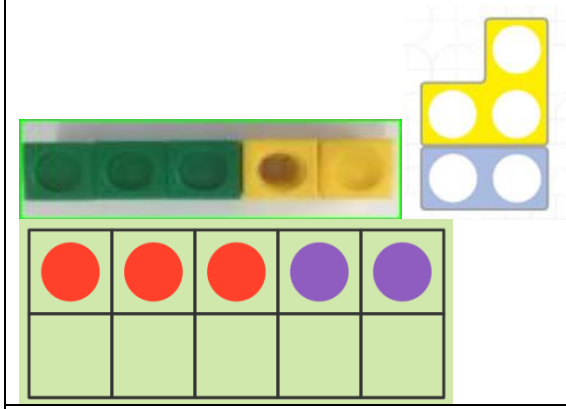
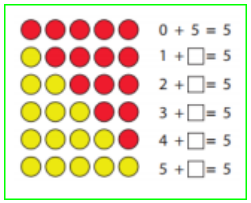
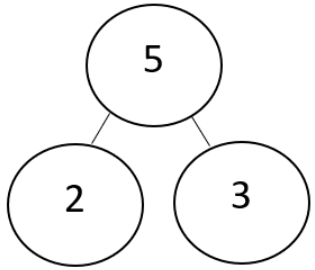
CALCULATION POLICY

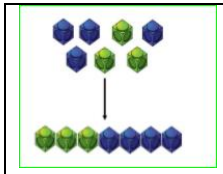
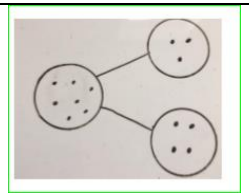
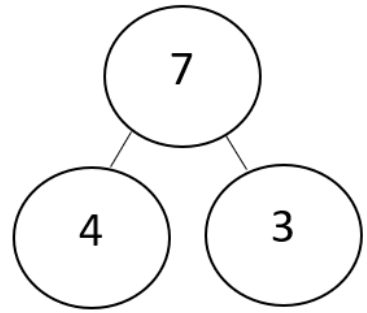
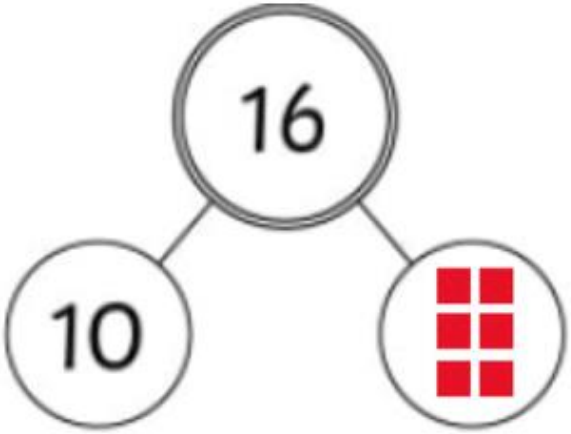
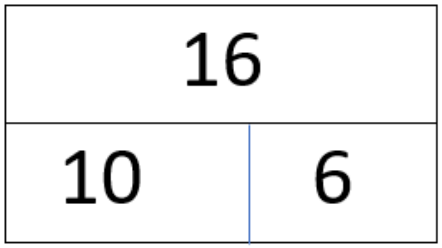
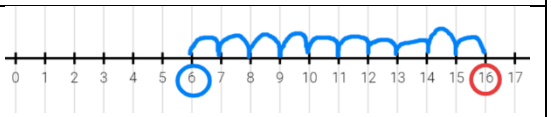
Years 1-6

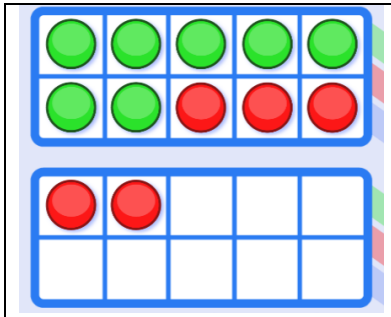
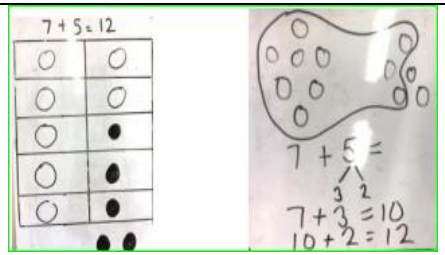
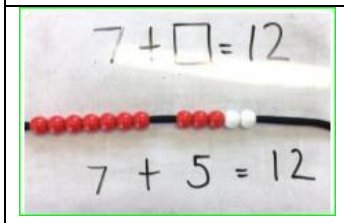
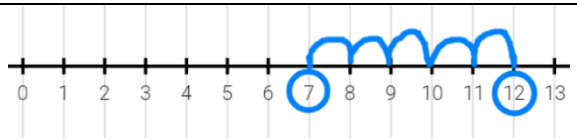
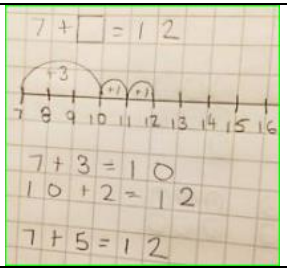
September 2024

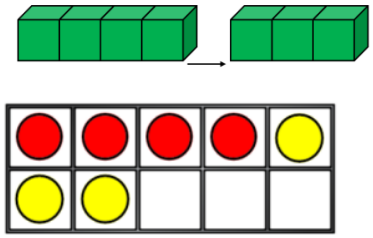
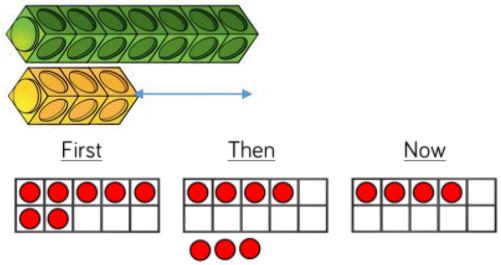
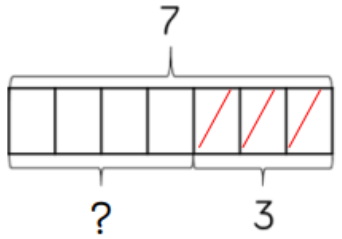
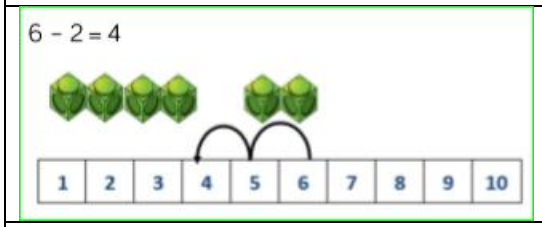
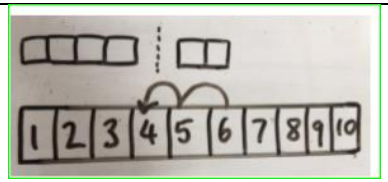
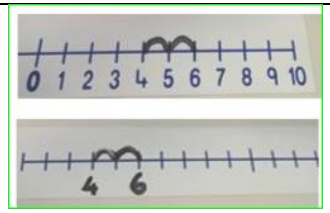
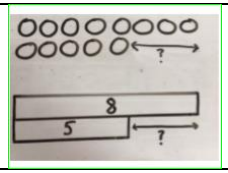
BELONG. BELIEVE. BECOME. BETTER IS ALWAYS POSSIBLE.

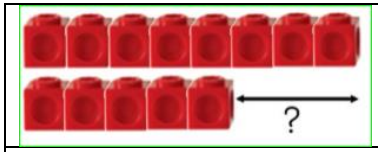
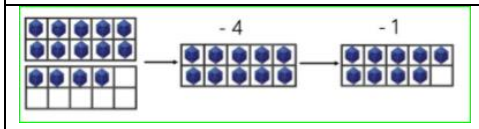
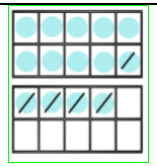
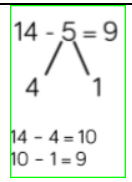
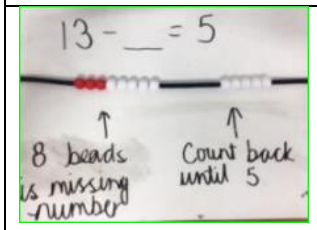
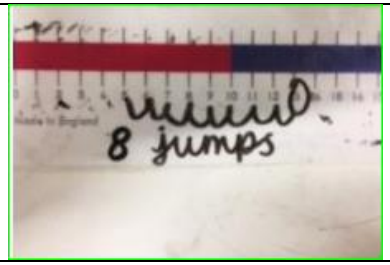
<table>
<tr><th colspan="3">Year 1</th></tr>
<tr><td colspan="3">Addition
Read, write and interpret mathematical statements involving addition
Represent and use all number bonds within 20
Add one-digit and two-digit numbers to 20, including 0
Solve one-step problems that involve addition using concrete objects and pictorial representations, and missing number problems</td></tr>
<tr><td colspan="3">Number Bonds (Story of numbers up to 20)</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>  </td><td> 

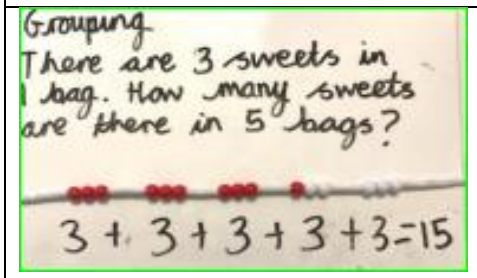
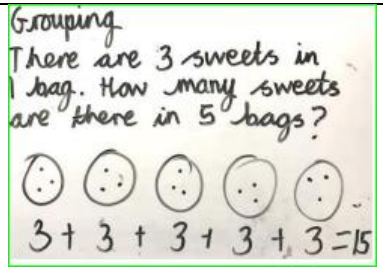
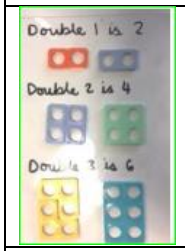
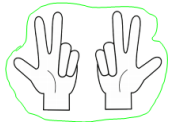

</td><td> 
</td></tr>
<tr><td>Vary representations to teach number bonds to 20 using cubes, counters, numicon, part-whole model or tens frame.</td><td>Model story of numbers up to 20.
3 and 2 make 5. Children can draw around objects using the part-whole model.</td><td>3 + 2 = 5</td></tr>
<tr><td colspan="3">Combining two parts to make a whole: part whole model</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
</table>

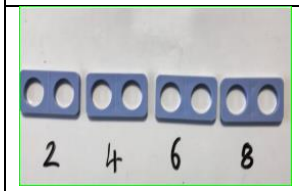
		
Combining two parts to make a whole (use other resources e.g. eggs, shells, teddy bears, cars).	Children to represent the cubes using dots or crosses or a part-whole model.	4 + 3 = 7 Four is a part, 3 is a part and the whole is 7
Add One-Digit and Two-Digit (numbers up to 20)- Starting at the bigger number and counting on		
Concrete	Pictorial	Abstract
		 What is 6 more than 10? What is the sum of 6 and 10? 6 + 10 = 16 Extend to 2-digit number add 2-digit number: Children can then move to recording abstractly: 16 + 10 = 10 + 10 = 20, 6 + 0 = 6, thus 20 + 6 = 26
Use of everyday objects, counters or cubes using part-part whole model.	A bar model which encourages children to count on, rather than count all.	When children are secure they can move on to doing this mentally.
Regrouping to make 10 using tens frame.		
Concrete	Pictorial	Abstract

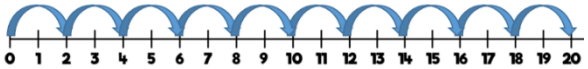
<table>
<tr>
<td> 
Step 1: Make 10
Step 2: Add the left over amount on another tens frame.
7 + 5 =
7 + 3 = 10
10 + 2 = 12
Thus 7 + 5 = 12</td>
<td>  </td>
<td>7 + 5 = 12
3 2
7 + 3 = 10
10 + 2 = 12</td>
</tr>
<tr>
<td>Use of a ten frame by partitioning the smaller number to make ten and then counting on the left over amount.</td>
<td>Use pictorial strategies to support use of a tens frame by circling a ten.</td>
<td>Partition the smaller number to make ten when prior strategies are secure.</td>
</tr>
<tr>
<td colspan="3">Missing Number Problems</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td>Abstract</td>
</tr>
<tr>
<td>  </td>
<td>  </td>
<td>  </td>
</tr>
<tr>
<td>Children begin by using concrete objects to support ‘counting on’ to find the missing number.</td>
<td>Children use a number line to support ‘counting on’ to find missing numbers.</td>
<td>Children should use knowledge of number bonds to partition when ‘counting on’ to find the missing number.</td>
</tr>
<tr>
<td colspan="3">Subtraction
• Read, write and interpret mathematical statements involving subtraction
• Represent and use all number bonds within 20
• Subtract one-digit and two-digit within 20, including 0
• Solve one-step problems that involve subtraction using concrete objects and pictorial representations, and missing number problems</td>
</tr>
</table>

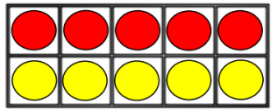
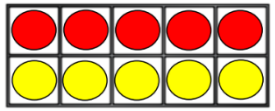
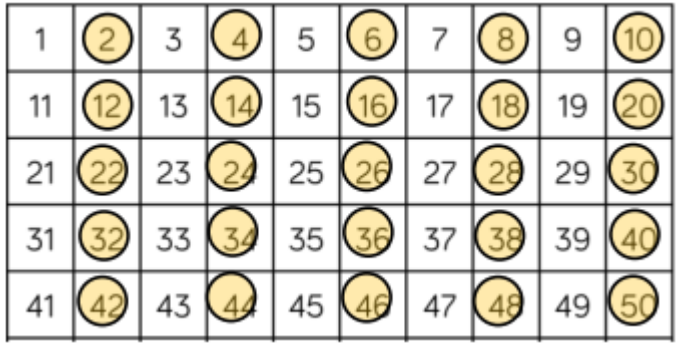
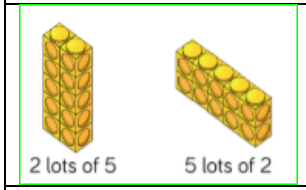
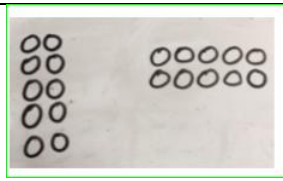
<table>
<tr><th colspan="3">Subtracting one digit and two digits within 20</th></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>  </td><td> 
</td><td> 
</td></tr>
<tr><td>Physically taking away and removing objects from a whole using tens frame, Numicon, cubes and other objects such as beanbags.
7 - 3 = 4</td><td>Children to draw the concrete resources, use bar models, tens frames, cubes and cross out or take away the correct amount.</td><td>Children can then move to recording abstractly through partitioning or use of a bar model.
Example: 17 - 13 =
10 - 10 = 0
7 – 3 = 4
When children are secure they can move on to doing this mentally.</td></tr>
<tr><td colspan="3">Counting back</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 
</td><td> 
</td><td> 
</td></tr>
<tr><td>Counting back using number lines or number tracks. Children start with 6 and count back 2.</td><td>Children to represent their understanding pictorially by starting with 6 and counting back 2.</td><td>Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line.</td></tr>
<tr><td colspan="3">Find the difference</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>Calculate the difference between 8 and 5.</td><td> 
</td><td>8 – 5, the difference is 3</td></tr>
</table>

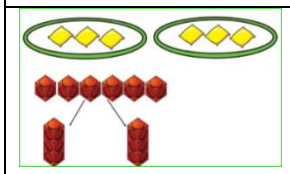
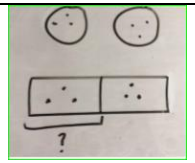
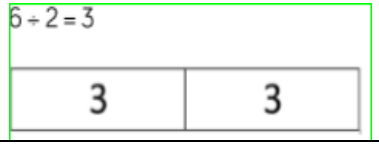
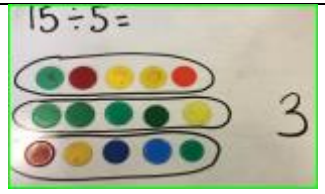
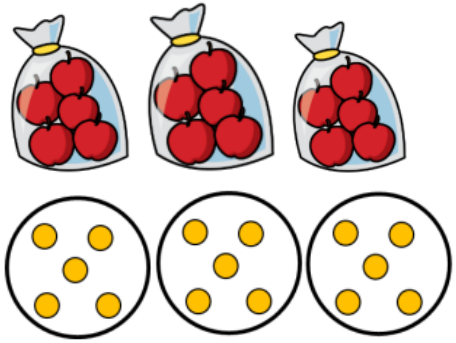
		
Finding the difference using cubes, Numicon or Cuisenaire rods or other concrete objects.	Children to draw the cubes, bar model or other concrete objects which they have used to illustrate their calculations.	Find the difference between 8 and 5. Children to explore why 9 - 6 = 8 – 5 = 7 – 4 have the same difference.
Regrouping to make 10 using the tens frame (Number bonds)		
Concrete	Pictorial	Abstract
		
Making 10 using tens frames. 14 - 5 = 9	Children to present the tens frame pictorially and discuss what they did to make 10. 14 - 4 = 10 10 - 1= 9	14 - 5 Children to present the tens frame by partitioning the 5 into a 4 and a 1. 14 – 4 = 10 (make a ten) 10 – 1 = 9
Missing Number Problems		
Concrete	Pictorial	Abstract
		 ‘I counted back until I landed on 5. I counted back 8 jumps in total so the missing number is 8’.

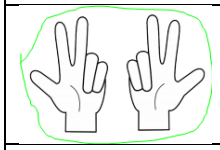
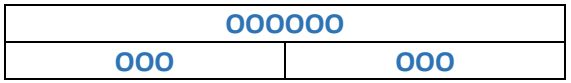
Children begin by using concrete objects to support in 'counting back' to find the missing number. 13 - ____ = 5	Children can use a number line to support counting back to find missing numbers. 13 - ____ = 5	Children can then move on to mentally counting back to find the missing number. Children will need to count back to the 'answer' while keeping tally of 'how many' they have counting back 13…12, 11, 10, 9, 8, 7, 6, 5.
Multiplication • solve one-step problems involving multiplication		
Repeated addition -Recognising and making equal groups.		
Concrete	Pictorial	Abstract
	 OOO OOO OOO OOO OOO	5 x 3 = 15 There are 5 groups of 3. Or 3 + 3 + 3 + 3 + 3 = 15 Repeated addition
Children will be able to say there are 5 equal groups, with 3 in each group.	Children to represent the practical resources in a picture or draw bar model	Repeated grouping/repeated addition
Doubling		
Concrete	Pictorial	Abstract
 	Children will be able to draw and represent Double 2 is 4 OO OO	
Use of numicon to double numbers. If children know the shape of the numbers,	Represent in a bar model.	Recall mentally double 2 is 4.

<table>
<tr><td>then it will be easier for them to recall their double facts.
Use fingers or multi-link cubes.</td><td></td><td></td></tr>
<tr><td colspan="3">Counting in multiples Use cubes, Numicon and other objects in the classroom</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 


 </td><td> 



 </td><td> 
</td></tr>
<tr><td>Use of everyday objects or Numicon to count in 2s, 5s and 10s.</td><td>Represent this pictorially alongside a number line, using tens frames, coins etc</td><td>Abstract using a 100 square to recognise the patterns.</td></tr>
<tr><td colspan="3">Arrays</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 
</td><td>  </td><td>$10 = 2 \times 5$
$5 \times 2 = 10$
$2 + 2 + 2 + 2 + 2 = 10$
$10 = 5 + 5$</td></tr>
<tr><td>Use arrays to illustrate commutativity counters and other objects can also be used. 2 × 5 = 5 × 2</td><td>Children to represent the arrays pictorially.</td><td>Children to be able to use an array to write a range of calculations.</td></tr>
<tr><td colspan="3">Division</td></tr>
</table>

<table>
<tr><td colspan="3">• Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</td></tr>
<tr><td colspan="3">Sharing objects into groups (Fair sharing)</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>  </td><td>  </td><td> 
</td></tr>
<tr><td>Children should experience sharing objects out equally between 2, 5 and 10 by using a range of objects.
6 ÷ 2 = 3</td><td>Represent the sharing pictorially by drawings or using sharing circles. Examples of both fair sharing and what is not fair sharing.</td><td>If children are ready, they could be pushed on to solve more abstractly through use of a bar model or provided with a bar and show their representations. Children should also be encouraged to use their times tables facts.</td></tr>
<tr><td colspan="3">Grouping & Arrays</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 
</td><td>15 divided into 3 groups
  </td><td>I know that 5 x 3 = 15
So, I also know that
15 divided by 3 is 5.</td></tr>
<tr><td>Children should experience grouping objects into groups of the multiple.
Example placing objects into groups of 5</td><td>Rather than children drawing arrays in their books, in year 1 children may be provided pictorially with arrays and children can circle to</td><td>Children can use their knowledge of their times tables facts.</td></tr>
</table>

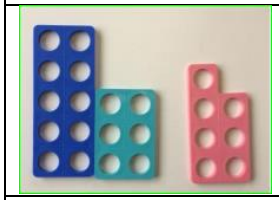
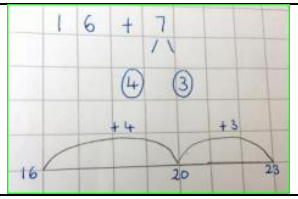
and seeing how many groups there are through use of arrays. 15 ÷ 5 = 3	group. If children are ready, they can draw on their own.	
Halving		
Concrete	Pictorial	Abstract
		I know that half of 6 is 3.
Find half of even numbers up to 12 including realising that it is hard to halve an odd number.	Children can pictorially represent half up to 12 using a bar model.	Children are able to mentally recall halves of numbers up to 12.

Year 2

Addition

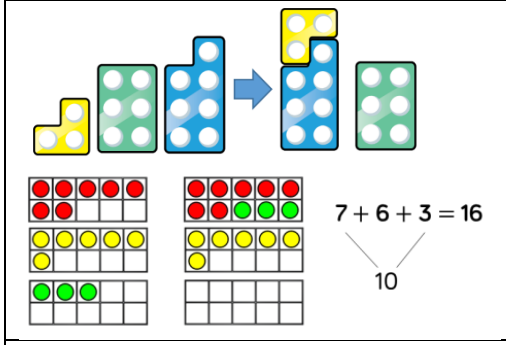
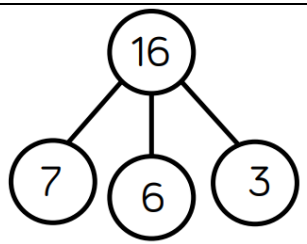
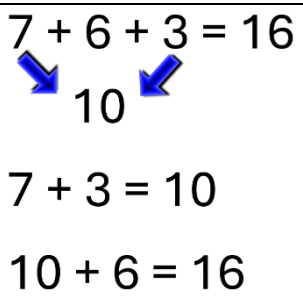
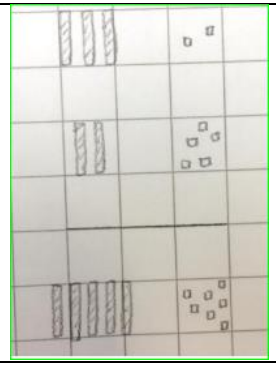
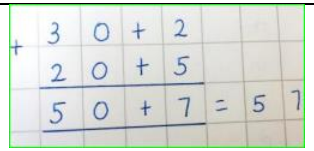
- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- Solve problems with addition
- applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and 1s x a two-digit number and 10s x 2 two-digit numbers
  - adding 3 one-digit numbers x show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot
  - recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems

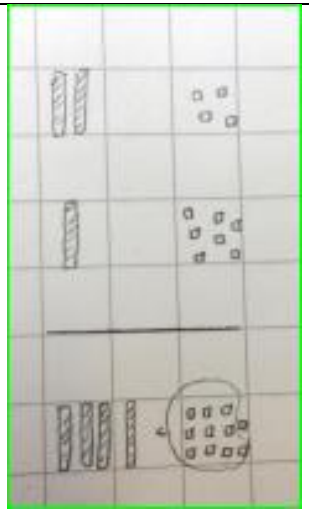
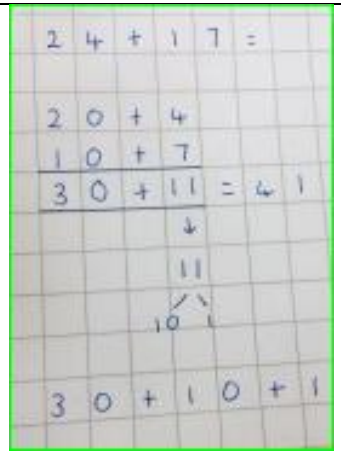
Adding a Two-Digit and Ones

Concrete	Pictorial	Abstract
		16 + 7= 23 16 + 4 = 20 20 + 3 = 23
Use of practical manipulatives to support adding such as numicon, bead strings, etc. 16 + 7 = 23	Use of part-whole model for partitioning and use knowledge of number bonds to support adding. 16 + 7= 16 + 4 = 20 20 + 3 = 23	Mentally counting on from the biggest number using partitioning and part-whole to support.

Adding three single digit numbers

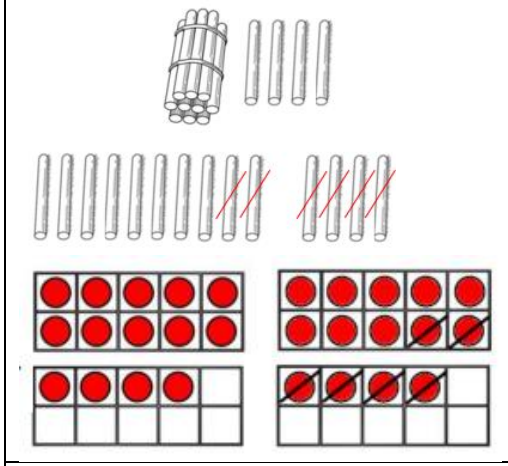
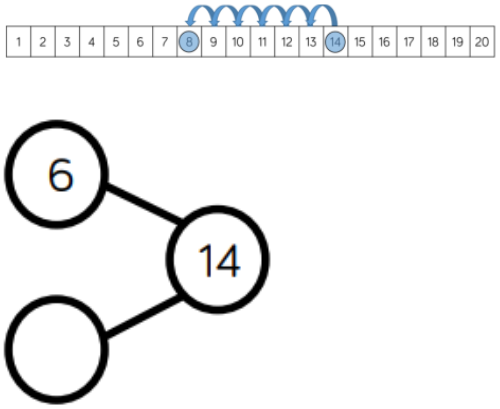
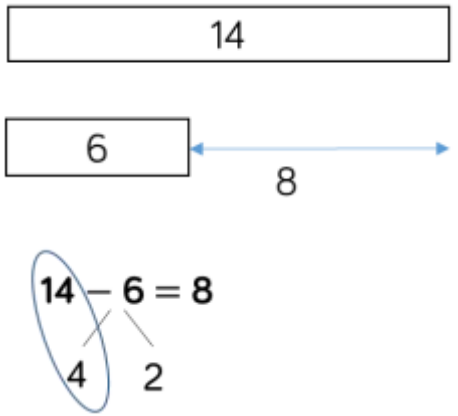
Concrete	Pictorial	Abstract

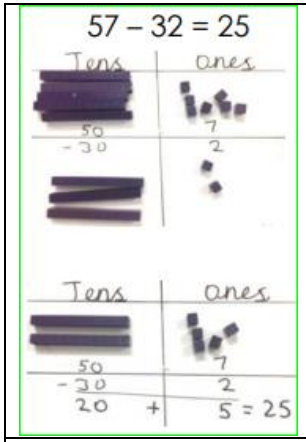
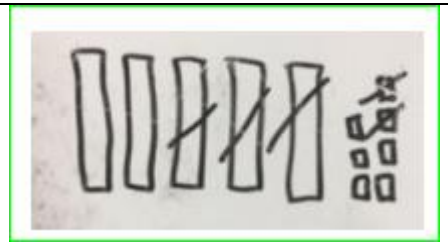
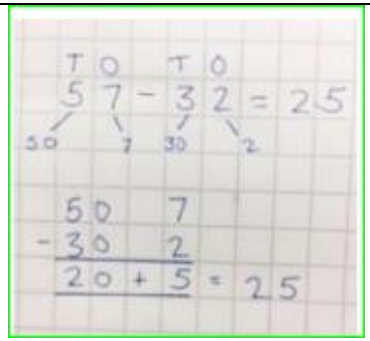
		
Use of bead strings to show visually 7 + 6 + 3 = 16 Place 7 and 3 together to make ten. Add on 6, then add the ones together and finally add the tens.	Add three parts together. Draw a picture to recombine the groups to make 10. 7 + 3 = 10 plus 6 = 16	Combine the two numbers that make 10 and then add on the remainder.
Adding Two Two-Digit Numbers (no regrouping)		
Concrete	Pictorial	Abstract
		
Use of dienes to add the ones first then the tens. 32 + 25= 57	Support pictorially through drawings and pictures in books. 32 + 25= 57	Use of the partitioning method to add 32 + 25 = 57 • Partition the 2-digit numbers • Arrange in a column • Add the ones • Add the tens • Recombine
Adding Two Two-Digit Numbers (with regrouping)		

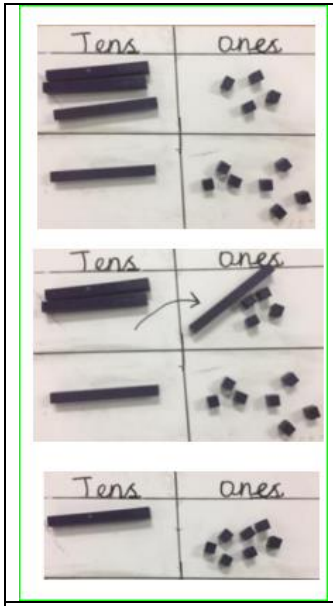
Concrete	Pictorial	Abstract
		 If the number is bigger than ten, encourage the children to partition to add the tens then the one
Use of dienes to add the ones first then the tens. 24 + 17 = 41	Support pictorially through drawings and pictures in books. 24 + 17 = 41	Use of the partitioning method to add • Partition the 2-digit numbers • Arrange in a column • Add the ones • Add the tens • Recombine 24 + 17= 41

Subtraction

- solve problems with subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
  - recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- subtract numbers using concrete objects, pictorial representations, and mentally, including:
  - a two-digit number and 1s
  - a two-digit number and 10s
  - 2 two-digit numbers
- show that subtraction is not commutative as addition is

recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems		
Subtracting a Two-Digit and ones		
Concrete	Pictorial	Abstract
		
Use of concrete objects to support subtraction such as tens frames, dienes and part-whole models. 16 – 6 = 8	Use of part-whole model or number line to partition. Children will use knowledge of number bonds to support subtraction as well as subtracting to near 10s. 14 – 6 = 8	Mentally counting back from the biggest number using partitioning and part-whole to support. 14 – 6 = 8
Subtracting Two Two-Digit Numbers (no regrouping)		
Concrete	Concrete	Concrete

	 57 – 32 = 25	
Use of concrete dienes to support subtraction. Subtract the ones first then the tens. 57 – 32 = 25	Support pictorially through drawing and pictures in books. Children will physically cross out. 57 – 32 = 25	Use of the partitioning method to subtract 57 – 32 = 25 • Partition the 2-digit numbers • Arrange in a column • Subtract the ones • Subtract the tens • Recombine
Subtracting Two Two-Digit Numbers (regrouping)		
Concrete	Pictorial	Abstract

<table>
<tr>
<td> 
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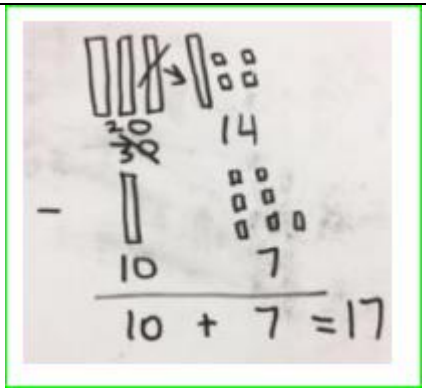
<td> 
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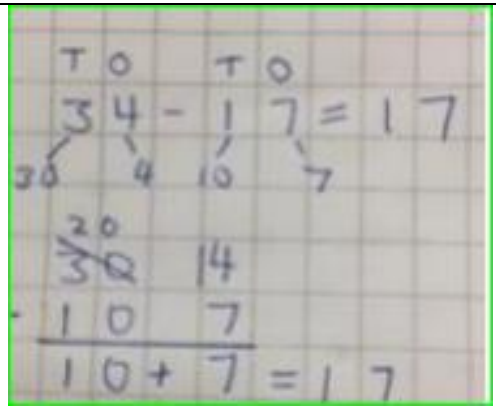
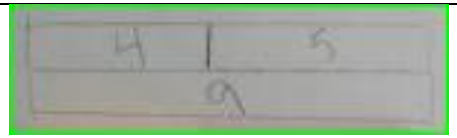
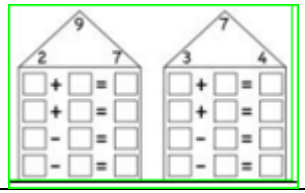
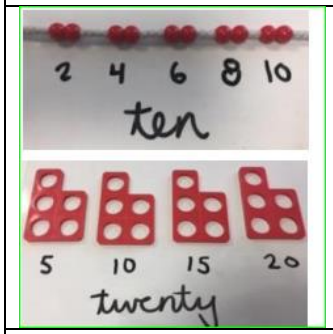
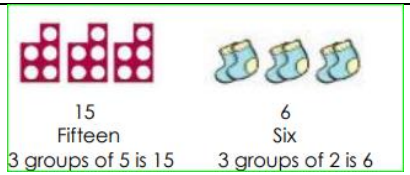
<td> 
</td>
</tr>
<tr>
<td>Use of concrete dienes to support subtraction. Subtract the ones first. Must regroup in order to subtract the ones. Take a ten and add it to the ones column. Now subtract the ones, then subtract the tens.
34 – 17 = 17</td>
<td>Support pictorially through drawings and pictures in books.
Must regroup in order to subtract the ones. Take a ten and add it to the ones column. Now subtract the ones, then subtract the tens.
34 – 17 = 17</td>
<td>Use of the partitioning method to subtract
• Partition the 2-digit numbers
• Arrange in a column
• Regroup the tens to make 1 ten into 10 ones
• Subtract the ones
• Subtract the tens
34 - 17 = 17</td>
</tr>
<tr>
<td colspan="3">Using the Inverse to solve missing number problems</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td>Abstract</td>
</tr>
<tr>
<td>  </td>
<td>  </td>
<td>If I know that … 20 + 21 = 41 then I also know… 41 – 21 = 20 etc
 
</td>
</tr>
</table>

Children are able to say 4 + 5 = 9 5 + 4 = 9 I also know that 9 - 5 = 4 9- 4 = 5	Children use a bar model to support understanding that addition is commutative (can be done in any order) but subtraction is not. Children use knowledge of subtraction sentences to say related addition facts.	Children move away from counting on/back to find the missing number to rearranging the number sentence and using the inverse 55 + ____ = 75 75 – 55 = Then use known methods to solve.

Multiplication

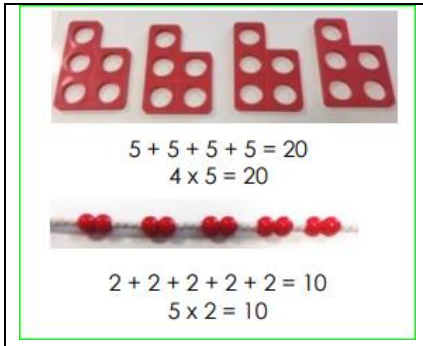
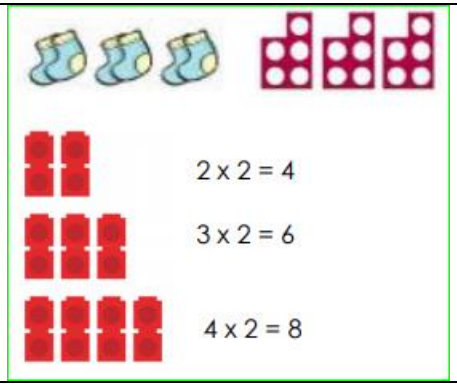
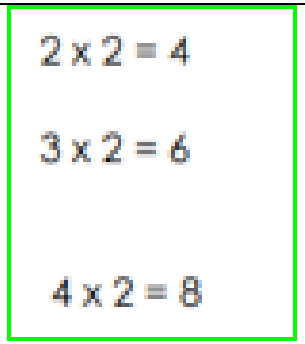
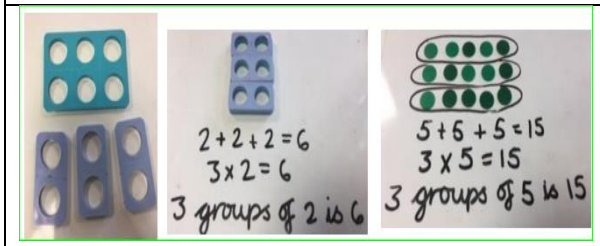
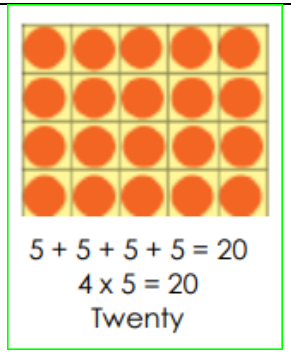
- recall and use multiplication facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (×) and equals (=) signs
- show that multiplication of two numbers can be done in any order (commutative)
- solve problems involving multiplication, using materials, arrays, repeated addition, mental methods, and multiplication facts, including problems in contexts

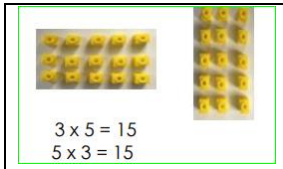
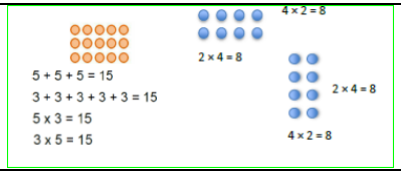
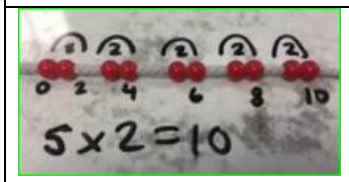
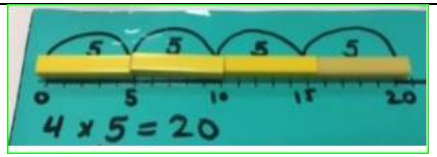
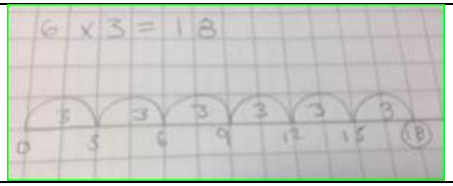
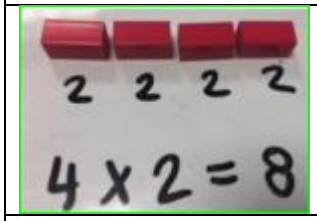
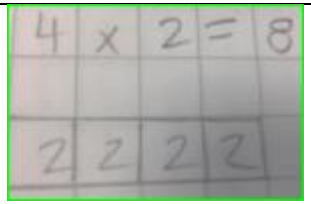
Count in Multiples

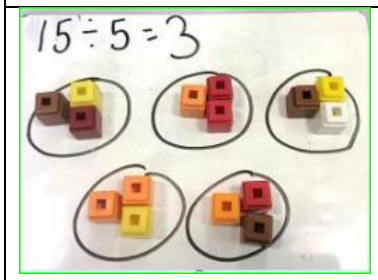
Concrete	Pictorial	Abstract
		'Multiples of 5 end in 0 and 5 only. They are even and odd numbers.' '48 cannot be a multiple of 5 because it doesn't end in a 0 or 5'
Use of practical apparatus to support counting in multiples of 2, 3, 5, and 10	Use of pictorials to support counting on in multiples.	Mentally counting on in multiples. Children should use pattern spotting to support their understanding of multiples. 0, 5, 10, 15…

Repeated Addition

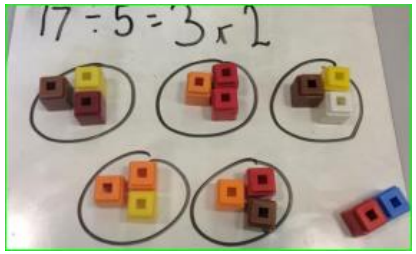
Concrete	Pictorial	Abstract

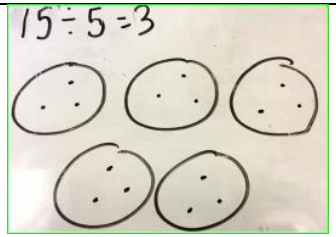
		
Children use concrete materials to understand multiplication as addition.	Use of pictorials in books or drawings to support understanding multiplication as addition.	Children will be able to use their times tables facts.
Arrays		
Concrete	Pictorial	Abstract
		
Use of practical apparatus to support solving multiplication problems using arrays. • Counters • Numicon	Through use of pictorials in books, children can count total in multiples to solve	Children can draw an array as a method to solve problems
Commutative Relationship		
Concrete	Pictorial	Abstract

		If I know 2 x 3 = 6 I also know that 3 x2 = 6
Use of concrete resources to show that multiplication can be done in any order.	Move and draw arrays in different ways to show the commutative relationship.	Children will be able to say statements showing an understanding of commutative relationship.
Number line		
Concrete	Pictorial	Abstract
		
Children can use counting beads or Cuisenaire rods to support their understanding of using an empty number line to solve multiplication problems.	Children are able to represent this on an empty number line.	Children can move on to solving more abstractly through an empty number line to solve multiplication problems. • Start at 0 • Count on in the multiple • Write the total amount
Bar model		
Concrete	Pictorial	Abstract
		Children are able to use their knowledge of times tables.
Children can use practical resources such as Cuisenaire rods to solve using a bar model.	Children use pictorial images to support.	Children moving on to abstractly drawing their own to solve multiplication problems.
Division • Recall and use division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • Calculate mathematical statements for division within the multiplication tables and write them using the division (÷) and equals (=) signs • Show that division of one number by another cannot • Solve problems involving division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.		

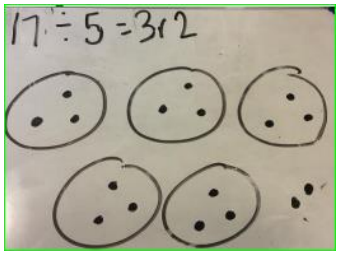
<table>
<tr><td colspan="3">Sharing</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 

15 cubes shared among 5 groups is 3 cubes in each group.

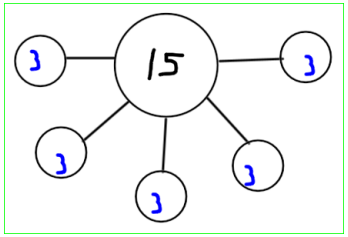
With remainders
 

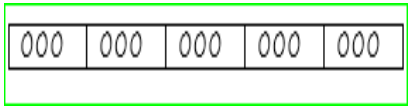
17 cubes shared among 5 groups is 3 cubes each remainder 2</td><td> 

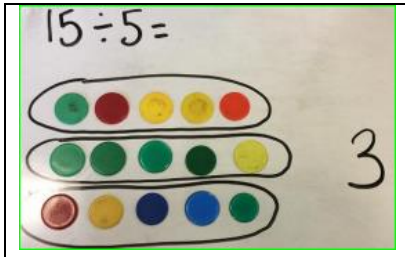
15 cubes shared among 5 groups is 3 cubes in each group.

With remainders
 

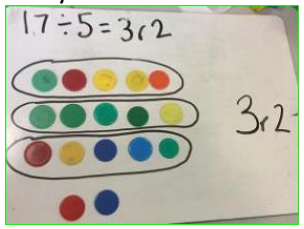
17 cubes shared among 5 groups is 3 cubes each remainder 2</td><td>15 divided by 5

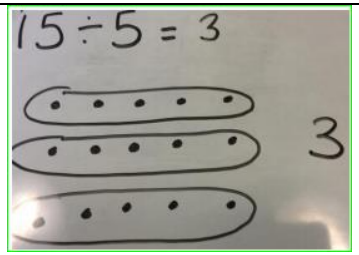
Part Part whole model
 

Bar model
 
</td></tr>
<tr><td>Children begin with continuing their concept of the idea of fair sharing using concrete objects.</td><td>Children can move on to use pictorial methods to share equally.
Extend to sharing including remainders.</td><td>Children are able to use their knowledge of their times tables. If I know 3 x 5 = 15 I also know that 15 ÷ by 5 is 3.</td></tr>
<tr><td colspan="3">Grouping with Arrays</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
</table>

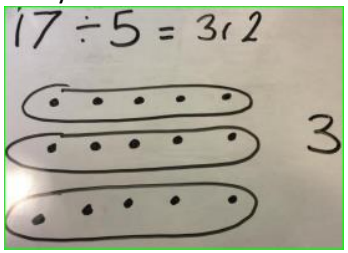
<table>
<tr>
<td> 

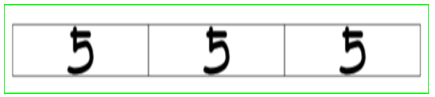
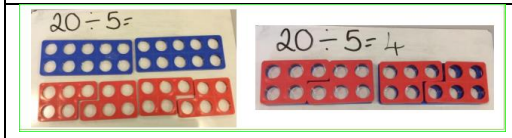
How many groups of 5s in 15? 3

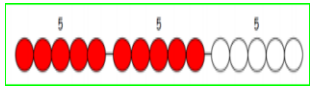
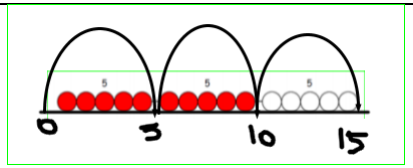
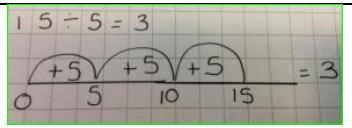
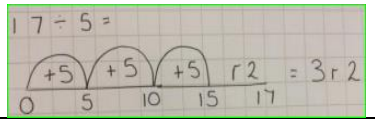
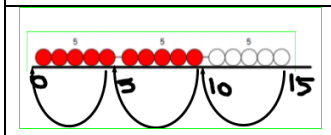
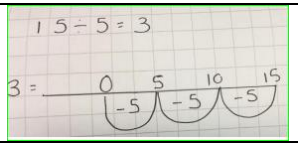
Arrays with remainders
 

How many groups of 5s is 17?</td>
<td> 

How many groups of 5s in 15? 3

Arrays with remainders
 

How many groups of 5s in 17?</td>
<td>Bar model
 
</td>
</tr>
<tr>
<td>Children use concrete objects to understand the concept of grouping. Children will place the objects in groups of the multiple and then count how many groups they have made.</td>
<td>Children will use pictorial methods of arrays within their books to solve division sentences.</td>
<td>Children can represent using bar model or part-whole model.</td>
</tr>
<tr>
<td colspan="3">Grouping with Numicon</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td>Abstract</td>
</tr>
<tr>
<td> 
</td>
<td><table>
<tr><td colspan="4">20</td></tr>
<tr><td>5</td><td>5</td><td>5</td><td>5</td></tr>
</table>
How many groups of 5 in 20?</td>
<td>I know that 5 x 4 = 20 so I also know that 20 divided by 5 is 4.</td>
</tr>
<tr>
<td>Children use numicon to solve division sentences to understand the concept of groups of multiples within a number</td>
<td>Children use a bar model to support their understanding of grouping. Ensure children count in the multiple until they have reached the total and then count how many groups they have created.</td>
<td>Children can use their knowledge of times tables.</td>
</tr>
</table>

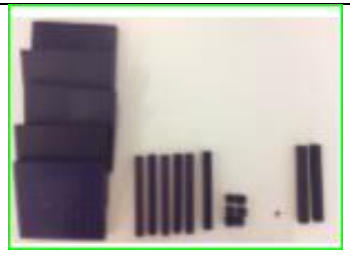
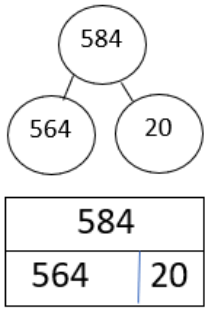
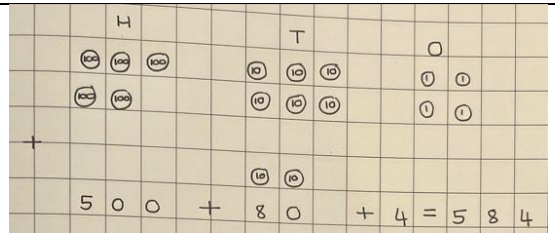
Number Line Repeated Addition		
Concrete	Pictorial	Abstract
 How many groups of 5s in 15?	 How many groups of 5s in 15?	 With remainders 
Use Bead strings to show the jumps.	Use number line and drawings of beads to show the jumps.	Children will move onto a more formal method to solve division problems within the 2, 5 and 10 times tables.
Number Line Repeated Subtraction		
Concrete	Pictorial	Abstract
		15 ÷ 5 = 3
Children could use bead strings or number lines to represent groups of 5 in 15.	Towards the end of the year, children should attempt to use repeated subtraction on a number line to prepare them for chunking in year 3.	Children use their division facts to solve.

Year 3

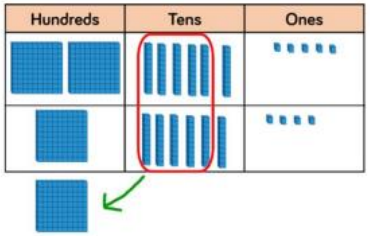
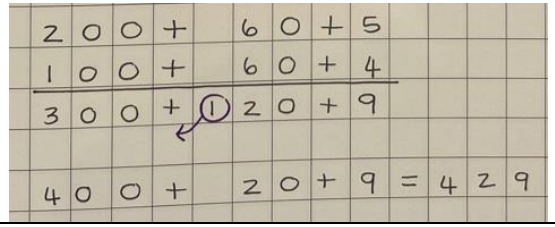
Addition

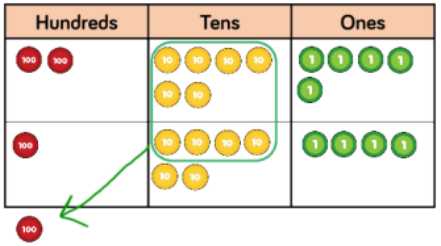
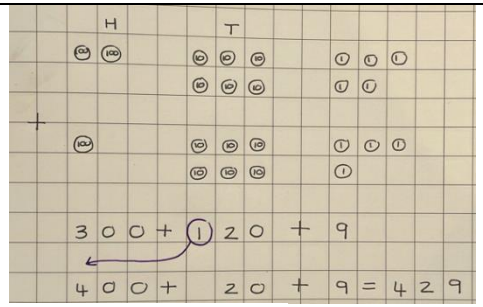
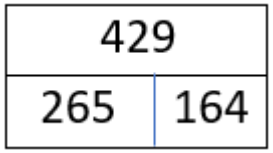
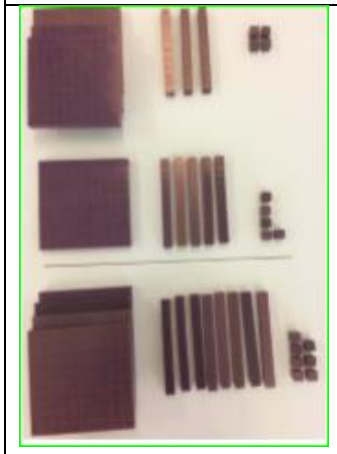
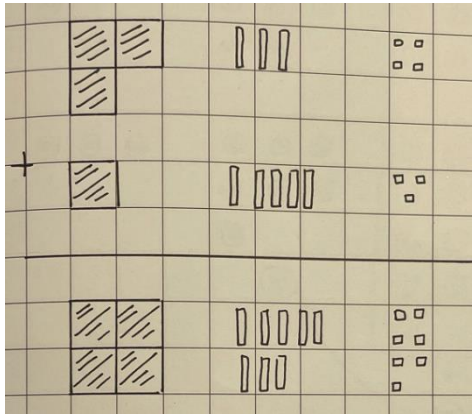
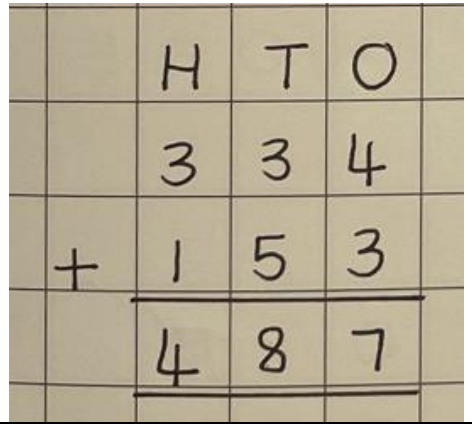
- Add numbers mentally, including:
- a three-digit number and 1s x a three-digit number and 10s
- a three-digit number and 100s
- Add numbers with up to 3 digits, using formal written methods of columnar addition

Adding Mentally

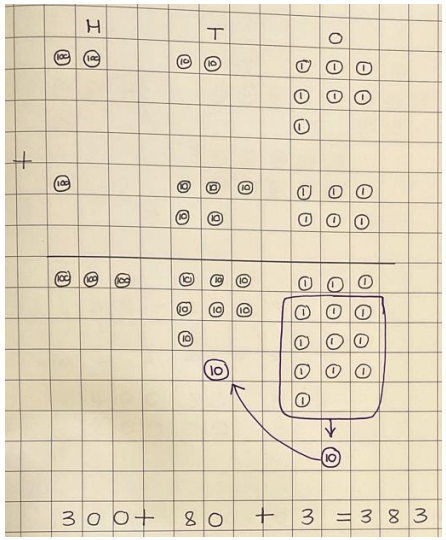
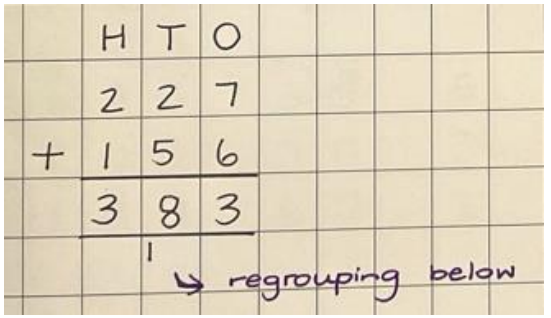
Concrete	Pictorial	Abstract
		
Use of place value counters or dienes to support adding mentally 564 + 20 = 584	Counting on from the largest number in ones, tens and hundreds. Using a part-part whole model or bar model to show understanding 564 + 20 = 584	Use the pictures of hundreds, tens and ones to support working out mentally. 564 + 20 = 584

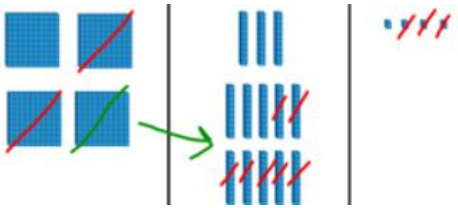
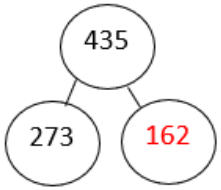
Adding Three Digit Numbers

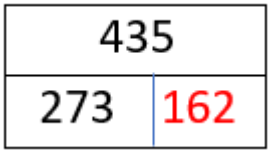
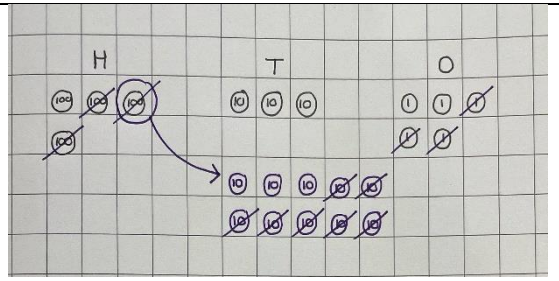
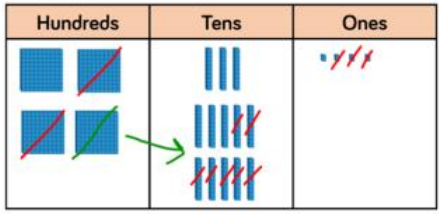
Concrete	Pictorial	Abstract
		

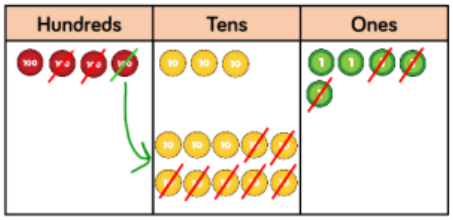
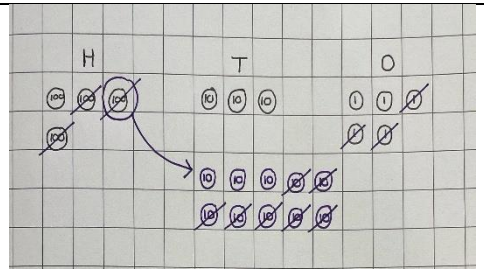
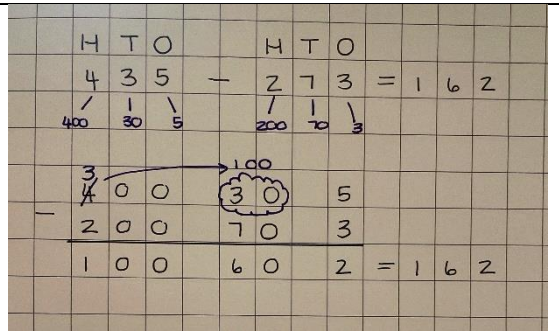
	 	
Use of concrete place value counters and dienes to support adding 265 + 164 = 429	Support pictorially through drawings and pictures in books or use of a bar model 265 + 164 = 429	Using the partitioning method to add at first before moving on to columnar 265 + 164 = 429
Compact Columnar Addition (No regrouping)		
Concrete	Pictorial	Abstract
		
Column method with dienes or place value counters	Children drawing pictures of dienes or place value counters in the column method	Formal column method involving no regrouping 334 + 153 = 487

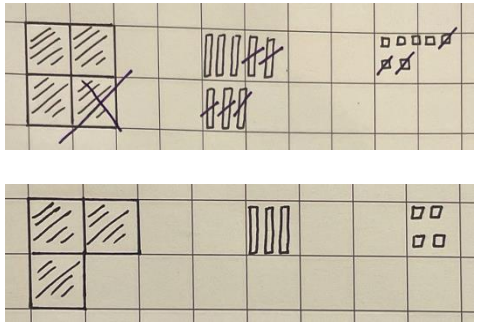
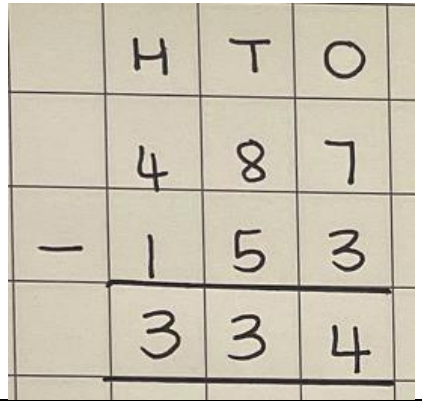
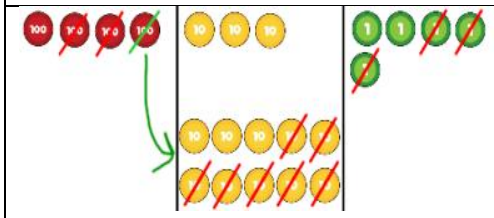
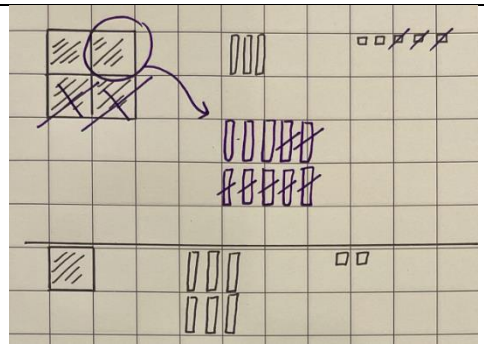
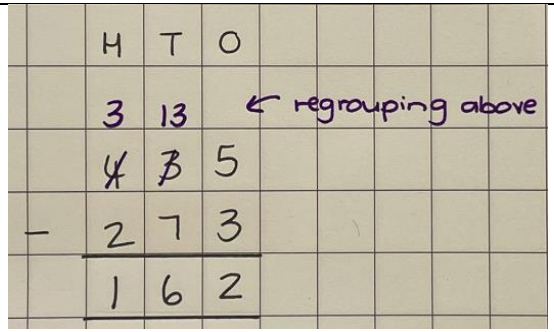
334 + 153 = 487	334 + 153 = 487	

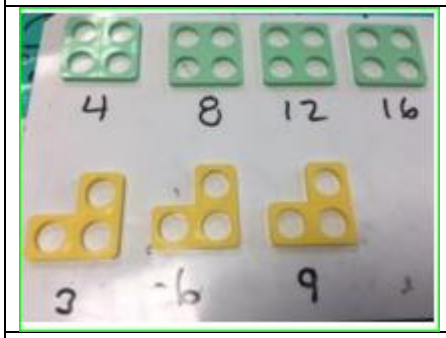
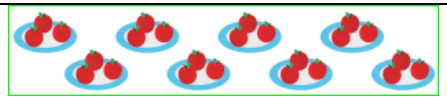
Compact Columnar Addition (with regrouping)		
Concrete	Pictorial	Abstract
		
Column method with dienes or place value counters 227 + 156 = 383	Children drawing pictures or using support of pictures of concrete objects in the column method 227 + 156 = 383	Formal column method involving regrouping 227 + 156 = 383
Subtraction • Subtract numbers mentally, including: - 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		
Subtracting Mentally		

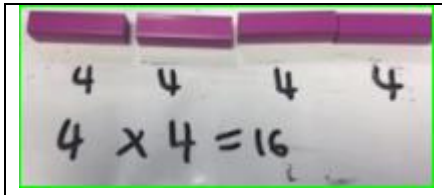
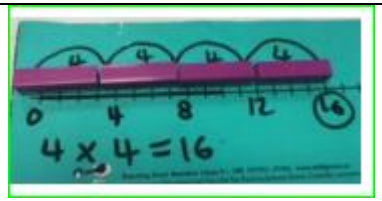
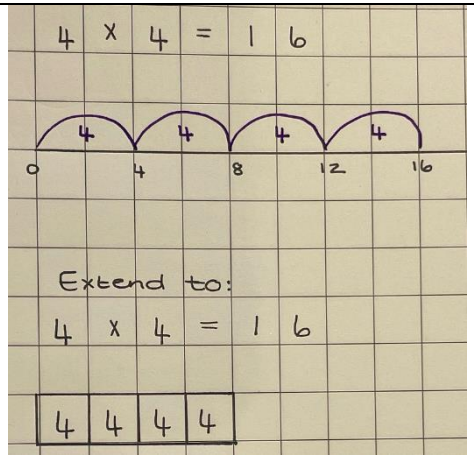
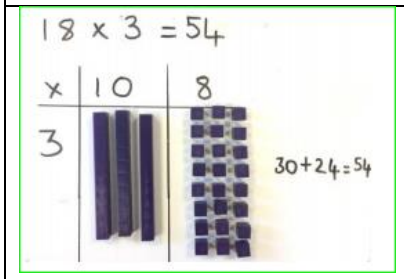
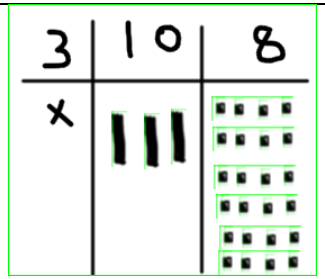
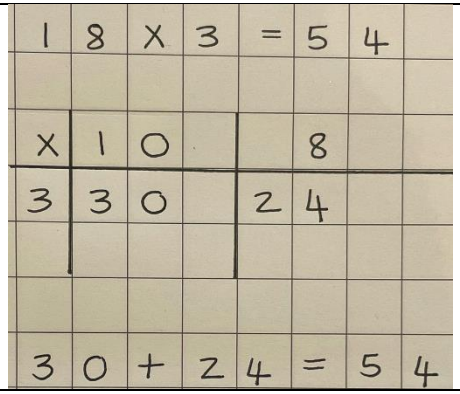
<table>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>  </td><td> 

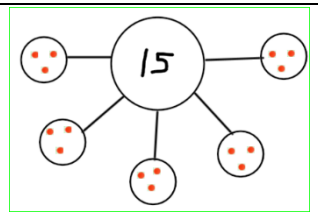
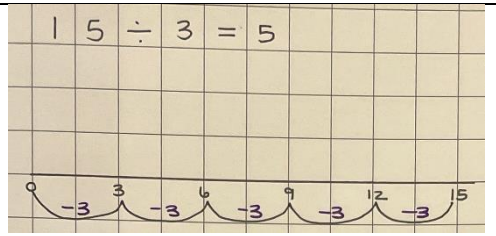

</td><td> 
</td></tr>
<tr><td>Use of place value counters or dienes to support subtracting mentally – regrouping/exchanging when necessary
435 – 273 = 162</td><td>Counting back from the largest number in ones, tens and hundreds. Using a part-part whole model or bar model to show understanding
435 – 273 = 162</td><td>Use pictures of hundreds, tens and ones to support working out mentally.</td></tr>
<tr><td colspan="3">Subtracting Three Digit Numbers- Partitioning method</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 


</td><td> 
</td><td> 
</td></tr>
</table>

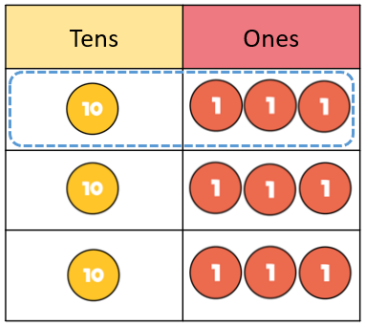
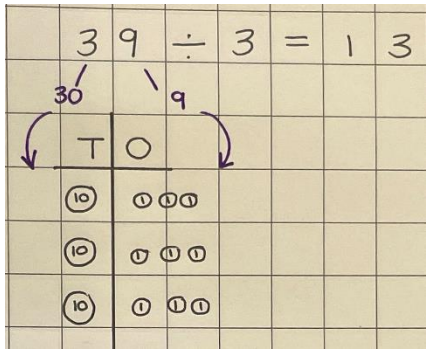
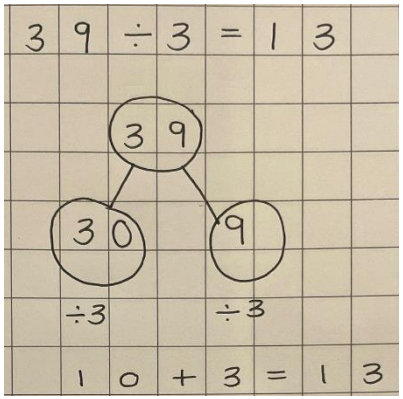
Use of concrete place value counters or dienes to support subtraction 435 – 273 = 162	Support pictorially through drawings and pictures in books 435 – 273 = 162	Using the partitioning method to subtract at first before moving on to columnar 435 – 273 = 162
Compact Columnar Subtraction- without regrouping		
Concrete	Pictorial	Abstract
		
Column method with dienes or place value counters 487 – 153 = 334	Children drawing pictures of dienes in the column method 487 – 153 = 334	Formal column method involving no regrouping 487 – 153 = 334
Compact Columnar Subtraction- regrouping		
Concrete	Pictorial	Abstract
		
Partitioning dienes or place value counters 435 - 273 = 162	Children drawing pictures or using support of pictures of concrete objects in the column	Formal column method involving regrouping, exchanging tens for ones where necessary

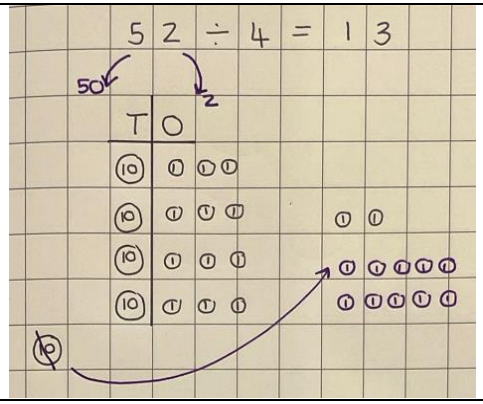
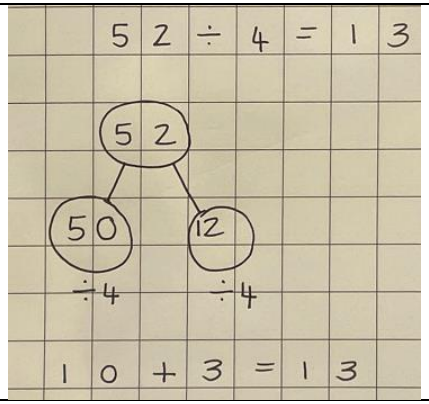
	method, exchanging tens for ones where necessary 435 – 273 = 162	435 - 273 = 162
Multiplication • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication using the multiplication tables that they know, 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		
Concrete	Pictorial	Abstract
	 8 groups of 3 is 24	'Multiples of 4 end in 0,2,4,6,8. These numbers are even numbers. Therefore, 53 cannot be a multiple of 8 because it's not an even number.
Use of practical apparatus such as numicon to support counting in multiples of 3, 4 and 8.	Use of pictorials to support counting on in multiples.	Mentally counting on in multiples. Children should use pattern spotting to support their understanding of multiples.
Number Line & Bar model		
Concrete	Pictorial	Abstract

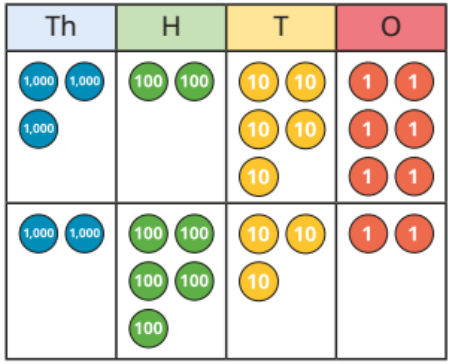
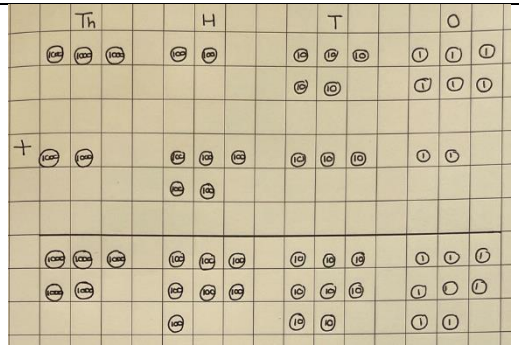
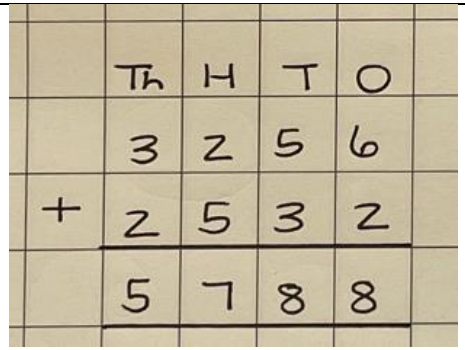
		
Children can use concrete objects to support understanding of bar model	Children can use concrete objects to support understanding of an empty number line.	Children can use abstract method of number line with same steps as used in year 2
Grid Method		
Concrete	Pictorial	Abstract
		
The two-digit number is partitioned horizontally with the tens digit coming first. The number is represented by the dienes.	Children can draw dienes to demonstrate tens and ones and use grid method.	18 x 3 = • Partition the number into tens and ones • Multiply the pairs of numbers • Record the answer in the grid • Recombine to find the answers

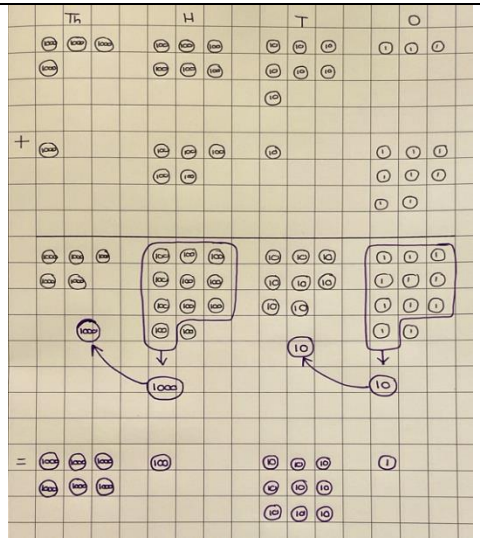
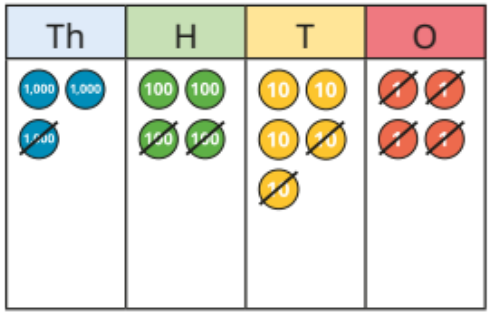
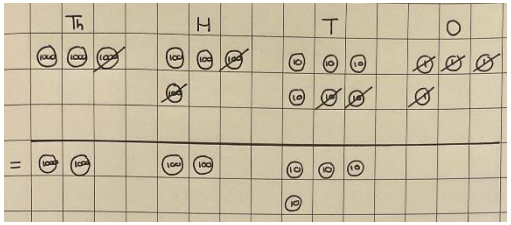
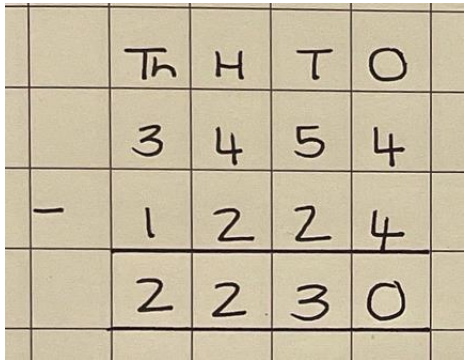
<table>
<tr><td colspan="3">Division
• Recall and use division facts for the 3, 4 and 8 multiplication tables
• Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</td></tr>
<tr><td>Repeated Subtraction</td><td></td><td></td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td> 
</td><td><table><tr><td colspan="5">15</td></tr><tr><td>xxx</td><td>xxx</td><td>xxx</td><td>xxx</td><td>xxx</td></tr></table></td><td> 

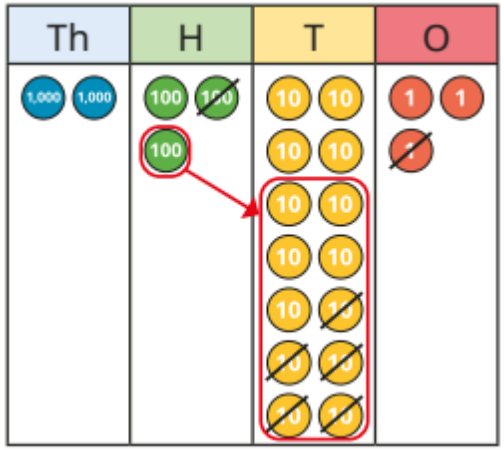
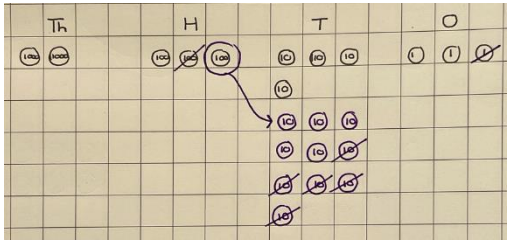
Leading to
<table><tr><td colspan="5">15</td></tr><tr><td>3</td><td>3</td><td>3</td><td>3</td><td>3</td></tr></table></td></tr>
<tr><td>Use a part whole model to work out how many groups of 3s there are in 15.</td><td>Children could use a bar model to pictorially represent how many groups of 3s there are in 15.</td><td>Children use previous methods learned in year 2, but focus on aspect of repeated subtraction to prepare for subtracting when chunking.</td></tr>
</table>

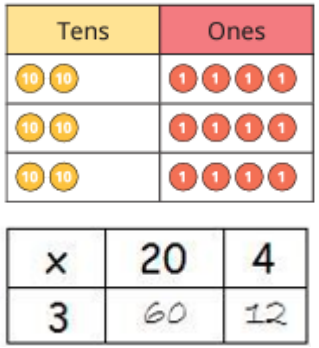
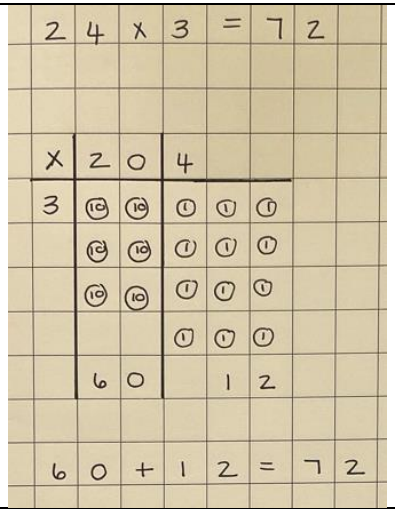
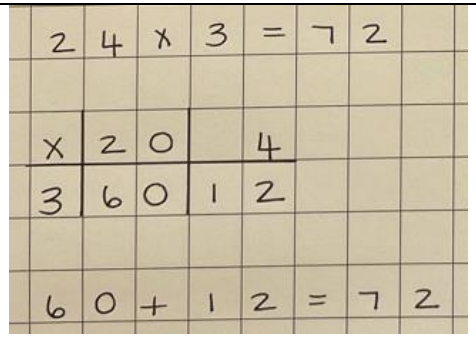
Partitioning to divide (no exchange)		
Concrete	Pictorial	Abstract
39 divided by 3 = 13 		
Children can use place value counters to share equally between 3 groups.	Children can draw counters to consolidate the concept dividing into 3 groups.	Children should consolidate use of partitioning before moving on to the more formal short division. By using part whole models, children draw on known multiplication facts to use flexible partitioning to solve 2-digit divided by 1-digit calculations.
Partitioning to divide (exchange)		
52 divided by 4 = 13		

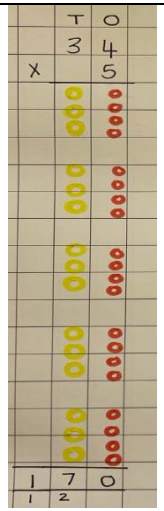
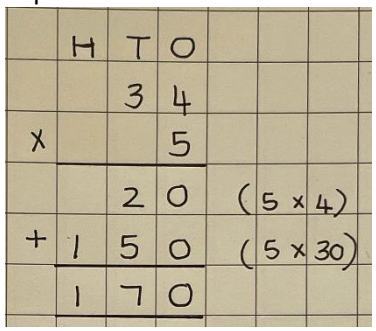
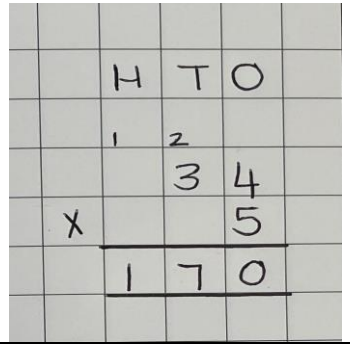
		
Where exchanging is needed, children exchange tens into ten ones and then share out equally.	Children can draw counters to consolidate the concept of exchanging the remaining ten into ten ones before sharing out the ones.	Children should consolidate use of partitioning before moving on to the more formal short division. By using part whole models, children draw on known multiplication facts to use flexible partitioning to solve 2-digit divided by 1-digit calculations.

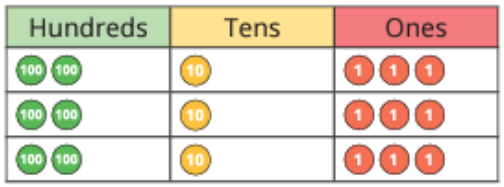
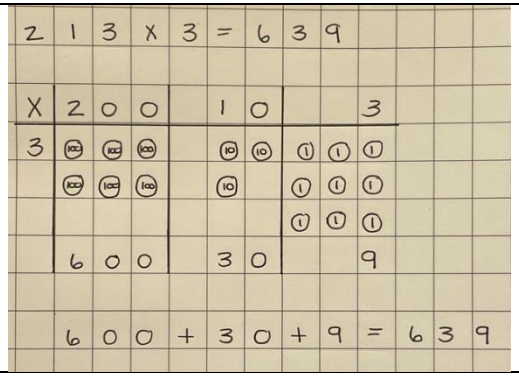
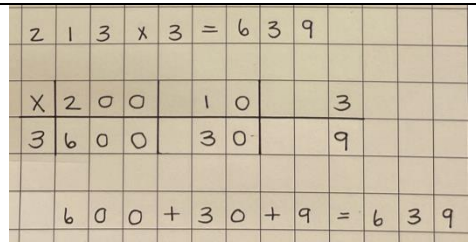
Year 4		
Addition • add numbers with up to 4 digits using the formal written methods of columnar addition		
Compact Columnar Addition no regrouping		
Concrete	Pictorial	Abstract
		
Column method with place value counters or dienes. 3256 + 2532 = 5788	Children drawing pictures of place value counters in the column method. 3256 + 2532 = 5788	Formal column method involving no regrouping 3256 + 2532 = 5788
Compact Columnar Addition with regrouping		
Concrete	Pictorial	Abstract

		
Column method with place value counters or dienes. 4673 + 1518 = 6191	Children drawing pictures in the column method. 4673 + 1518 = 6191	Formal column method involving regrouping. 4673 + 1518 = 6191
Subtraction • Subtract numbers with up to 4 digits using the formal written methods of columnar subtraction		
Compact Columnar Subtraction no regrouping		
Concrete	Pictorial	Abstract
		

Column method with place value counters or dienes. 3454 – 1224 = 2230	Children drawing pictures of place value counters in the column method. 3454 – 1224 = 2230	Formal column method involving no regrouping. 3454 – 1224 = 2230
Compact Columnar Subtraction with regrouping		
Concrete	Pictorial	Abstract
		
Children can use place value counters or dienes. 2343 – 151 = 2192	Children drawing pictures or using support of pictures of concrete objects in the column method, exchanging thousands for hundreds, hundreds for tens, tens for ones where necessary. 2343 – 151 = 2192	Formal column method involving regrouping, exchanging thousands for hundreds, hundreds for tens, tens for ones where necessary. 2343 – 151 = 2192
Multiplication • multiply two-digit and three-digit numbers by a one-digit number using formal written layout		
Grid Method 2 digit by 1 digit		
Concrete	Pictorial	Abstract

 60 + 12 = 72		
Children can use place value counters to calculate 24 x 3 = 72	The two digit number is partitioned horizontally with the tens digit coming first. The number is represented by the children's drawings of place value counters. 24 x 3 = 72	The two-digit number is partitioned into tens and ones. Multiply the pairs of numbers. Record the answer in the grid. Add the two answers together. 24 x 3 = 72
Expanded short method leading to short method		
Concrete	Pictorial	Abstract

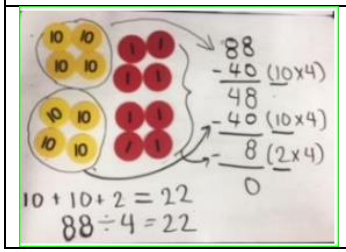
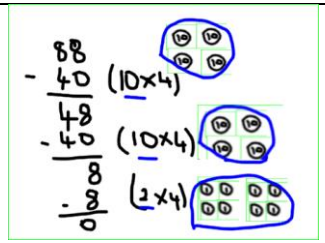
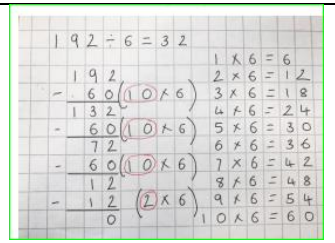
		Expanded method:  Short method: 
Children can use place value counters to calculate 34 x 5 = 170	Children can draw the counters to calculate 34 x 5 = 170	The children will use the expanded method to multiply a two-digit number by a one-digit number. Once the children are secure with the expanded method they can use the short method to multiply a two-digit number by a one-digit number.
Grid Method Three Digit by One Digit		
Concrete	Pictorial	Abstract

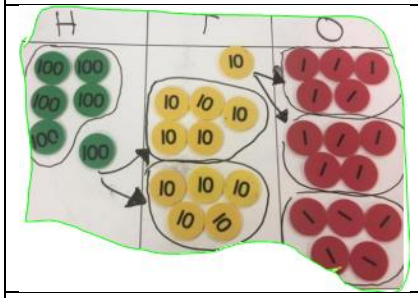
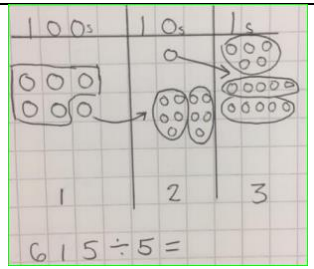
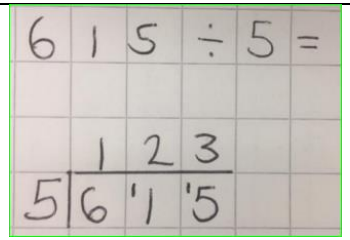
		
Children can use place value counters to calculate 213 x 3 = 639	The three-digit number is partitioned horizontally with the hundreds digit coming first, then the tens digit and then the ones digit. The number is represented by the children's drawings of place value counters. 213 x 3 = 639	The three-digit number is partitioned into hundreds, tens and ones. Multiply the pairs of numbers. Record the answer in the grid. Add the three answers together. 213 x 3 = 639

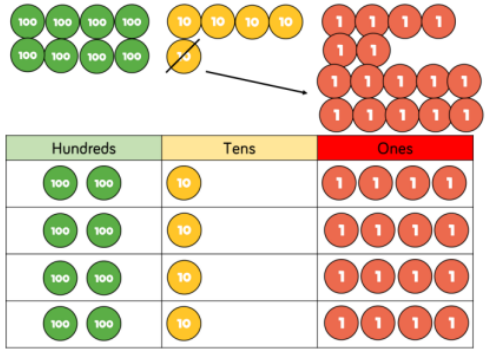
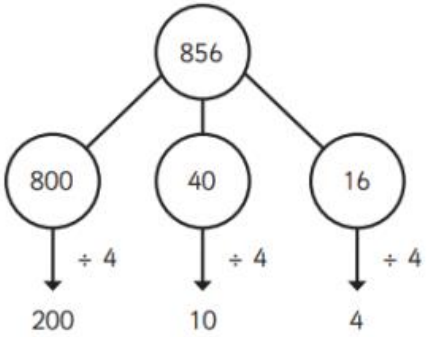
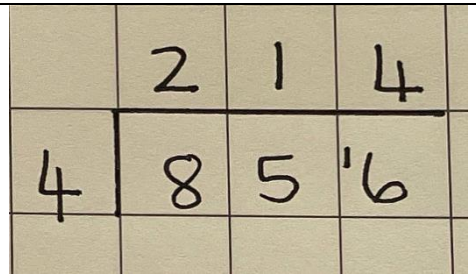
Division

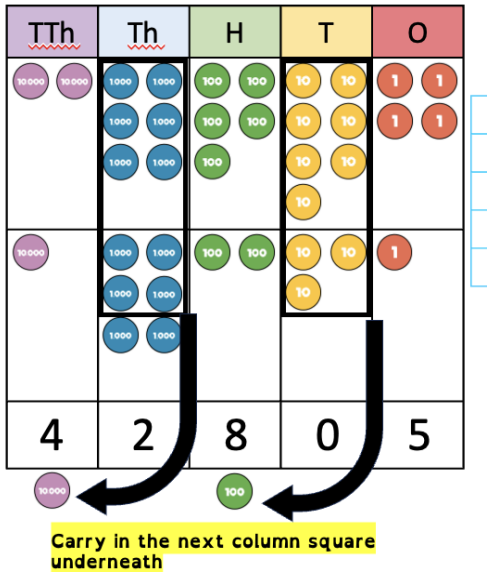
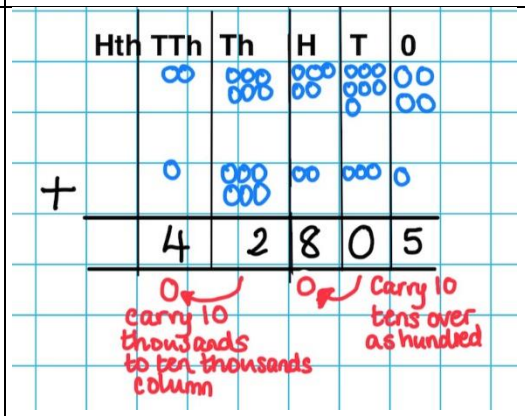
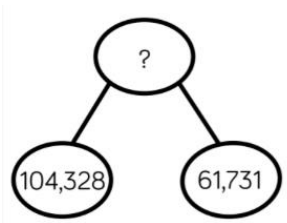
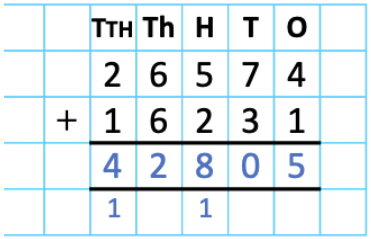
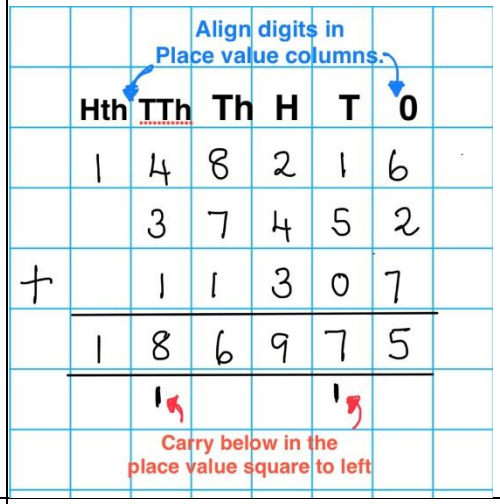
- Recall multiplication and division facts for multiplication tables up to 12 × 12
- Use place value, known and derived facts to divide mentally, including:
  - multiplying by 0 and 1
  - dividing by 1
  - multiplying together 3 numbers
- Recognise and use factor pairs and commutativity in mental calculations

Written method – chunking

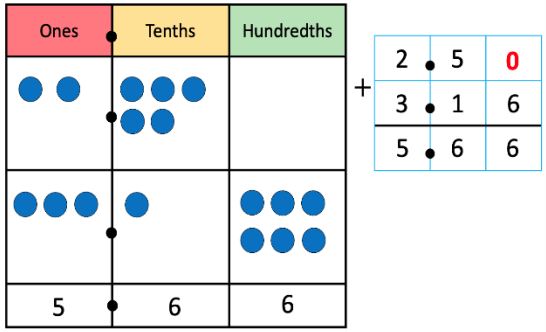
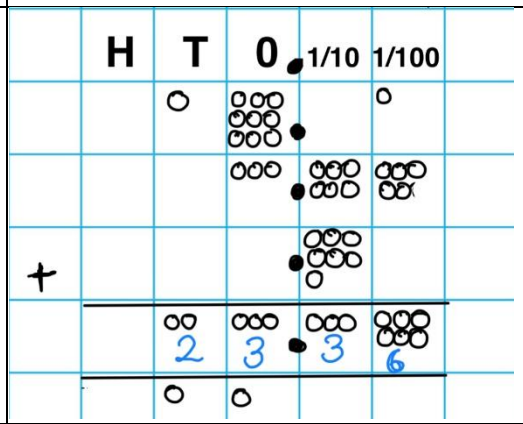
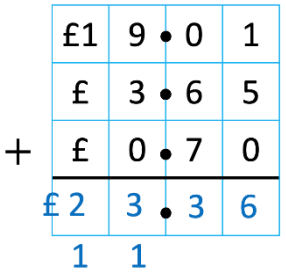
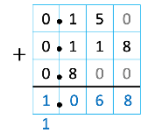
Concrete	Pictorial	Abstract
		

Children can use place value counters to consolidate chunking	Children can draw the counters to consolidate chunking.	Children should consolidate chunking before moving on to the more formal short division. Model using the think space. STS: - Chunk off multiples of the divisor - Subtract this from the dividend, making sure the columns are lined up using place value. - continue to subtract multiples of the divisor until you cannot subtract any more. - Anything left over is the remainder.
Formal Short Method		
Concrete	Pictorial	Abstract
		
Children should understand short division as grouping. Start by using concrete resources such as place value counters 615 ÷ 5 = 213	Children should consolidate chunking before moving on to the more formal short division	Once children have solved both concretely and pictorially, they can use the formal short division as exemplified. Year 4 pupils can do this with both HT x O and HTO X O as well as working out with remainders
Sharing to divide three-digit by one-digit		
Concrete	Pictorial	Abstract

		
Children can use place value counters to share equally between 4 groups. 856 divided by 4.	Children can use a part-whole model to consolidate the concept of dividing into 4 groups.	When using the short division method, children use grouping. Begin with the largest place value when grouping by the divisor.

Year 5		
Addition •Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)		
Compact Columnar Addition		
Concrete	Pictorial	Abstract
26, 574 + 16,231 	 **Part Whole model** 	With two values ensuring aligning digits under place value headings  Extend to more than two values and with different number of digits 
Children could use place value counters.	Children could draw counters pictorially aligning place value columns. If a column total is greater than 10, regroup to the next place value column to the left.	Children should use the column method when adding tens of thousands and hundreds of thousands, beginning by adding the ones, then the tens etc Extend to: Using the column method to add more than two values with different number of digits 148216 + 37452 + 11307= 186,975

Columnar Addition with Decimals

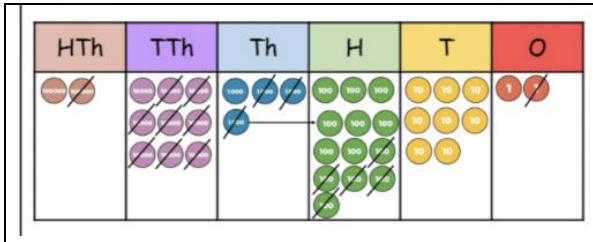
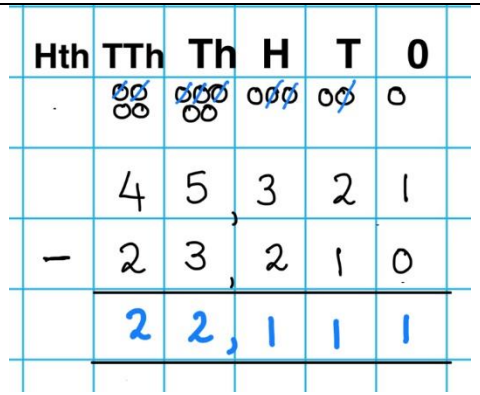
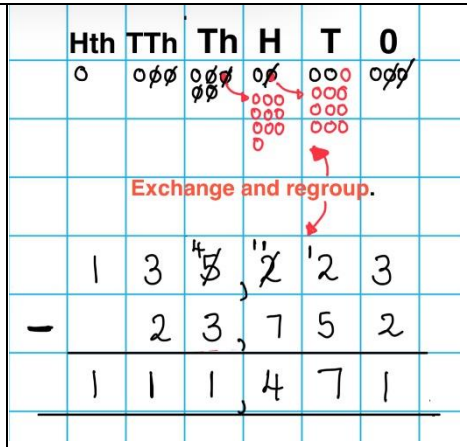
Concrete	Pictorial	Abstract
2.5 + 3.16 = 		Money  Weight What is the total mass of 15 grapes, 1 banana and 8 apples? 1.068 kg 15 grapes = 0.15 kg 1 banana = 0.118 kg 8 apples = 0.8 kg 
Zero (0) should be used as a place holder to ensure a. that the numbers are to the same decimal place b. to show there is no value to add in that place value column	It is important that children recognise that they are adding tenths and hundredths and that they understand they are adding part of a number not a whole number 19.01 + 3.65 + 0.7= 23.36	Formal column method is used to solve measure problems eg. weight and money. The decimal point needs to be lined up like all of the other place value columns Eg. 0.15 kg + 0.118 kg + 0.8 kg= 1.068 kg Children use the column method to add more than two values in the context of measures £19.01+ £3.65 + £ 0.70= £23.36

Subtraction

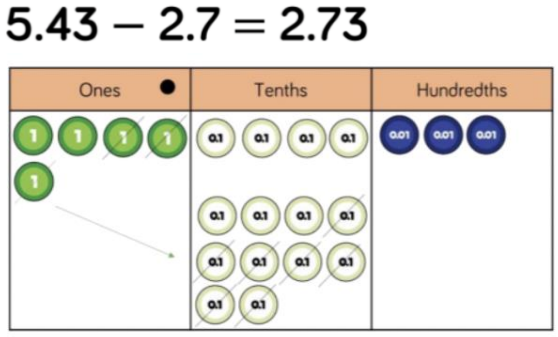
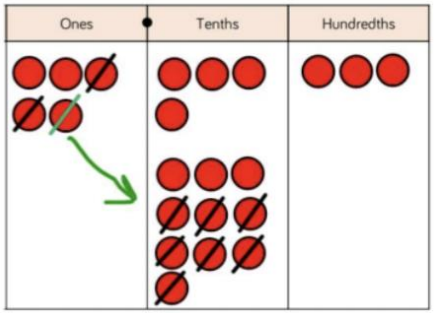
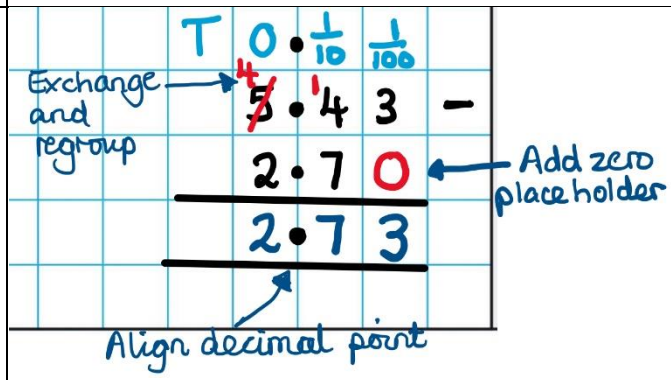
•Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtractions)

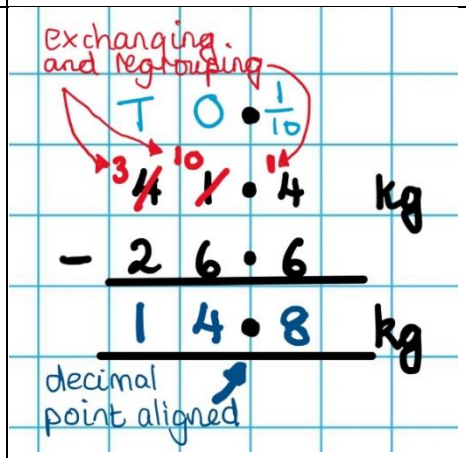
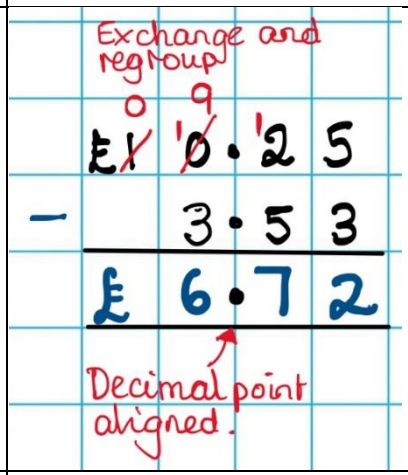
Columnar Subtraction

Concrete	Pictorial	Abstract
294,382 – 182,501 = 111,881	**No Exchange**	**With exchange and regrouping** Extending to exchanging and regrouping through “0”s

		
Children can use place value counters.	Children should use the column method when subtracting tens of thousands and hundreds of thousands. As with previous years, children should use place value counter images and drawings to support subtraction.	Using previous imagery with place value counters to support regrouping. * If the bottom number is bigger than the top number regroup from the column on the left.

Columnar Subtraction with Decimals

Concrete	Pictorial	Abstract
		

Children can use coins or place value counters.	Zero (0) should be used as a place holder: a. to ensure that the numbers are to the same decimal place b. to show there is no value to subtract.	It is important that children recognise that they are subtracting tenths and hundredths and that they understand they are subtracting part of a number not a whole number
Columnar Subtraction with decimals in a range of contexts		
Concrete	Pictorial	Abstract
Ensure that children are using concrete methods as shown in Year 4 and previous year groups to support their understanding.		
	Formal column method is used to solve problems involving measure, eg. weight and money. The decimal point needs to be lined up like all of the other place value columns.	Children should use actual coins to subtract or pictorial resources to supportunderstanding (pictures of amounts of weights).
Multiplication •multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers		
Short Multiplication		
Concrete	Pictorial	Abstract

<table>
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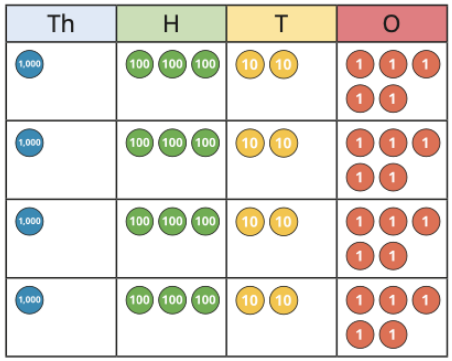
<td>1325 x 4
 
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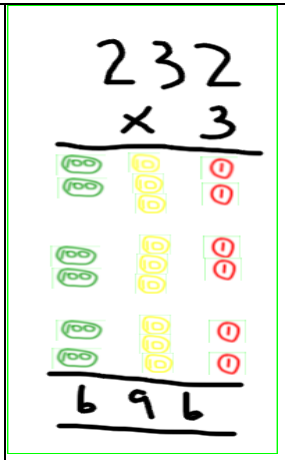
<td> 
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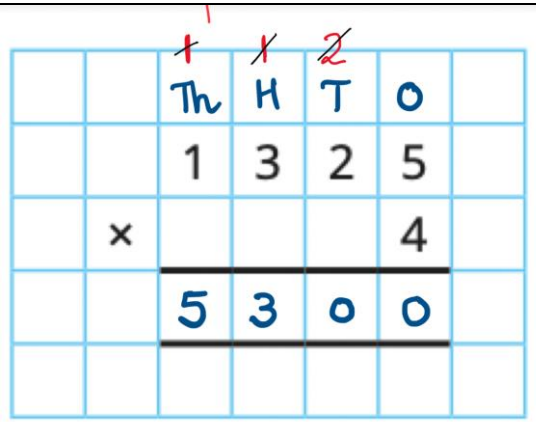
<td> 
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</tr>
<tr>
<td>Children can use place value counters.
Refer back to strategies from Y4.</td>
<td>Children can draw the counters.
Refer back to strategies from Y4.</td>
<td>Short multiplication is used to multiply a number. Children should be able tosolve:
THTO X O
HTO X O
TO X O</td>
</tr>
<tr>
<td colspan="3">Expanded long Multiplication</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td>Abstract</td>
</tr>
<tr>
<td>Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.
<u>22 x 31 Using Grid method</u></td>
<td>Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.</td>
<td>31 x 22 Grid method to expanded short method
<table>
<tr><td>x</td><td>20</td><td>2</td></tr>
<tr><td>30</td><td>600</td><td>60</td></tr>
<tr><td>1</td><td>20</td><td>2</td></tr>
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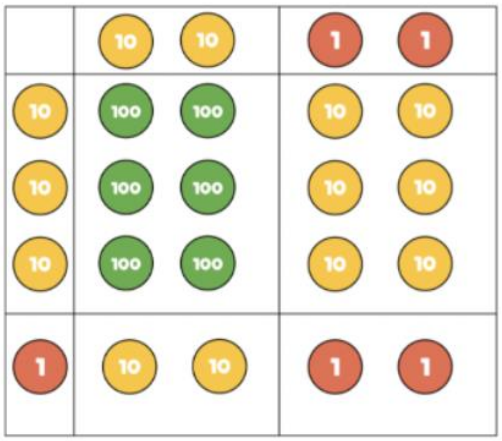
<td> 
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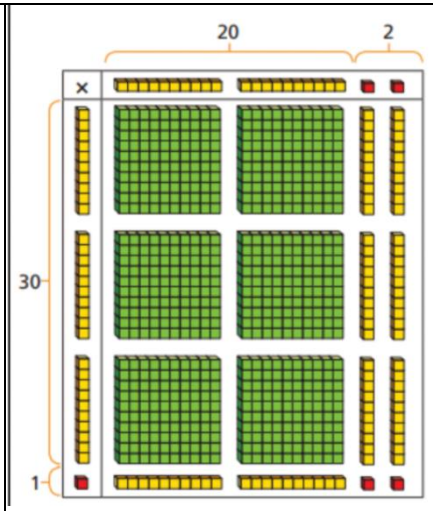
<td> 
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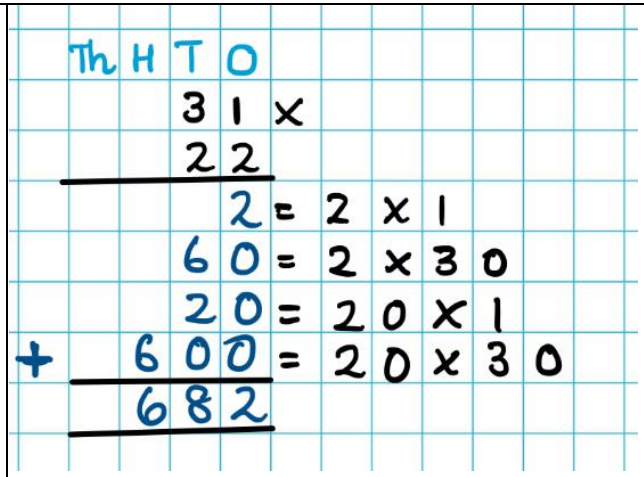
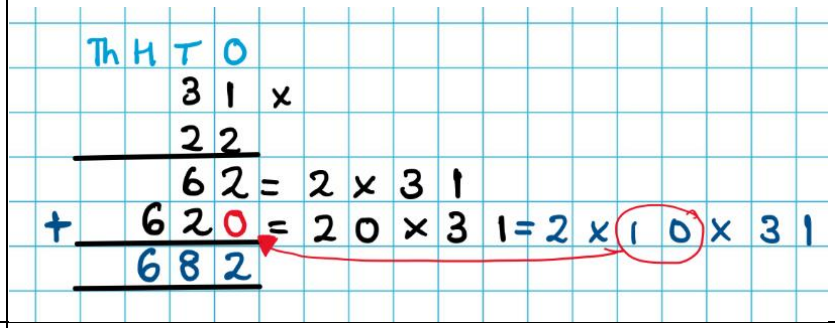
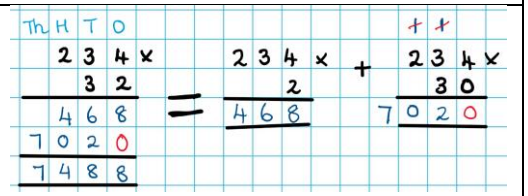
<td> 


</td>
</tr>
<tr>
<td>Refer back to strategies from Y4 if children are working at the concrete stage.</td>
<td>Refer back to strategies from Y4 if children are working at the pictorial stage.</td>
<td>Expanded long multiplication (two digit TO x TO= numbers multiplied by a teen number) Expanded long multiplication is the step before long multiplication.</td>
</tr>
<tr>
<td colspan="3">Long Multiplication</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td colspan="2">Abstract</td>
</tr>
<tr>
<td>Refer back to strategies from Y4 if children are working at the concrete stage.</td>
<td>Refer back to strategies from Y4 if children are working at the pictorial stage.</td>
<td>Grid method</td>
<td> 

Moving onto compact long multiplication</td>
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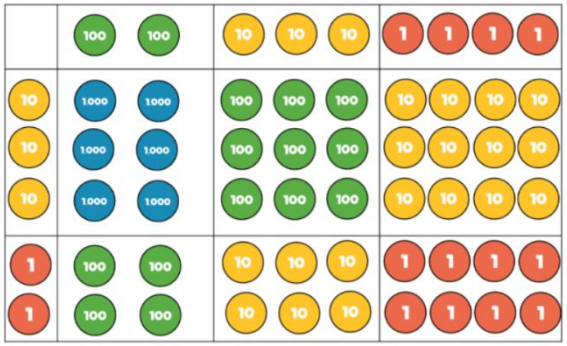
<td> 
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<tr><td>30</td><td>6,000</td><td>900</td><td>120</td></tr>
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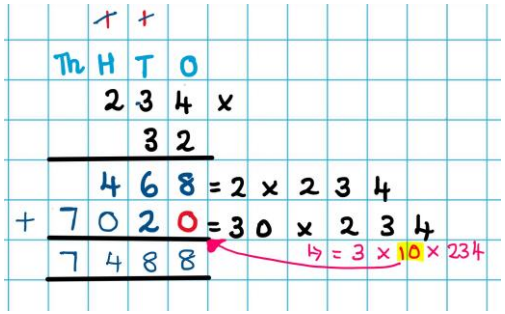
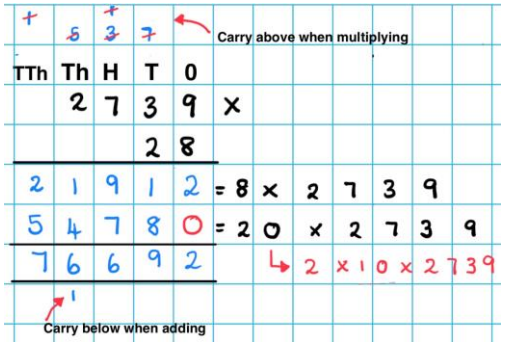
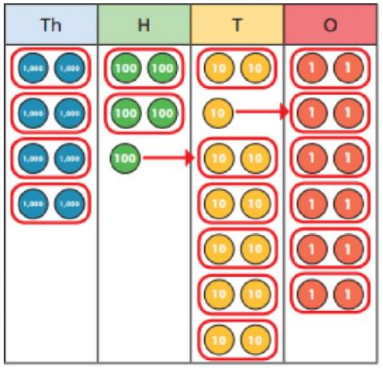
<td> 

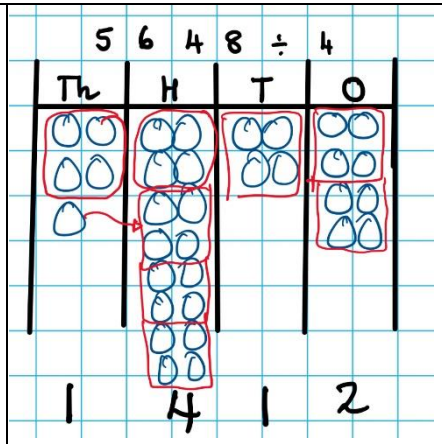
Before tackling Long multiplication

</td>
</tr>
<tr>
<td>Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.</td>
<td>Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.</td>
<td colspan="2">Introduce long multiplication for multiplying a number up to four digits by a two digit number</td>
</tr>
<tr>
<td colspan="4">Division
•Divide numbers mentally, drawing upon known facts
•Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
•Divide whole numbers and those involving decimals by 10, 100 and 1,000
•Solve problems involving division, including using their knowledge
•Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</td>
</tr>
<tr>
<td colspan="4">Formal Short division</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td colspan="2">Abstract</td>
</tr>
</table>

Divide using grouping

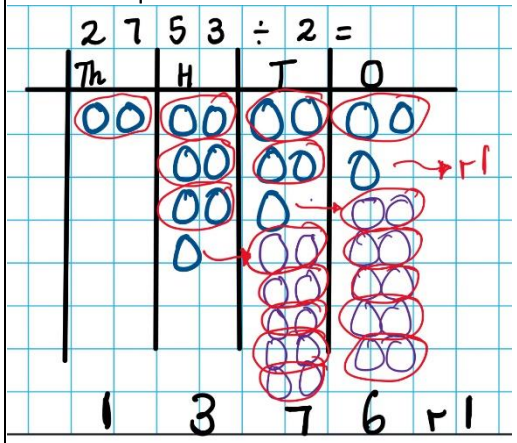
$$8{,}532 \div 2 = 4{,}266$$



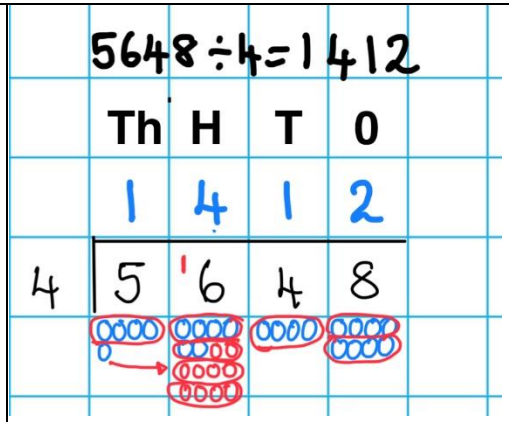
Refer back to strategies from Y4 if children are working at the concrete stage.



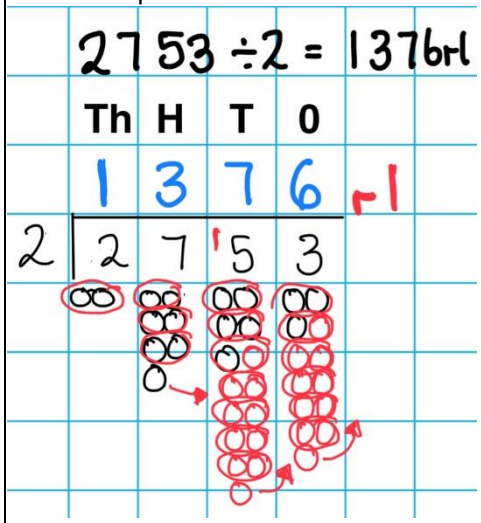
Extend to questions with remainders



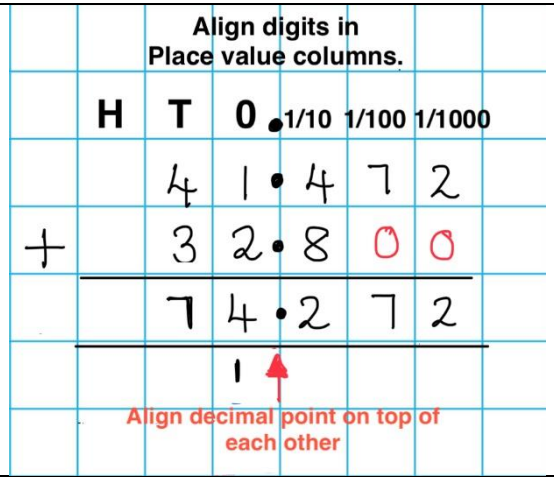
Refer back to strategies from Y4 if children are working at the pictorial stage.



Extend to questions with remainders



Year 6		
Addition In Year 6 children continue to practise column method for addition for bigger numbers and decimal numbers up to three decimal places		
Columnar Addition to One Million		
Concrete	Pictorial	Abstract
Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.		
Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.	Refer back to strategies from Y4 & Y5 if children are working at the pictorial stage. Align numbers in correct place value columns on top of each other. - If a column sum is greater than 10, record the ones and exchange to the next column on the left, carrying below.	Adding several numbers together with an increasing level of complexity The numbers are a combination of thousands and tens of thousands
Columnar Addition with Decimals		
Concrete	Pictorial	Abstract
Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.		

<table>
<tr>
<td></td>
<td> 
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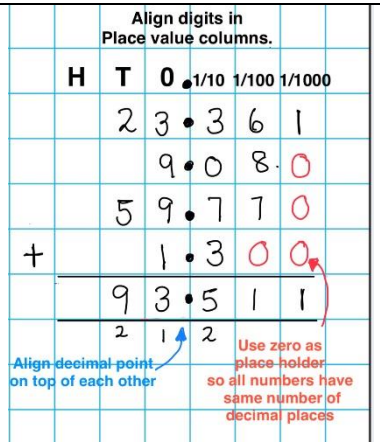
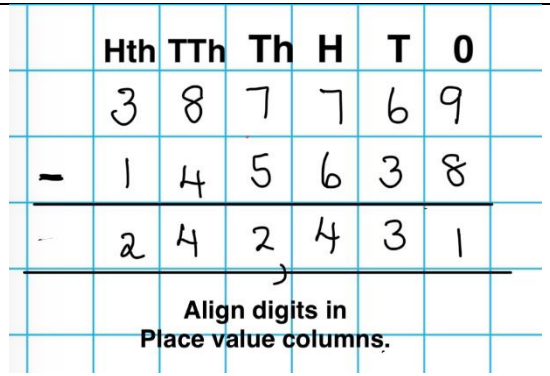
<td> 
</td>
</tr>
<tr>
<td>Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.</td>
<td>Zero (0) should be used as a place holder to ensure that the numbers are to the same decimal place

Zero is added to show there is no value to add

41.472 + 32. 8= 74.272</td>
<td>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</td>
</tr>
<tr>
<td colspan="3">Subtraction
In Year 6 children continue to practise column method for subtraction for bigger numbers and decimal numbers up to three decimal places</td>
</tr>
<tr>
<td colspan="3">Columnar Subtraction to One Million with and without regrouping</td>
</tr>
<tr>
<td>Concrete</td>
<td>Pictorial</td>
<td>Abstract</td>
</tr>
<tr>
<td>Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.</td>
<td> 
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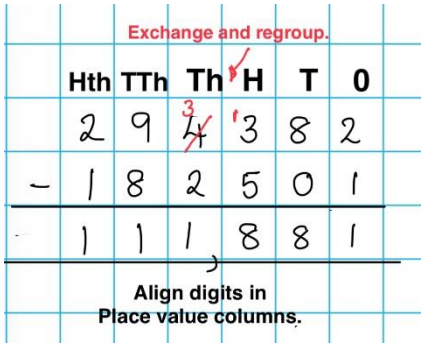
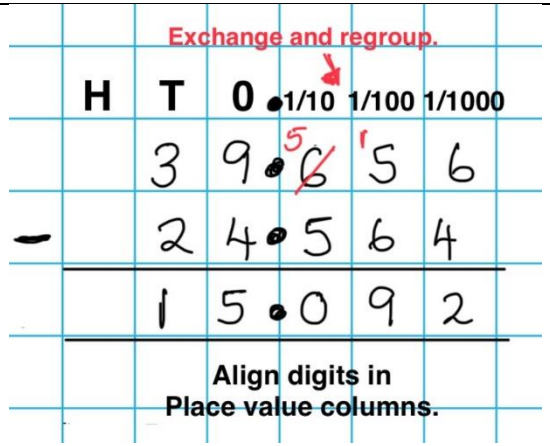
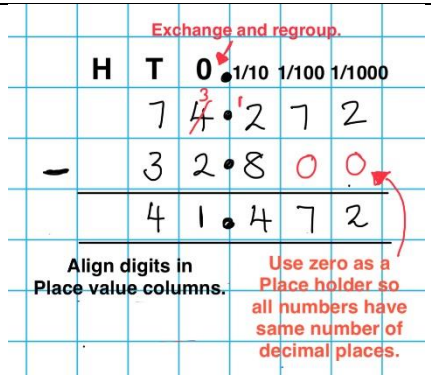
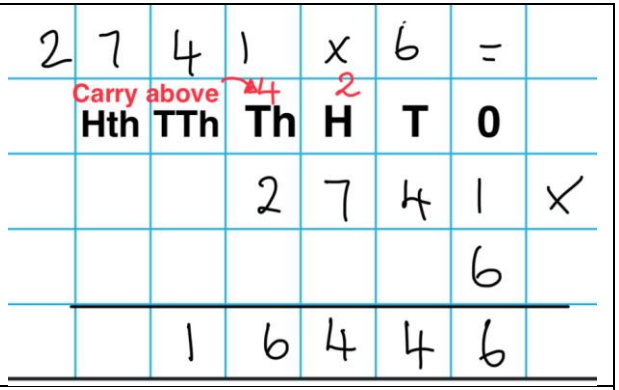
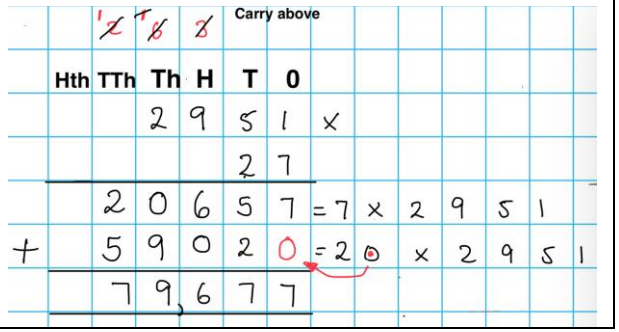
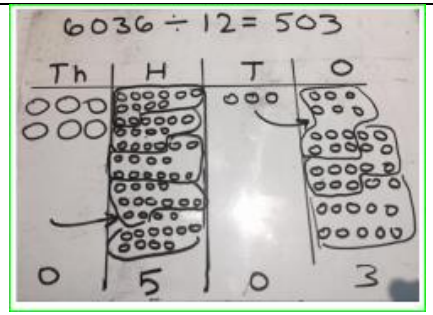
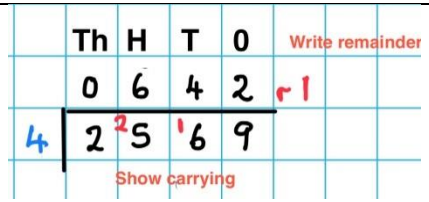
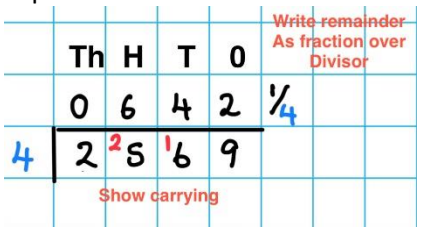
<td> 
</td>
</tr>
</table>

	No regrouping	With regrouping
Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.	Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.	Align numbers in place value columns * if the bottom number is bigger than the top number regroup from the column on the left.
Columnar Subtraction with Decimals		
Concrete	Pictorial	Abstract
Refer back to strategies from Y5 if children are working at the concrete stage.		
	Subtraction up to 3 decimal places 39.656 – 24.564 =	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 - 32.8 =
Multiplication • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • numbers		
Short Multiplication		
Concrete	Pictorial	Abstract
Refer back to strategies from Y4 & Y5 if children are working at the pictorial stage.	Refer back to strategies from Y4 & Y5 if children are working at the pictorial stage.	See Y5 strategy

		
Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.	Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding. 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=	I can… - Multiply the ones (exchanging the tens to the next column on the left.) - Multiply the ten (remembering to add any tens exchanged and exchange the hundreds to the next column on the left) - Multiply the hundreds (remembering to add any tens exchanged and exchange the hundreds to the next column on the left)
Long Multiplication		
Concrete	Pictorial	Abstract
Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.	Refer back to strategies from Y4 & Y5 if children are working at the pictorial stage.	

<table>
<tr><td>Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.</td><td>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 Y4 & Y5 strategies guidance for short multiplication.</td><td>I can:
- Set up the calculation so that the bigger is number is on the top
- Start by multiplying the top number by the ones
- Move down to the next row and add a place holder in the ones
- Multiply the top number by the tens
- Keep adding a row and a place holder if there are hundreds and thousands
- Exchange beneath the row
- Add together the products to find the answer</td></tr>
<tr><td colspan="3">Division
• 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</td></tr>
<tr><td colspan="3">Formal Short Division</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.</td><td> 

Without remainder</td><td> 

Expressed as a fraction
 

Expressed as decimals</td></tr>
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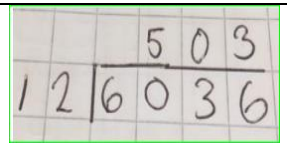
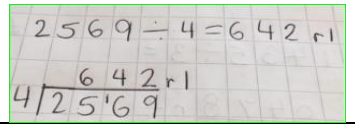
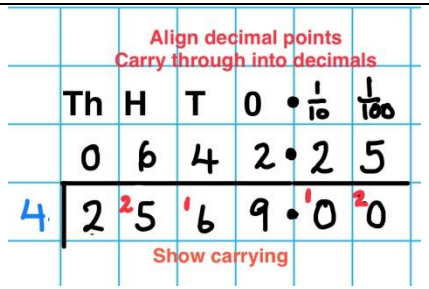
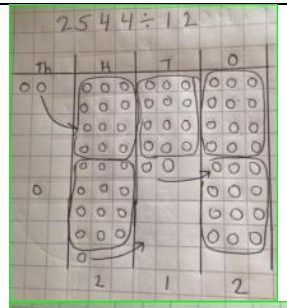
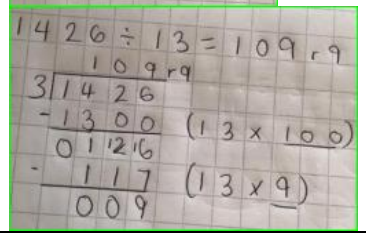
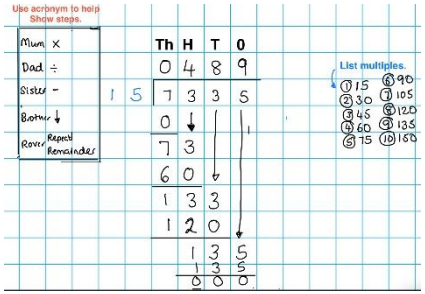
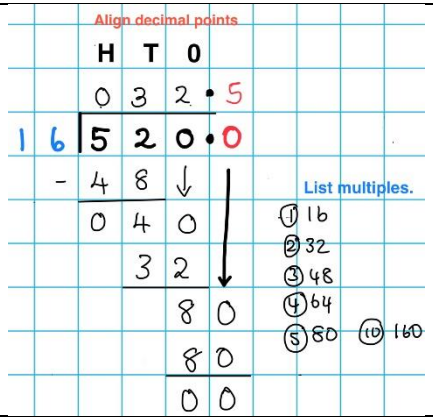
	 With remainders 	
Children can use pictorial methods to grasp concept before solving through the formal short method	Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.	
Long Division		
Concrete	Pictorial	Abstract
Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.	 	
Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.	Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.	STS: - Divide into the dividend, one digit at a time, starting from the LEFT - Put the result of each division directly above, on the top of the 'bus stop'

<table>
<tr><td></td><td></td><td>- If the small number won't go into a digit exactly, regroup the remainder across (to the next digit on the right).
- If it won't go at all put a 0 as a place holder and regroup the whole digit.</td></tr>
<tr><td colspan="3">Long Division expressed as decimals</td></tr>
<tr><td>Concrete</td><td>Pictorial</td><td>Abstract</td></tr>
<tr><td>Refer back to strategies from Y4 & Y5 if children are working at the concrete stage.</td><td>Refer back to strategies from Y4 & Y5 if children are working at the pictorial stage.</td><td> 
</td></tr>
<tr><td>Ensure that children are using concrete methods as shown in year 4 and previous year groups to support their understanding.</td><td>Ensure that children are using pictorial methods as shown in year 4 and previous year groups to support their understanding.</td><td>Children are able to express remainders as decimals.</td></tr>
</table>