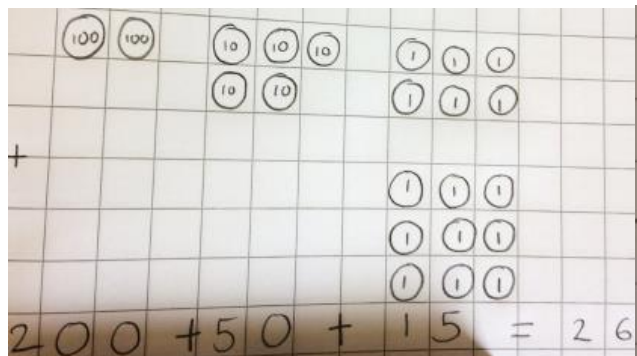


Year Three

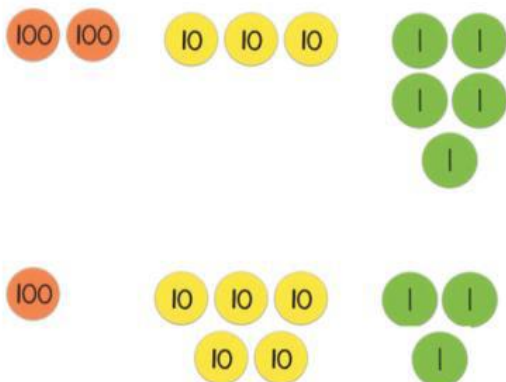
Addition

Year Three	<p>Pupils should be able to:</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • Add numbers mentally, including: <ul style="list-style-type: none"> ○ a three-digit number and 1s ○ a three-digit number and 10s ○ a three-digit number and 100s • Add numbers with up to 3 digits, using formal written methods of columnar addition
Adding Mentally	
<p>Use of place value counters and dienes to support adding mentally</p> <p>$256 + 9 = 265$</p> 	<p>Counting on from the largest number in ones, tens and hundreds. Using a part-part whole model or bar model to show understanding</p> 
<p>$256 + 9 = 265$</p>	<p>$564 + 20 = 584$</p>



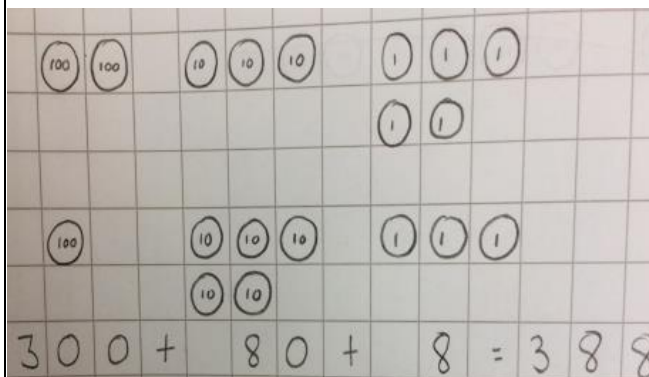
Adding Three Digit Numbers

Use of concrete place value counters and dienes to support adding



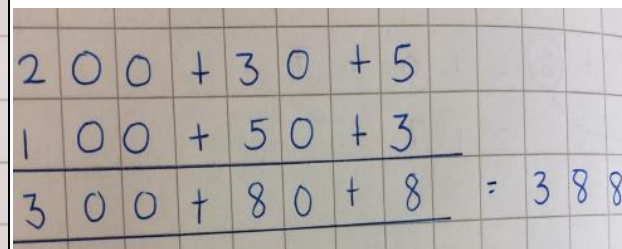
Support pictorially through drawings and pictures in books

$$235 + 153 = 388$$

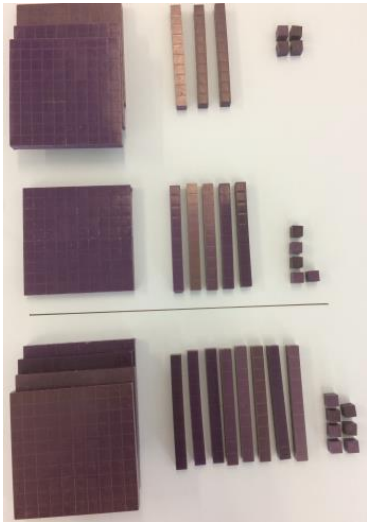
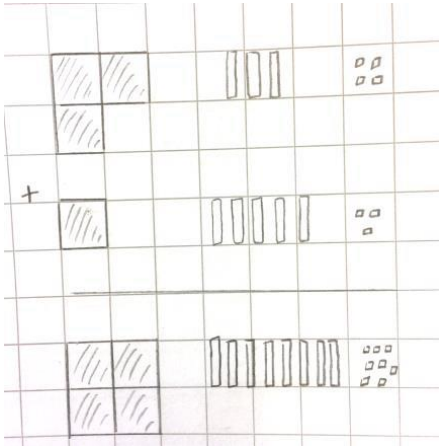
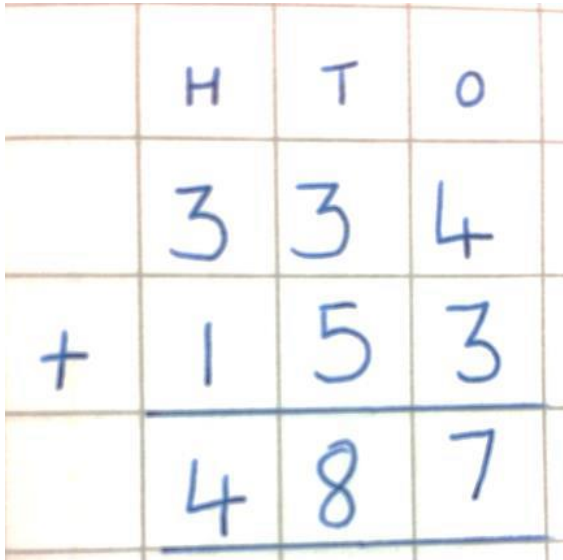


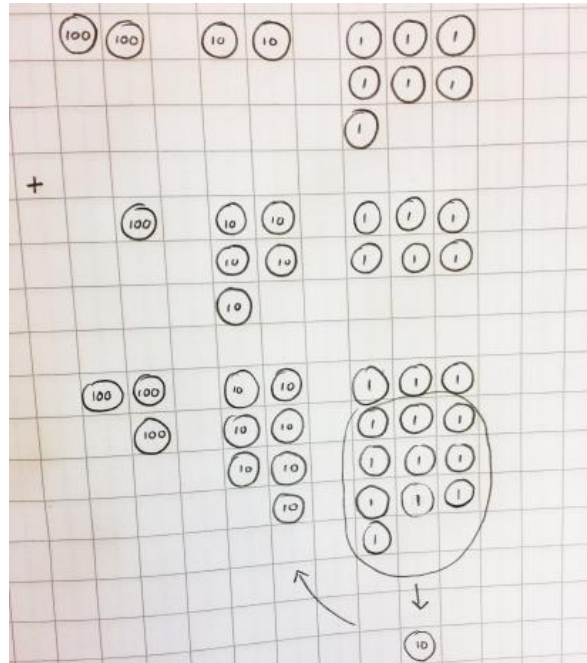
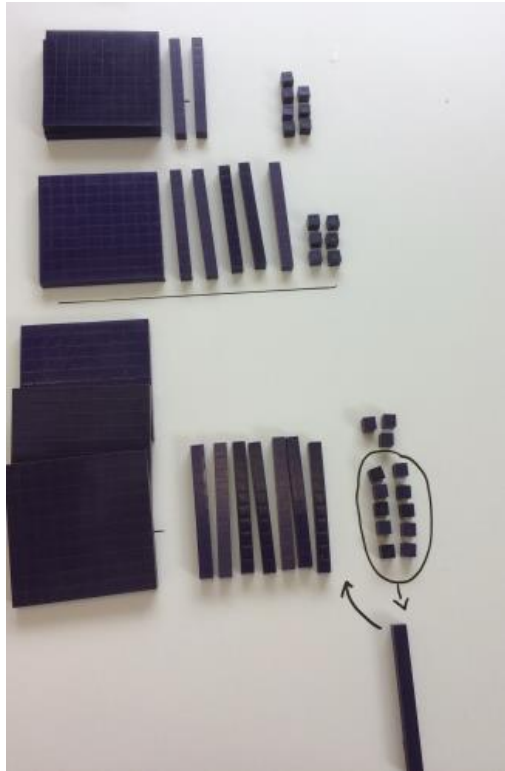
Using the partitioning method to add at first before moving on to columnar

$$235 + 153 = 388$$



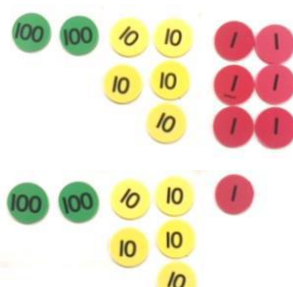
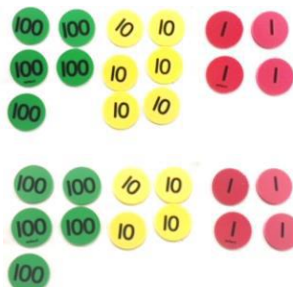
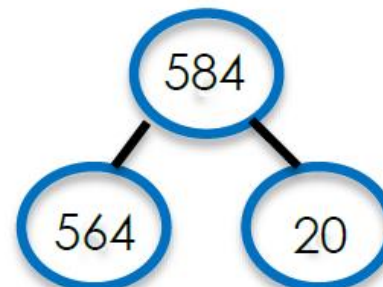
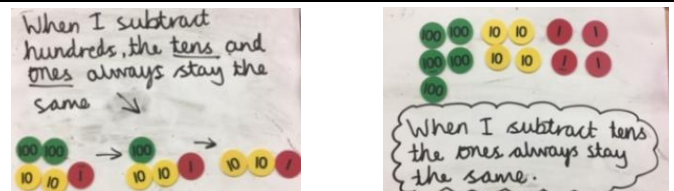
Compact Columnar Addition with no regrouping

<p>Column method with dienes or place value counters</p> $334 + 153 = 487$ 	<p>Children drawing pictures of dienes in the column method</p> $334 + 153 = 487$ 	<p>Formal column method involving no regrouping</p> $334 + 153 = 487$ 
<p>Compact Columnar Addition with regrouping</p>		
<p>Column method with dienes or place value counters</p> $227 + 156 = 383$	<p>Children drawing pictures or using support of pictures of concrete objects in the column method</p> $227 + 156 = 383$	<p>Formal column method involving regrouping</p> $227 + 156 = 383$



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

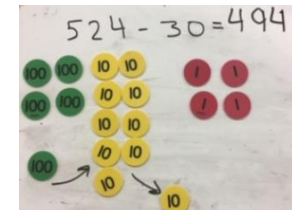
Subtraction

Year Three	<p>Pupils should be able to:</p> <p>Pupils should be able to:</p> <ul style="list-style-type: none"> Subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s Subtract numbers with up to 3 digits, using formal written methods of columnar addition estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
Adding Mentally	
<p>Use of place value counters and dienes to support subtracting mentally – regrouping/exchanging when necessary</p> <p>$256 - 5 = 251$</p>  <p>$564 - 20 = 544$</p> 	<p>Counting back from the largest number in ones, tens and hundreds. Using a part-part whole model or bar model to show understanding</p> 
<p>Children should explain understanding of patterns to support counting back mentally.</p> <p>What happens when I subtract tens? Hundreds?</p>	

Ones?

What about when crossing hundreds and tens boundaries?

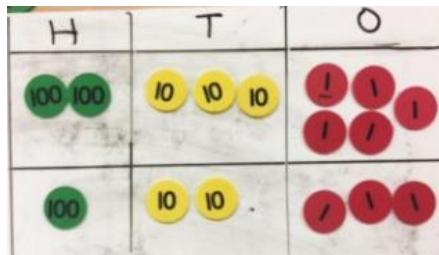
Sometimes the hundreds change when I subtract tens
 \downarrow
 512, 502, 492



Subtracting Three Digit Numbers using Partitioning with no regrouping

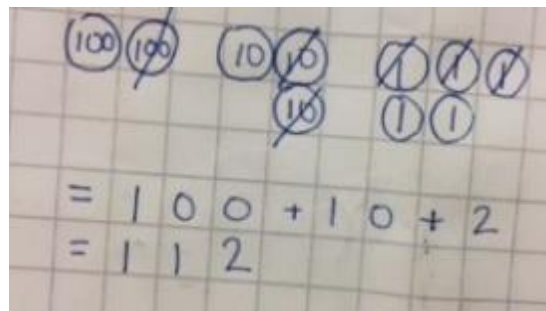
Use of concrete place value counters and dienes to support subtraction

$$235 - 123 =$$



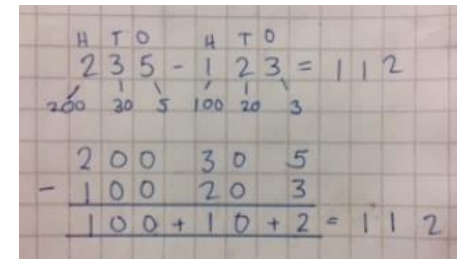
Support pictorially through drawings and pictures in books

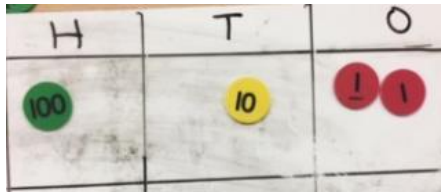
$$235 - 123 =$$



Using the partitioning method to subtract at first before moving on to columnar

$$235 - 123 =$$

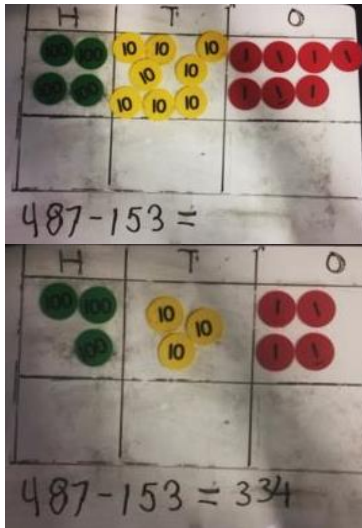




Compact Columnar Subtraction with no regrouping

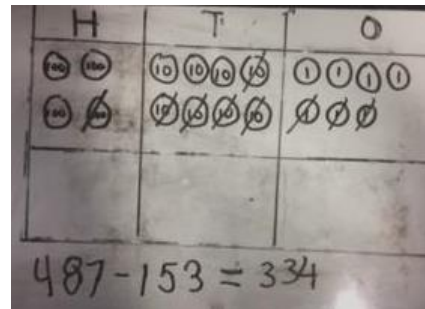
Column method with dienes or place value counters

$$487 - 153 =$$



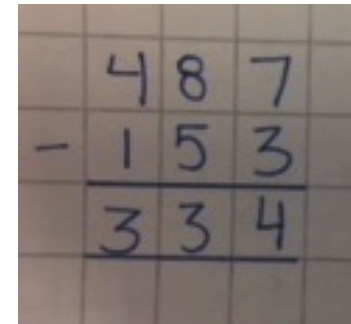
Children drawing pictures of dienes in the column method

$$487 - 153 =$$



Formal column method involving no regrouping

$$487 - 153 =$$



Compact Columnar Subtraction with regrouping

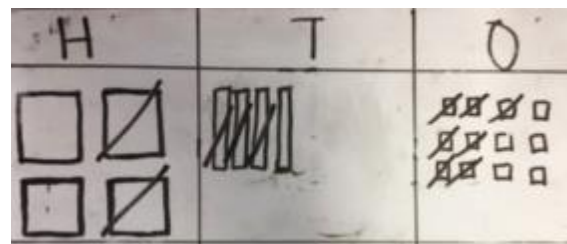
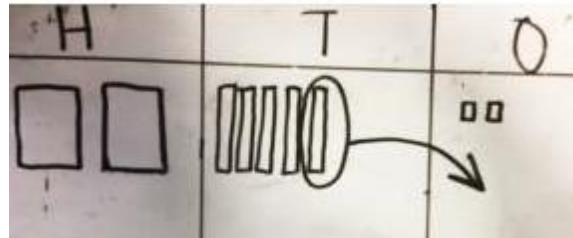
Partitioning dienes or place value counters

$$452 - 237 =$$



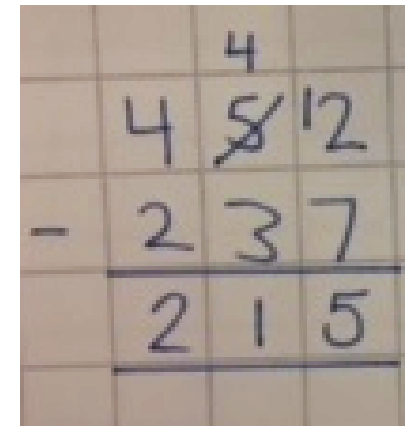
Children drawing pictures or using support of pictures of concrete objects in the column method – exchanging tens for ones where necessary

$$452 - 237 =$$



Partitioning method

$$452 - 237 =$$



Multiplication

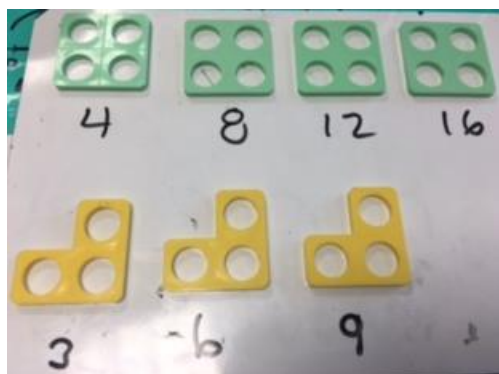
Year Three

Pupils should be able to:

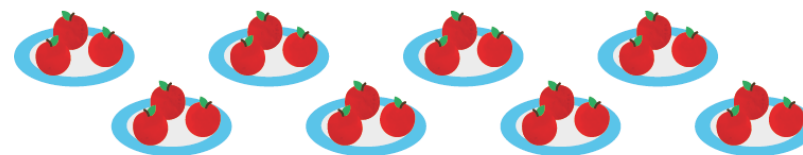
- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems

Count in Multiples

Use of practical apparatus to support counting in multiples of 3, 4 and 8



Use of pictorials to support counting on in multiples



24
twenty
8 groups of 3 is 24

Mentally counting on in multiples. Children should use pattern spotting to support their understanding of multiples.

0, 5, 10, 15,...

'Multiples of 4 end in 0,2,4,6,8. They are even numbers.'

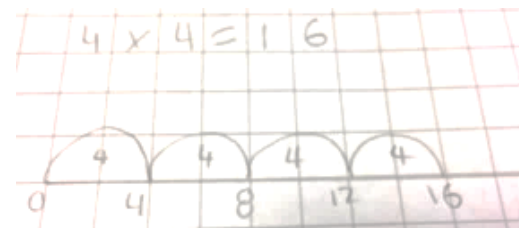
'53 cannot be a multiple of 8 because it's not an even number'

Number Line

Children can use concrete objects to support understanding of an empty number line.

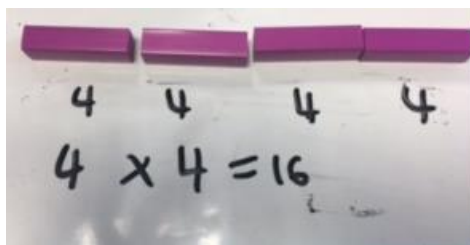


Children can use abstract method of number line with same steps as used in year 2.

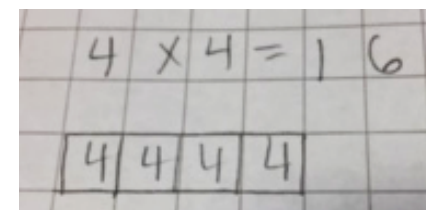


Bar Model

Children can use concrete objects to support understanding of bar model



Children can draw own bar model to support solving multiplication problems.



Grid Method

Grid method-dienes

The two digit number is partitioned horizontally with the tens digit coming first. The number is represented by the dienes.


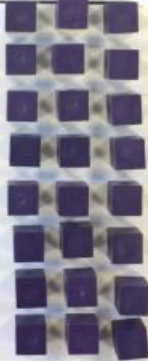
$18 \times 3 =$

Grid method

$18 \times 3 =$

- Partition the number into tens and ones
- Multiply the pairs of numbers
- Record the answer in the grid
- Recombine to find the answers

$$18 \times 3 = 54$$

x	10	8
3		

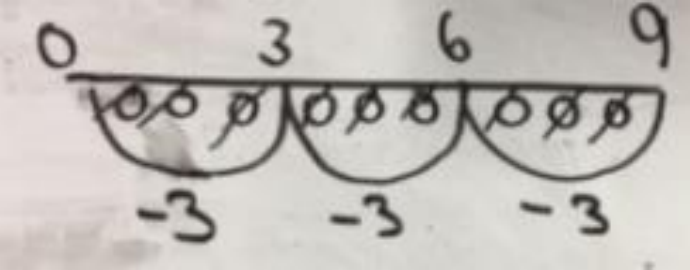
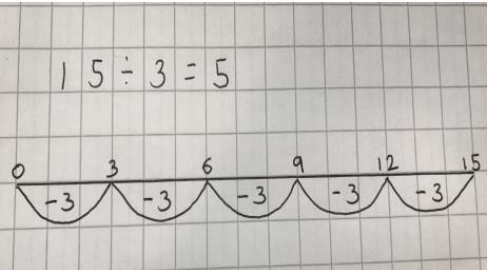
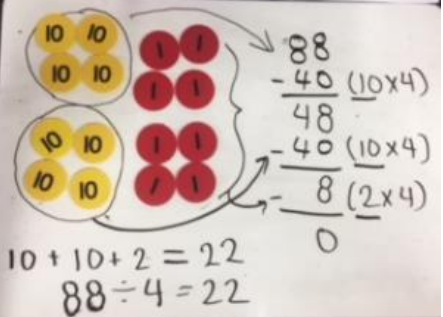
$$30 + 24 = 54$$

Answer: 54

	1	8	x	3	=	5	4	
	x	1	0			8		
	3	3	0			2	4	
	3	0	+	2	4	=	5	4

Answer: 54

Division

Year Three	<p>Pupils should be able to:</p> <ul style="list-style-type: none"> Recall and use division facts for the 3, 4 and 8 multiplication tables Write and calculate mathematical statements for 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
Repeated Subtraction	
<p>Children use previous methods learned in year 2, but focus on aspect of repeated subtraction to prepare for subtracting when chunking.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;">   </div>	
Chunking	
<p>Children can use place value counters as well as drawings to support this method conceptually.</p> 	<p>Children should be encouraged to write down the related time tables facts to support them with the formal method of chunking.</p> 