Leasowes Primary School
Calculations Progression Policy

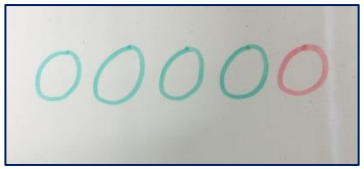
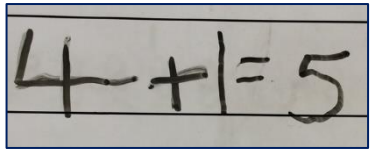
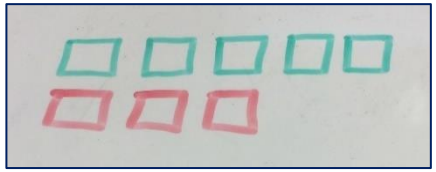
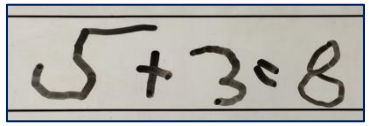
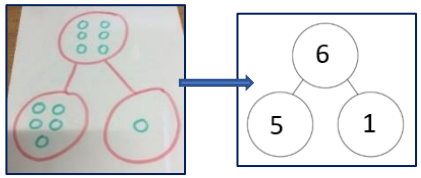
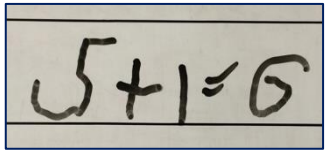
The Importance of Number
Understanding of number is a fundamental life skill. The culture and ethos at Leasowes is about breaking the perception of 'I can't do maths', converting reluctant mathematicians into resilient and confident learners. We incorporate sustained levels of challenge through varied and high-quality activities with a focus on fluency, reasoning and problem solving to meet the goal of 'True Fluency'. Children are required to explore Maths in depth, using mathematical vocabulary to reason and explain their workings, understanding that there are many ways to solve a problem and that some are more efficient than others. At Leasowes we see the 'Golden Thread' of Maths to be number. Children who have a deep understanding of the four operations (addition, subtraction, multiplication and division) grow in confidence and are therefore willing to challenge themselves further. Our calculations policy ensures that, as the children progress through each year group, a consistent way of teaching the many concepts of number is adhered to by all teaching staff. The following ways of tackling calculations have been agreed by the teachers and are the ways that will be taught at school. When helping your child at home, we would appreciate you following the same processes to avoid future confusion.
Concrete, Pictorial and Abstract
At Leasowes, we embed a Concrete, Pictorial and Abstract (CPA) approach, in particular to the teaching of number. We understand, that the children who thrive in maths, thrive because they are able to see the pattern and interconnections within the given concept. The CPA approach gives all children the opportunity to do this, ensuring that our teaching of Maths is equitable. We use effective resources and scaffolding; creating many concrete and pictorial opportunities before introducing the abstract. This enables the children to build a clearer understanding, connecting their knowledge and skills and therefore visualising the problem at hand when working in the abstract form. Our calculations policy has been set out to follow this process. When working with your child, starting with the concrete, moving through to the pictorial and finally the abstract will help to deepen understanding, therefore enabling your child to challenge themselves further in the future. The images for each year group show examples of how calculations may be represented within the three categories; of course, there are many other ways to represent these too. A great way of showing calculations pictorially is through the use of bar modelling; this is a technique used a lot by teachers and children during maths lessons as it proves to be a very effective learning tool. The images show a variety of examples including teaching resources, examples modelled by the teachers and work produced by the children of Leasowes. **Please note that, where there are pictures in the concrete sections of the policy, these are representations of concrete resources; such as Dienes, coins, Numicon, counters, counting beads or indeed real-life objects such as fruit. In the classroom the concrete apparatus, resources and objects would be used by the teacher within the learning.** For more information in how you can help your child with their maths, please talk directly to their teacher.

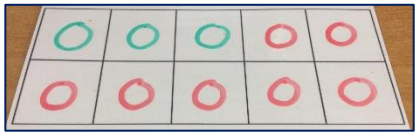
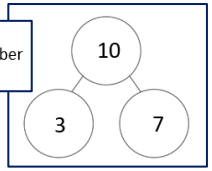
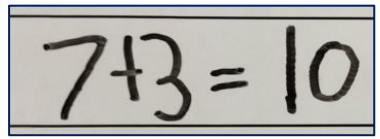
Early Years

Maths is planned in conjunction with the EYFS requirements for mathematical development, introducing the children to the fundamentals of number and numerical patterns that they will need to know to ensure that they are prepared for the learning in KS1; developing a positive attitude and a true interest in the subject. Children are introduced to the fundamental number basics needed such as counting, subitising, calculating simple addition and subtraction problems, as well as building their confidence in the accurate use of vocabulary.

Addition in Reception

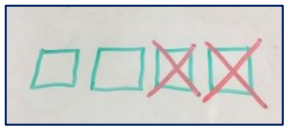
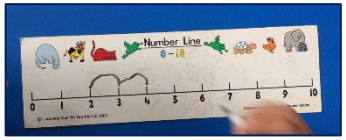
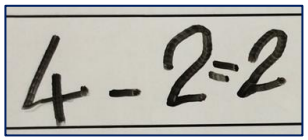
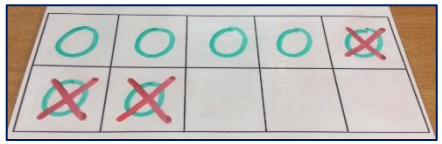
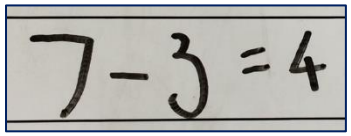
Intent: Children are encouraged to gain a sense of the number system through the use of counting concrete objects.

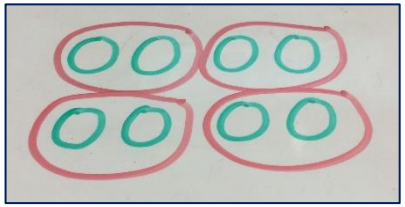
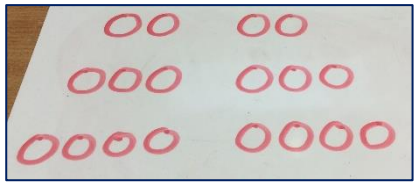
Concept	Concrete	Pictorial	Abstract
Adding one more	Children add one more object to a group to find one more. 	Children draw one more picture (e.g. a circle) to a group to find one more. 	They begin to use + and = 
Adding by counting on	Children use knowledge of counting to 20 to find a total by combining objects in practical ways and counting all. 	Children use pictures to support and represent their counting-on strategy. 	They begin to use + and = 
Understand part-part whole relationships	Sort objects into parts and understand the relationship with the whole. 	Children draw to represent the parts and understand the relationship with the whole. The parts are 5 and 1. The whole is 6. 	

Recall number bonds to 10	Break apart a group and put back together to find and form number bonds. 	Use five and ten frames to represent key number bonds.  Use a part-whole model alongside other representations to find number bonds. 	

Subtraction in Reception

Intent: Children use concrete and pictorial representation to record their calculations.

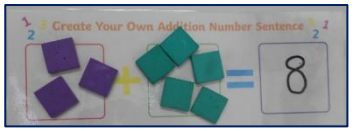
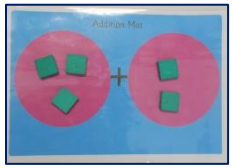
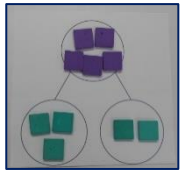
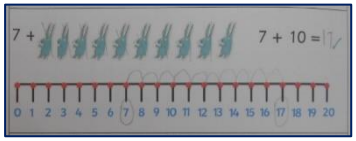
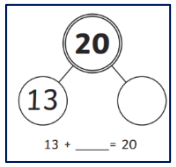
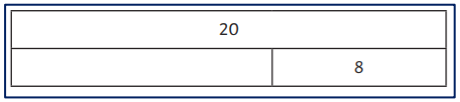
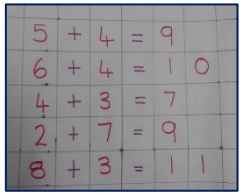
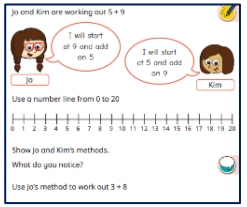
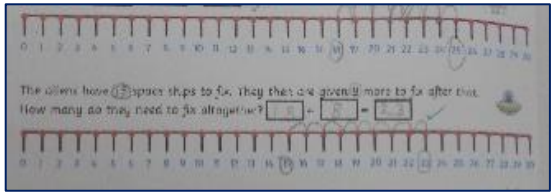
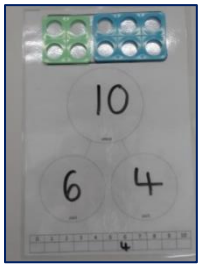
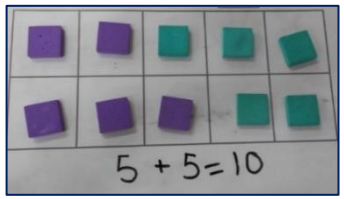
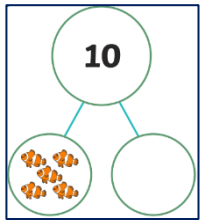
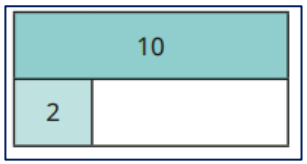
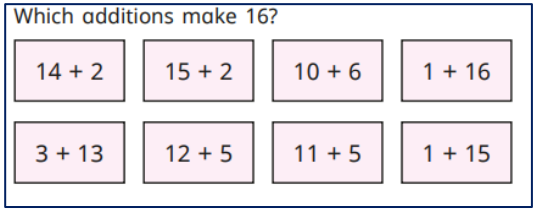
Concept	Concrete	Pictorial	Abstract
Counting back and taking away	Children arrange objects and remove to find how many are left. 	Children draw and cross out pictures to represent objects from a problem.  	Children count back to take away. 
Subtraction within 10	Understand when and how to subtract 1s efficiently. Use a bead string to subtract 1s efficiently. 	Understand when and how to subtract 1s efficiently by crossing out pictures drawn in a 10s frame. 	They begin to use - and = 

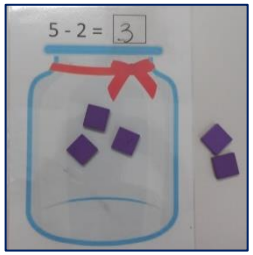
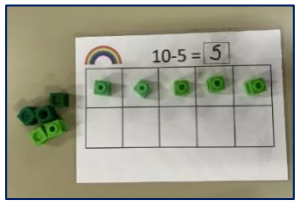
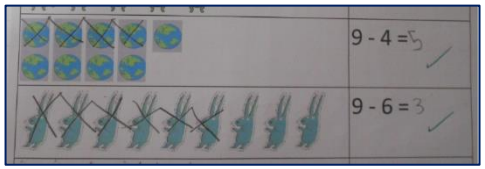
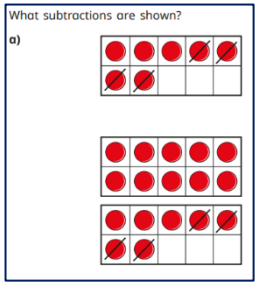
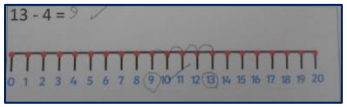
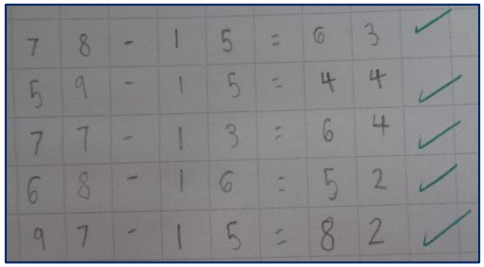
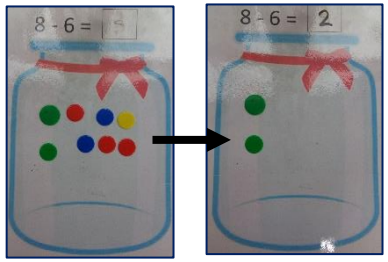
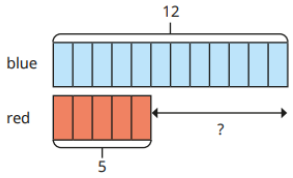
Multiplication in Reception			
Concept	**Concrete**	**Pictorial**	**Abstract**
Grouping	Learn to make equal groups from a whole and find how many equal groups of a certain size can be made. Sort a whole set of objects into equal groups. 	Represent a whole and work out how many equal groups. 	
Doubling	Children understand doubling as repeated addition. They use concrete objects to represent double facts. 	Children use pictorial representation to record their calculations. 	
Division in Reception			
Concept	**Concrete**	**Pictorial**	**Abstract**
Sharing	Children use concrete objects to count and share equally into groups. 		

Key Stage One

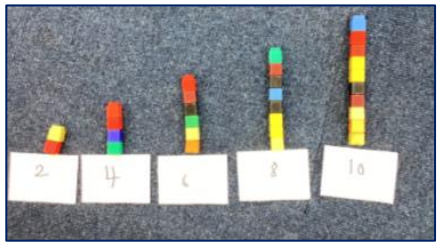
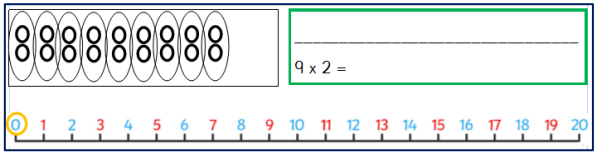
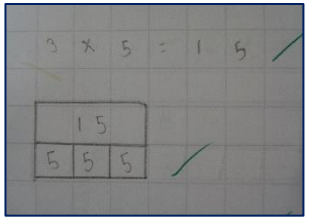
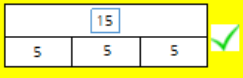
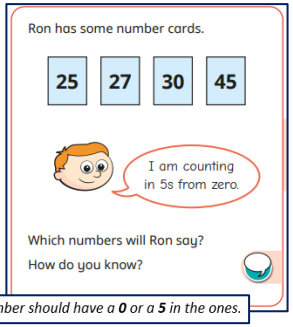
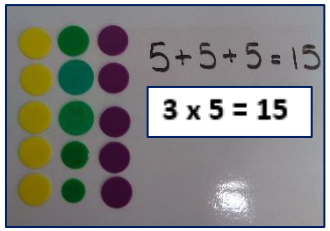
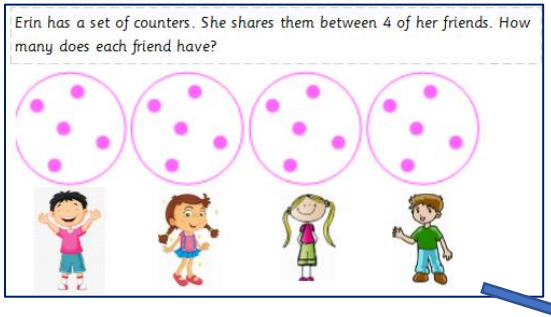
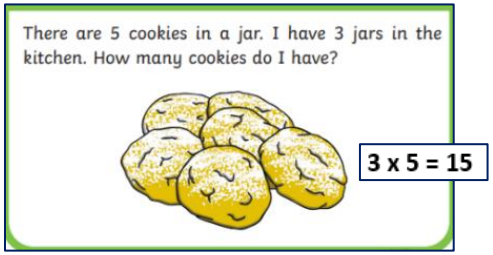
The principal focus of mathematics teaching in key stage 1 is to ensure that children develop confidence and mental fluency with whole numbers, counting and place value, therefore preparing the children for the next phase in their learning. This should involve working with numerals, words and the four operations; including with practical resources (for example, concrete objects and measuring tools).

Year 1 Addition

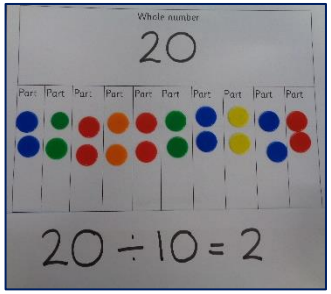
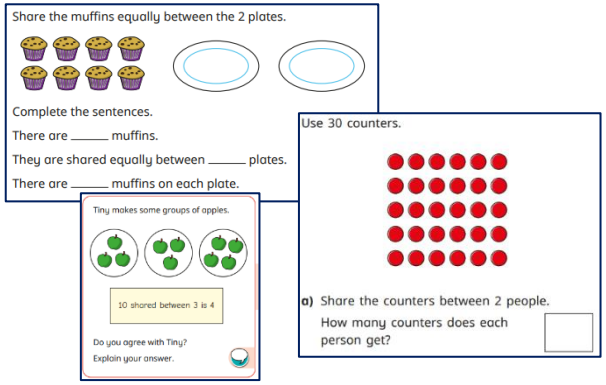
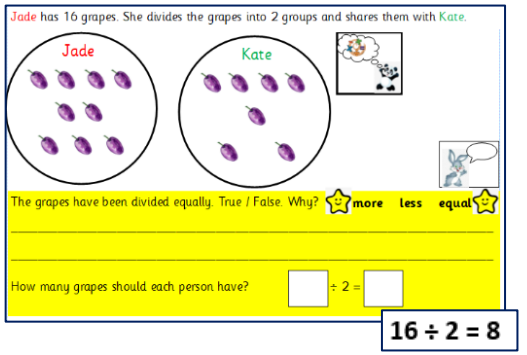
Concept	Concrete	Pictorial	Abstract
Write mathematical statements involving addition (+) and equals signs Solve one-step problems that involve addition and missing numbers using concrete objects and pictorial representations.	  	  	  
Recall at least 4 of the 6 numbers bonds for 10 and reason about associated facts (6 + 4 = 10, therefore 4 + 6 = 10 and 10 – 6 = 4)	 	 	 

Year 1 Subtraction			
Concept	**Concrete**	**Pictorial**	**Abstract**
Write mathematical statements involving subtraction (-) and equals signs	 	  	
Solve 1-step problems that involve subtraction and missing numbers using concrete objects and pictorial representations.	There are 8 sweets in the jar. 6 are eaten. How many are left? 	Dan has 15 stickers. He gives 7 of his stickers to Kay. How many stickers does he have now? **15 – 7 = 8** Think of a subtraction problem to match the bar model. 	There are 10 cars in a car park.  4 cars leave. How many cars are left in the car park? __ – __ = __ **10 – 4 = 6**

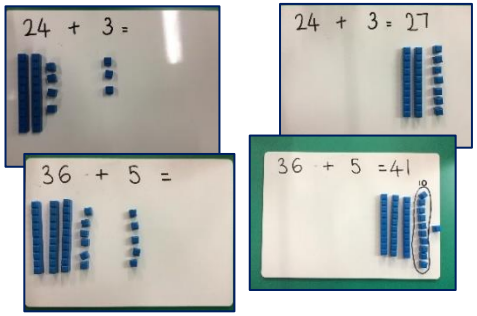
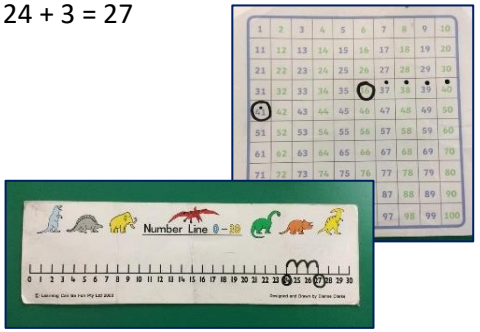
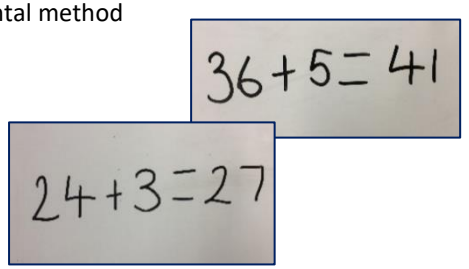
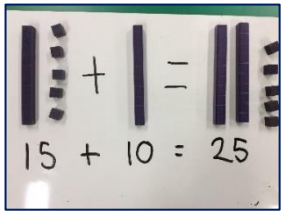
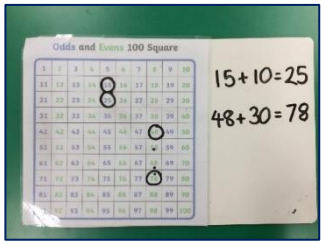
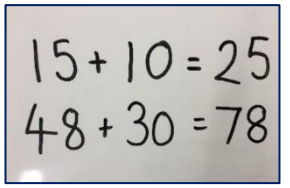
Year 1 Multiplication

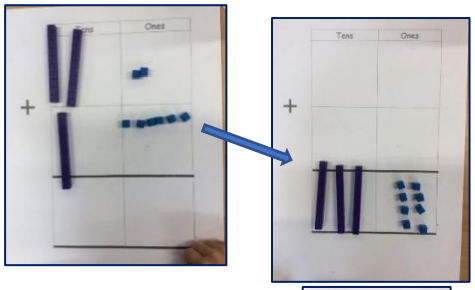
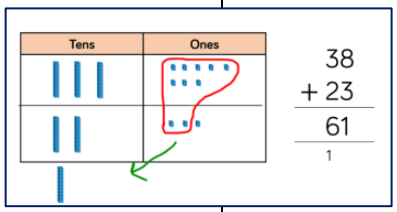
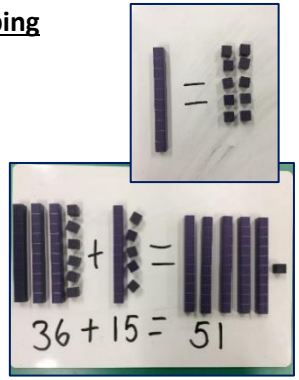
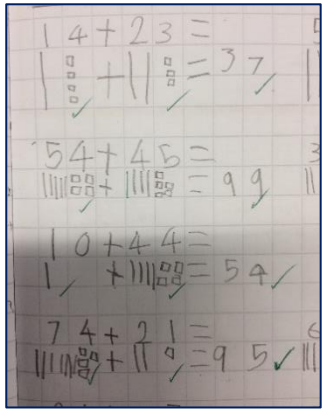
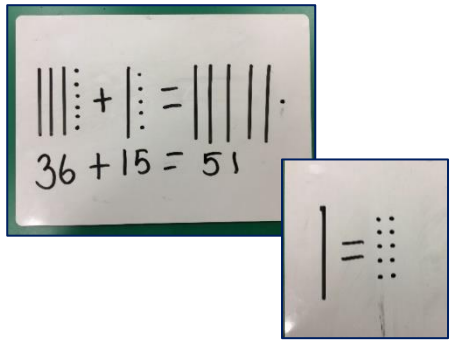
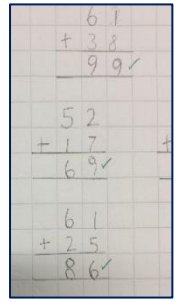
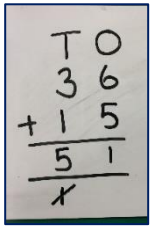
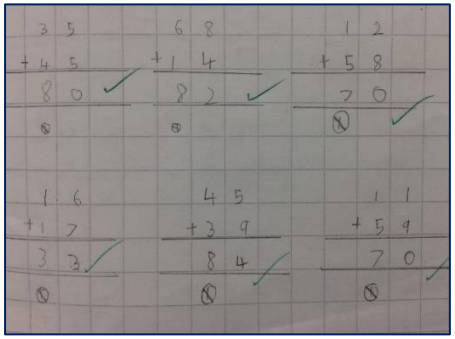
Concept	Concrete	Pictorial	Abstract
Count in multiples of 2s, 5s and 10s from 0. Count in 2s, 5s and 10s to solve problems e.g. count the number of chairs in a diagram when the chairs are organised in 7 rows of 5 by counting in 5s.	 	How many socks are there in total?  There are _____ socks in total.   	**Reasoning** Use your purple pen to correct the mistake 15 x 5 = 3 _____ x 5 = _____  Explain what has happened *When you multiply the answer should be the largest number.* *It should be **3 x 5 = 15***  *When I count in fives the number should have a **0** or a **5** in the ones.*
Solve 1-step problems involving multiplication, by calculating the answer using concreate objects, pictorial representations and arrays.	**There are 3 trays with 5 buns on each tray. How many buns in total?**  	 **Grouping** **4 x 5 = 20**	

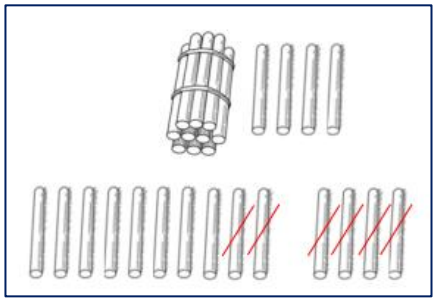
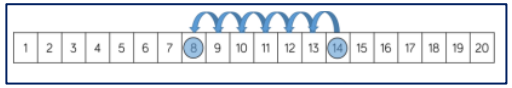
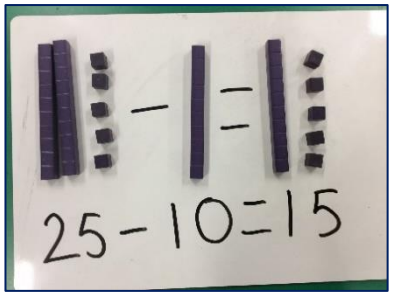
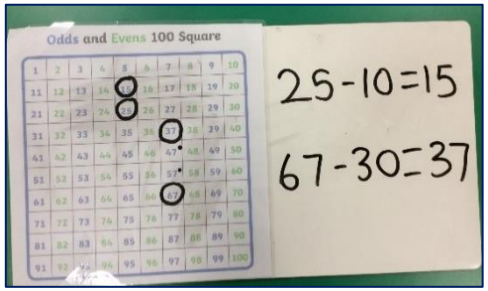
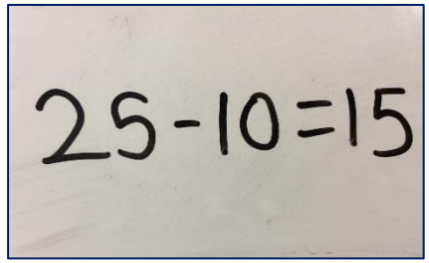
Year 1 Division

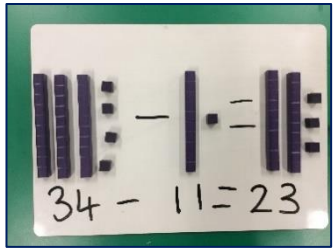
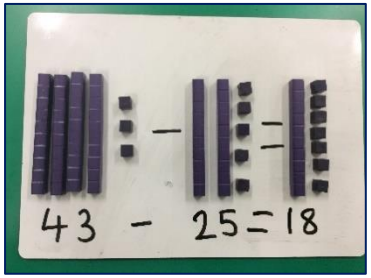
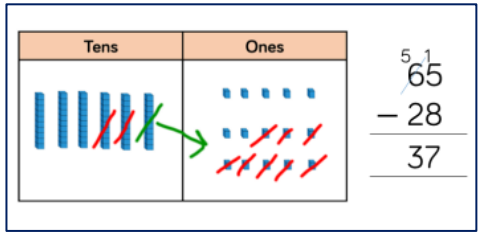
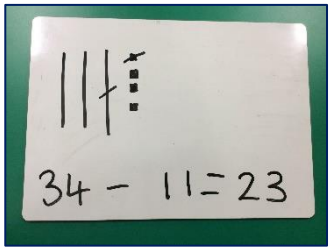
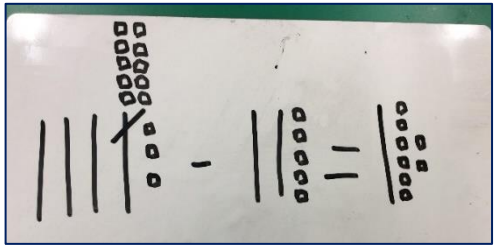
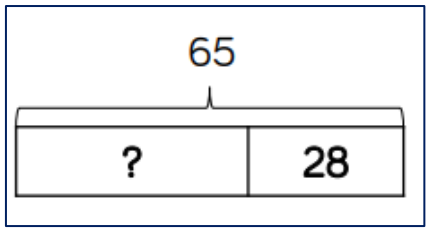
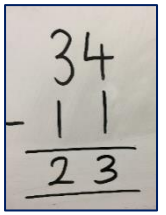
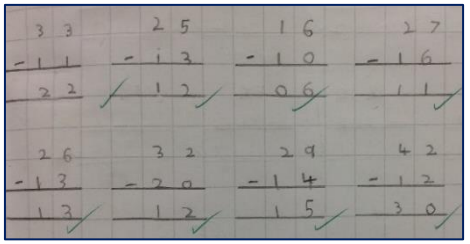
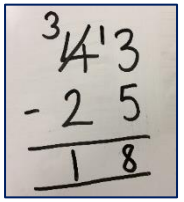
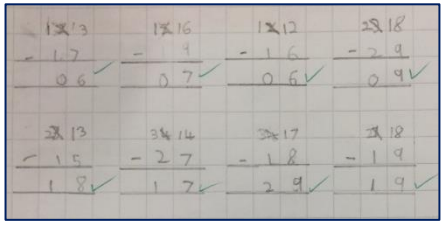
Concept	Concrete	Pictorial	Abstract
Solve 1-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays.			

Year 2 Addition

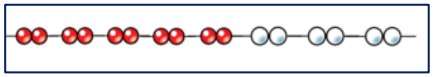
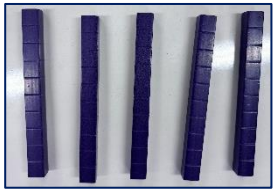
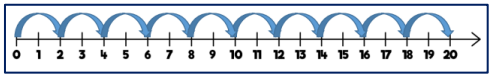
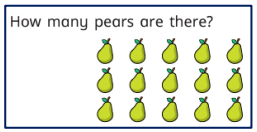
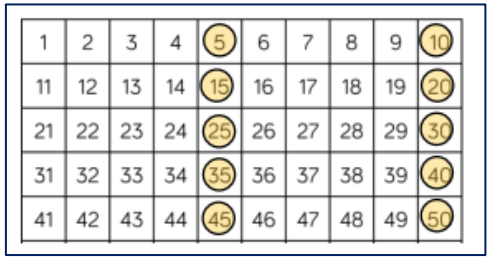
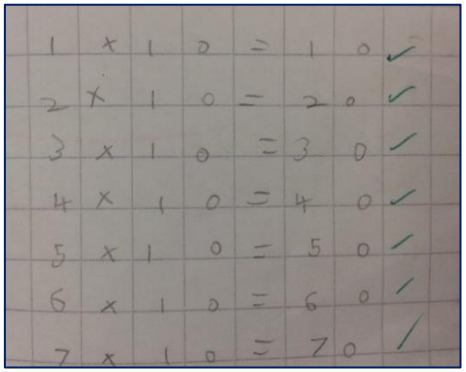
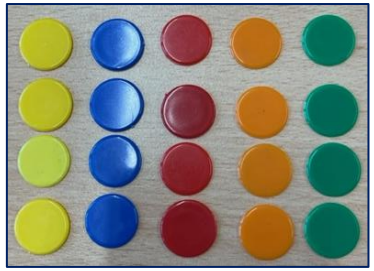
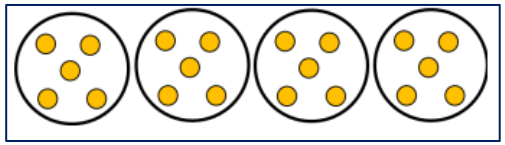
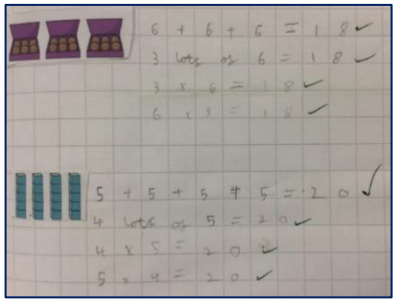
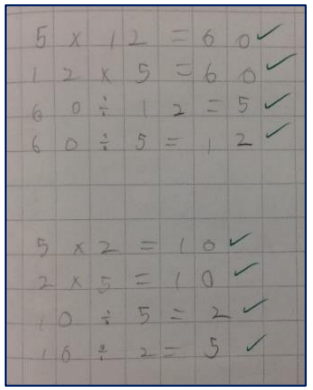
Concept	Concrete	Pictorial	Abstract
Add a 2-digit number and ones		24 + 3 = 27 	Mental method 
Add a 2-digit number and tens			Mental method 

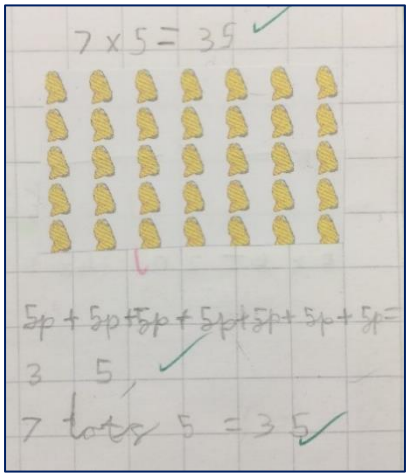
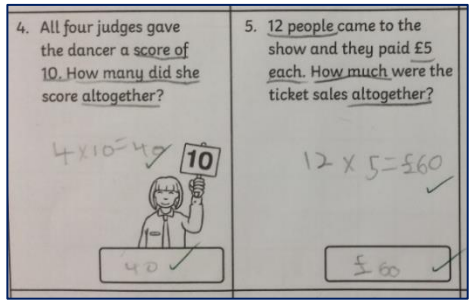
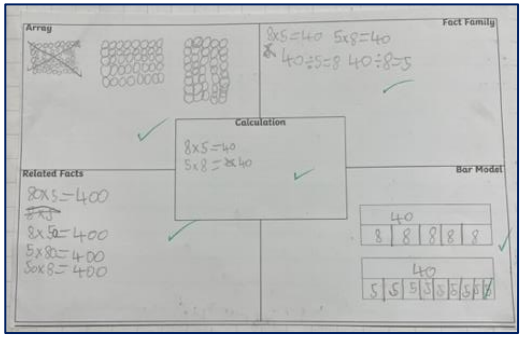
Add two 2-digit numbers	**Without Regrouping** 22 + 16 = 38 Children make 22 and 16 and place in the correct columns in the column method grid. They move the concrete apparatus down to the equals, and count the total.  **With Regrouping**   	**Without Regrouping**  **With Regrouping**  	**Without Regrouping** Model Method Add the ones and then add the tens. 7 2 + 1 6 8 8  **With Regrouping** Model Method Add the ones and then the tens. If the ones add to more than 10, move a 10 below the tens column. 3 3 + 4 8 8 1 1  

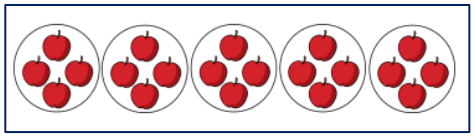
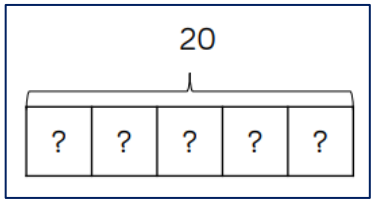
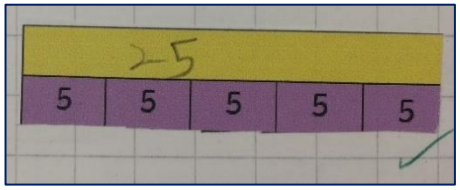
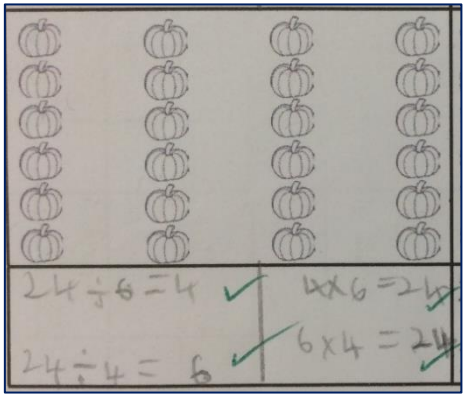
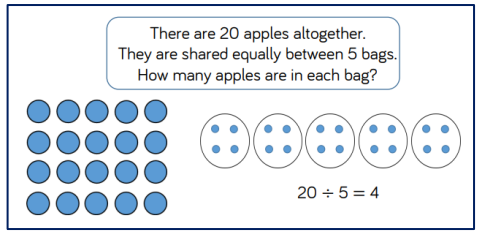
Year 2 Subtraction			
Concept	**Concrete**	**Pictorial**	**Abstract**
Subtract a 2-digit number and ones	14 − 6 = 8 	14 − 6 = 8 	Mental Method 14 − 6 = 8
Subtract a 2-digit number and tens	 Model subtracting the ten from 25 by physically taking it away and leaving 15.		Mental Method 

Subtract two 2-digit numbers	**Without Exchanging**  **With Exchanging**   	**Without Exchanging**  **With Exchanging** **43 – 25 = 18**   	**Without Exchanging** Model Method Subtract the ones and then subtract the tens. 5 2 - 1 2 4 0   **With Exchanging** Model Method Subtract the ones first. If the bottom number is larger than the top number, exchange a ten. Then subtract the tens column. 6 7 14 - 5 8 1 6  

Year 2 Multiplication

Concept	Concrete	Pictorial	Abstract
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	   	  	Mental recall of times table facts 
Calculate mathematical statements for division within the multiplication/division tables and write them using the division (÷) and equals (=) sign. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	 Make arrays with counters to show 4 + 4 + 4 + 4 + 4 = 20 5 lots of 4 = 20 5 x 4 = 20	 5 + 5 + 5 + 5 = 20 4 lots of 5 = 20 4 x 5 = 20 	**Fact Families** One bag holds 5 apples. How many apples do 4 bags hold? 5 + 5 + 5 + 5 = 20 4 × 5 = 20 5 × 4 = 20 

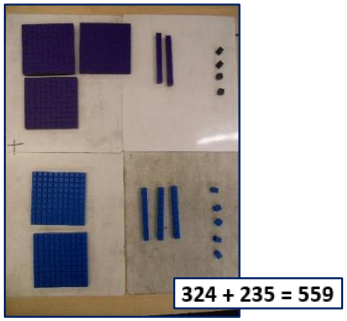
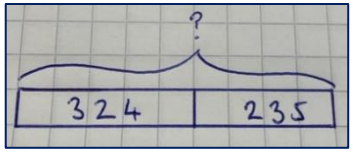
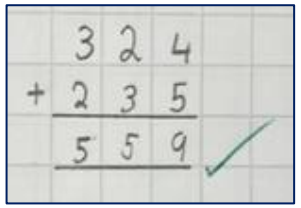
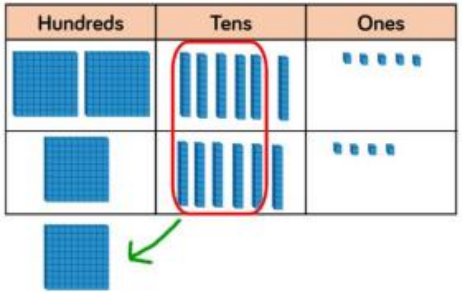
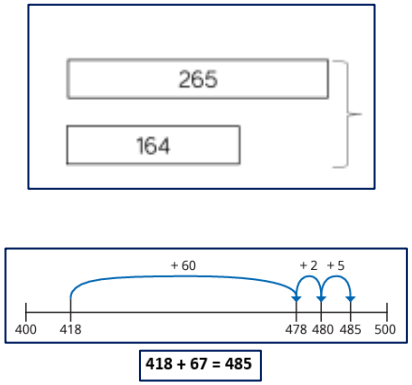
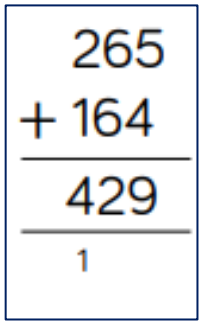
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.			**Multiplication Problems**  

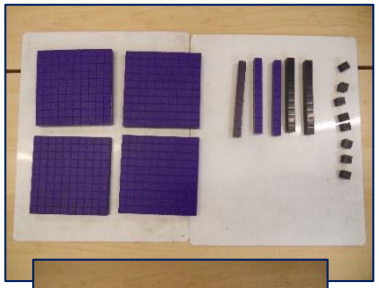
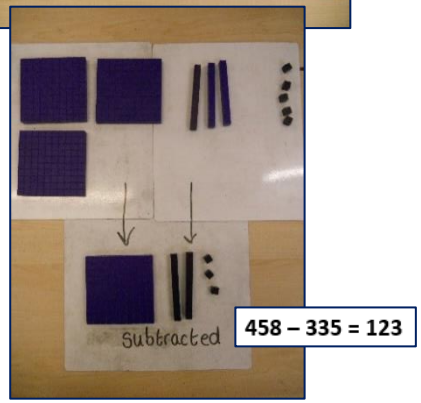
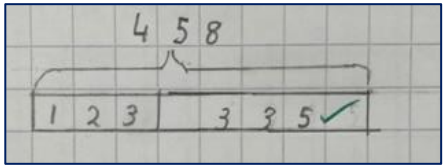
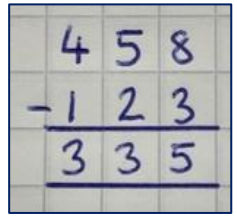
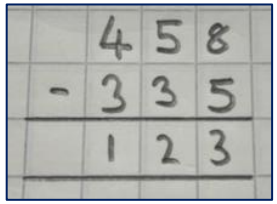
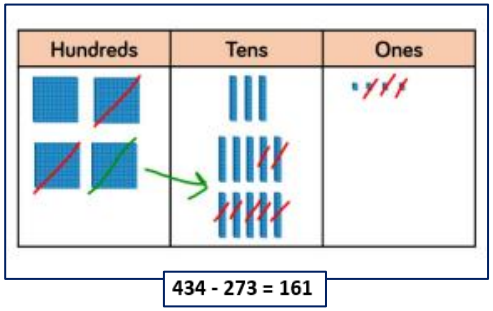
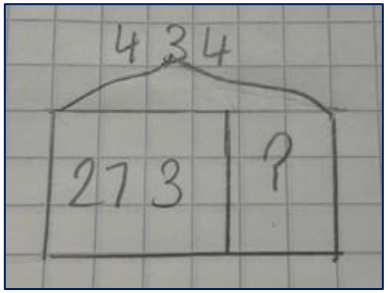
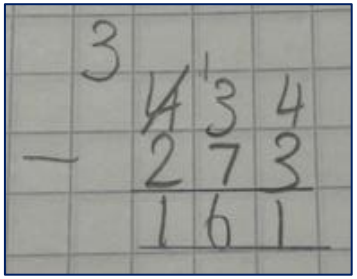
Year 2 Division			
Concept	**Concrete**	**Pictorial**	**Abstract**
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for division within the multiplication/division tables and write them using the division (÷) and equals (=) sign. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	 Practical sorting into groups using apparatus. **20 ÷ 5 = 4**	**20 ÷ 5 = 4**   	

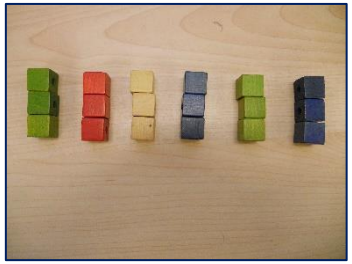
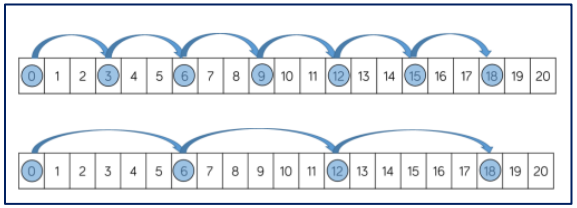
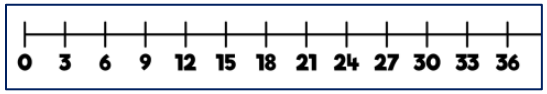
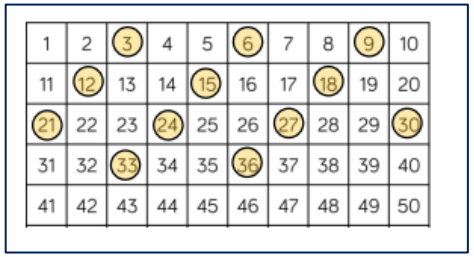
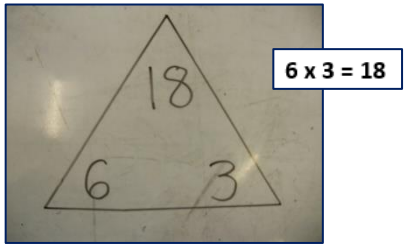
Lower Key Stage Two (Years 3 and 4)

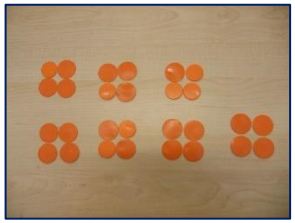
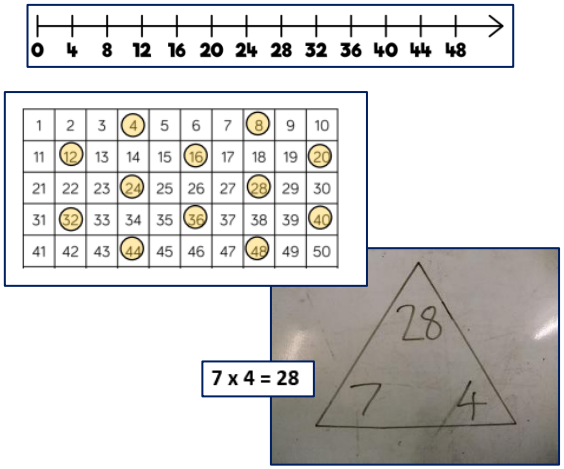
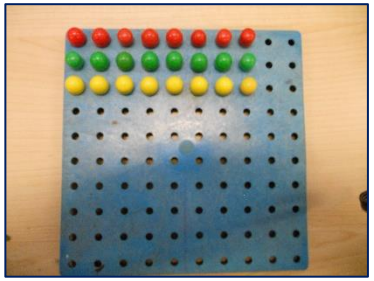
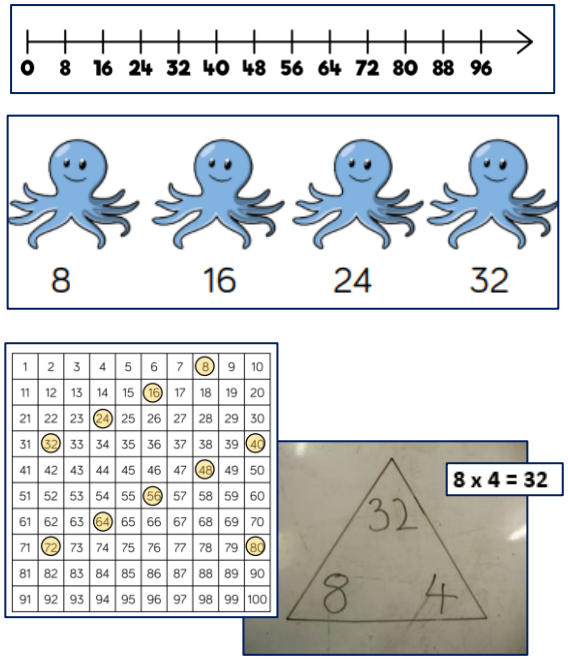
The principal focus of mathematics teaching in lower key stage 2 is to ensure that children become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that children develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. By the end of Year 4, children should be able to fluently recall their multiplication tables up to and including the 12x multiplication table and show precision and fluency in their work. This will be assessed through the Multiplication Tables Check (MTC). Knowledge of the times tables are essential in preparation to apply to more complex concepts in UKS2, thus enabling future success in mathematics.

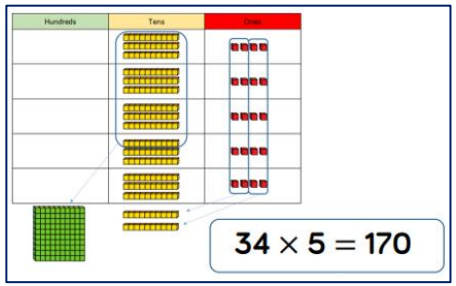
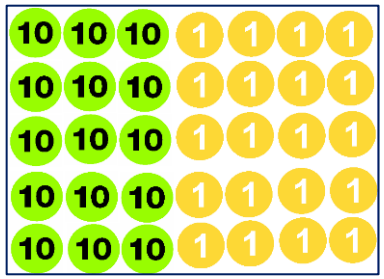
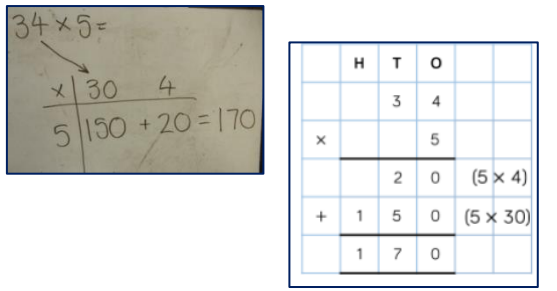
Year 3 Addition

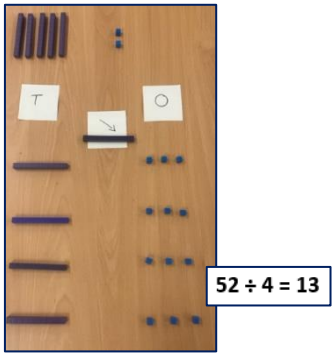
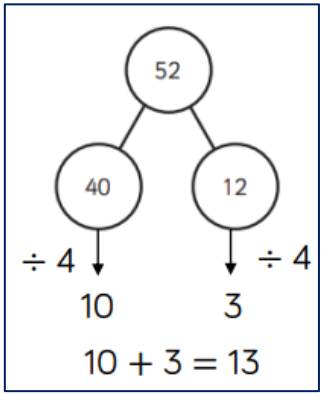
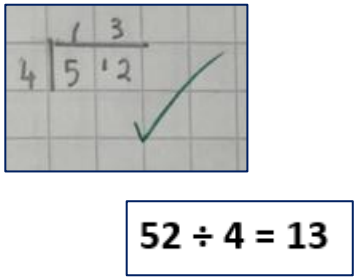
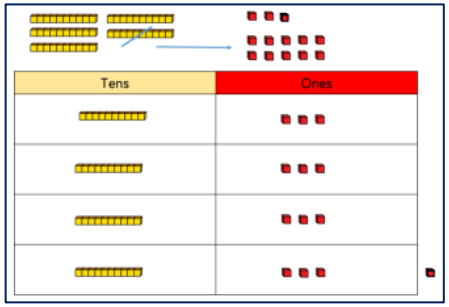
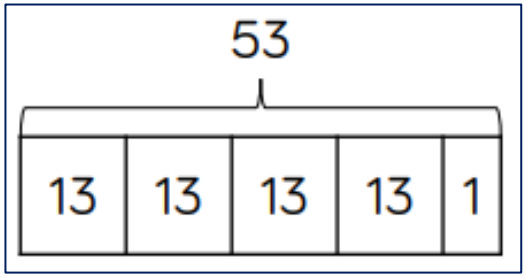
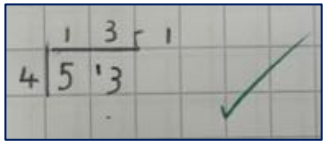
Concept	Concrete	Pictorial	Abstract
Add numbers with up to three digits using the formal written method of column addition without regrouping.			
Add numbers with up to three digits using the formal written method of column addition with regrouping.			

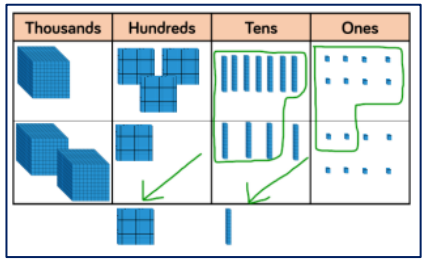
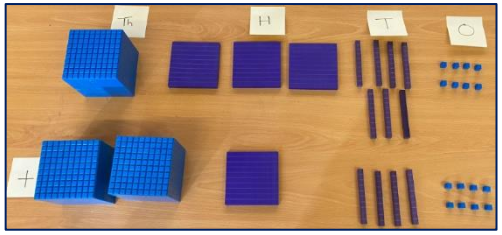
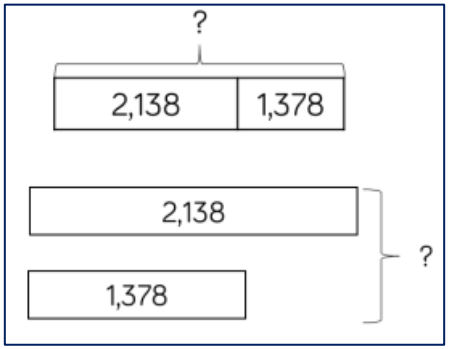
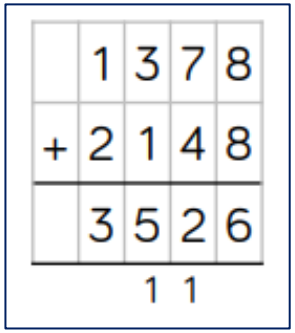
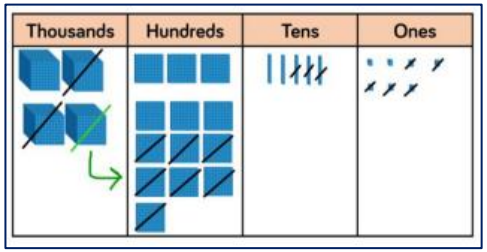
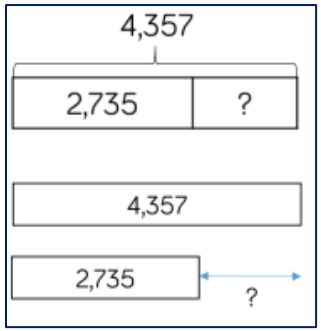
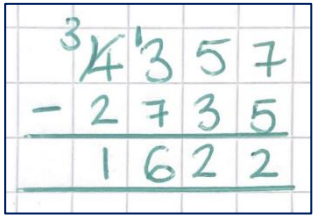
Year 3 Subtraction			
Concept	**Concrete**	**Pictorial**	**Abstract**
Subtract numbers with up to three digits using the formal written method of column addition without exchange.	 		 
Subtract numbers with up to three digits using the formal written method of column addition with exchange.			

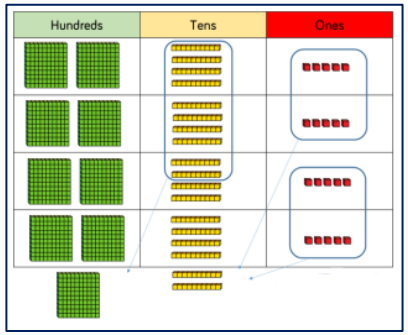
Year 3 Multiplication			
Concept	**Concrete**	**Pictorial**	**Abstract**
Recall and calculate mathematical statements for multiplication and division of the 3 times table.		    	6 x 3 = 18 3 x 6 = 18 18 ÷ 6 = 3 18 ÷ 3 = 6

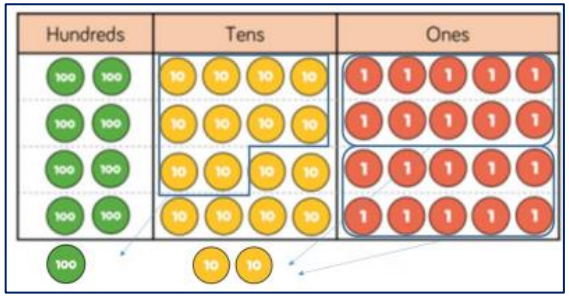
Recall and calculate mathematical statements for multiplication and division of the 4 times table.			7 x 4 = 28 4 x 7 = 28 28 ÷ 7 = 4 28 ÷ 4 = 7
Recall and calculate mathematical statements for multiplication and division of the 8 times table.			8 x 4 = 32 4 x 8 = 32 32 ÷ 8 = 4 32 ÷ 4 = 8

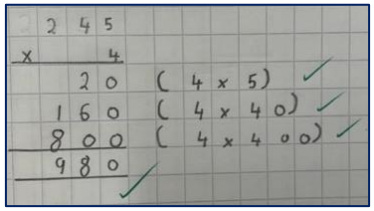
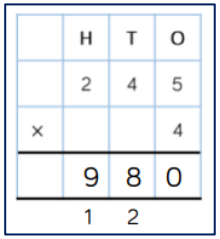
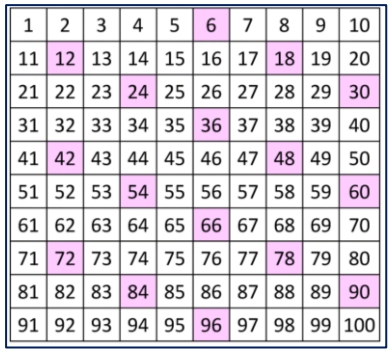
Multiply 2-digit numbers by 1-digit numbers.			

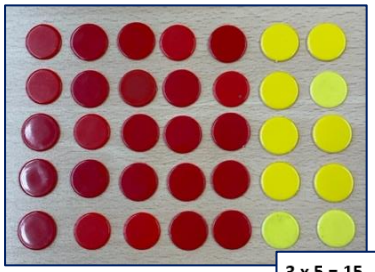
Y3 Division			
Concept	**Concrete**	**Pictorial**	**Abstract**
Divide 2-digit numers by a 1-digit number without remainder.			
Divide 2-digit number by 1-digit number with remainder			

Year 4 Addition			
Concept	**Concrete**	**Pictorial**	**Abstract**
Add numbers with up to four digits using the formal method of columnar addition	 		
Year 4 Subtraction			
Concept	**Concrete**	**Pictorial**	**Abstract**
Subtract numbers with up to four digits using the formal method of columnar subtraction			

<table>
<tr><th colspan="4">Year 4 Multiplication</th></tr>
<tr><th>Concept</th><th>Concrete</th><th>Pictorial</th><th>Abstract</th></tr>
<tr><td>Multiply 3-digit numbers by a one-digit number using formal expanded written layout</td><td> 

245 x 4 = 980</td><td> 

245 x 4 = 980</td><td> 
</td></tr>
<tr><td>Multiply 3-digit numbers by a 1-digit number using formal compact written layout</td><td></td><td></td><td> 
</td></tr>
<tr><td>Recall and use multiplication and division facts for the 6-times table</td><td>  </td><td> 
</td><td>$6 \times 6 = 36$
$6^2 = 36$
$36 \div 6 = 6$</td></tr>
</table>

<table>
<tr>
<td>Recall and use multiplication and division facts for the7-times table</td>
<td>
Using arrays

3 x 5 = 15 3 x 2 = 6
3 x 7 = 15 + 6 = 21
</td>
<td>
<table>
<tr><th>X</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th></tr>
<tr><td>1</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>2</td><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td></tr>
<tr><td>3</td><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td><td>18</td><td>21</td><td>24</td><td>27</td><td>30</td></tr>
<tr><td>4</td><td>4</td><td>8</td><td>12</td><td>16</td><td>20</td><td>24</td><td>28</td><td>32</td><td>36</td><td>40</td></tr>
<tr><td>5</td><td>5</td><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td><td>40</td><td>45</td><td>50</td></tr>
<tr><td>6</td><td>6</td><td>12</td><td>18</td><td>24</td><td>30</td><td>36</td><td>42</td><td>48</td><td>54</td><td>60</td></tr>
<tr><td>7</td><td>7</td><td>14</td><td>21</td><td>28</td><td>35</td><td>42</td><td>49</td><td>56</td><td>63</td><td>70</td></tr>
<tr><td>8</td><td>8</td><td>16</td><td>24</td><td>32</td><td>40</td><td>48</td><td>56</td><td>64</td><td>72</td><td>80</td></tr>
<tr><td>9</td><td>9</td><td>18</td><td>27</td><td>36</td><td>45</td><td>54</td><td>63</td><td>72</td><td>81</td><td>90</td></tr>
<tr><td>10</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td><td>100</td></tr>
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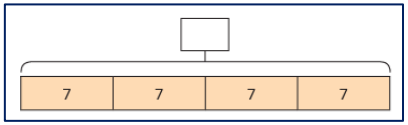
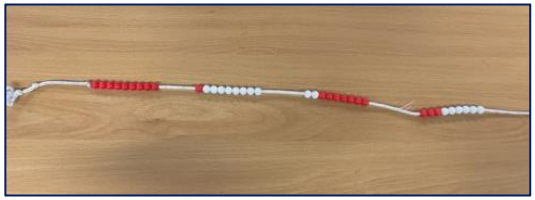


</td>
<td>
3 x 7 = 21
7 x 3 = 21
21 ÷ 3 = 7
21 ÷ 7 = 3
</td>
</tr>
<tr>
<td>Recall and use multiplication and division facts for the 9 -times table</td>
<td>

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<td>
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<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr>
<tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr>
<tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr>
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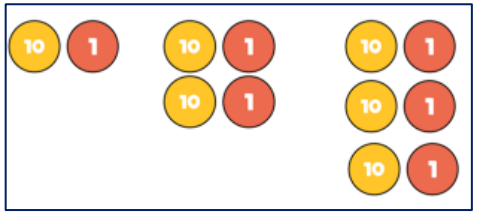
<tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr>
<tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr>
<tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr>
<tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr>
<tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr>
</table>
</td>
<td>
4 x 9 = 36
9 x 4 = 36
36 ÷ 9 = 4
36 ÷ 4 = 9
</td>
</tr>
<tr>
<td>Recall and use multiplication and division facts for the 11-times table</td>
<td>

</td>
<td>


</td>
<td>
11 x 3 = 33
3 x 11 = 33
33 ÷ 11 = 3
33 ÷ 3 = 11
</td>
</tr>
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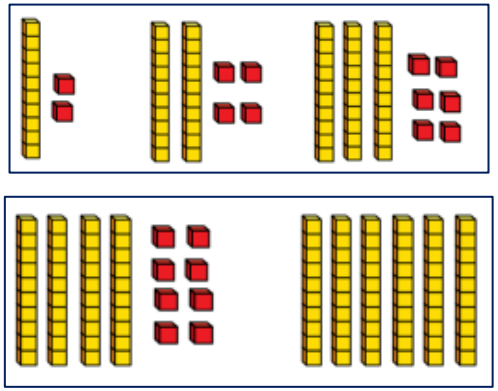
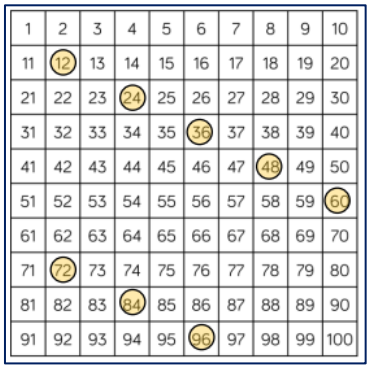
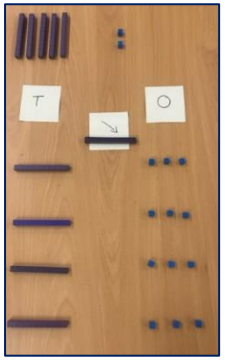
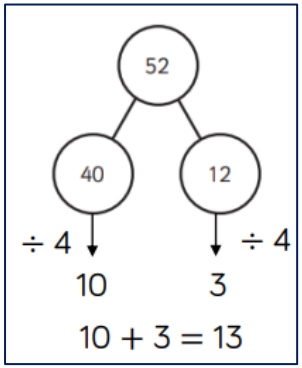
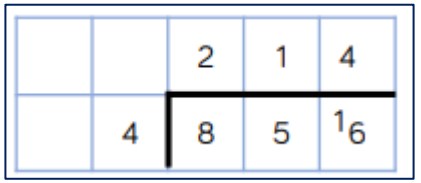
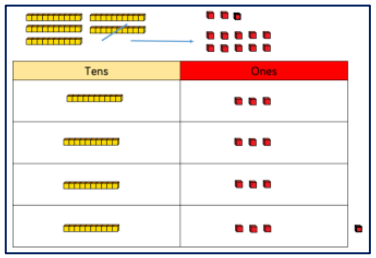
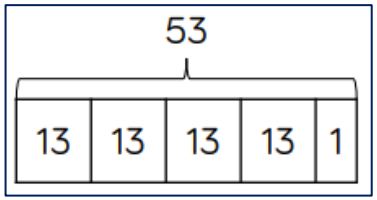
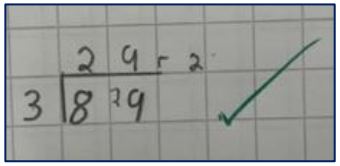
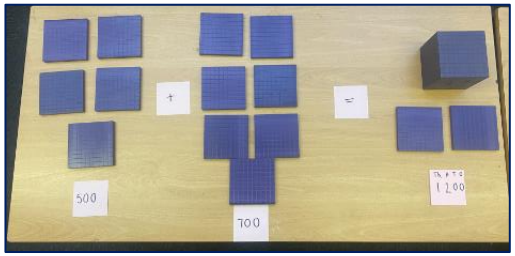
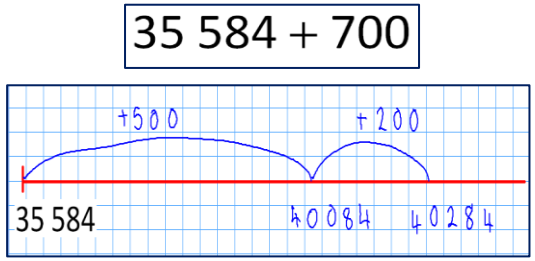
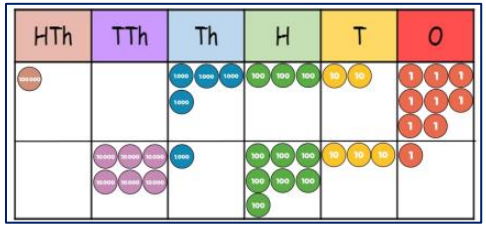
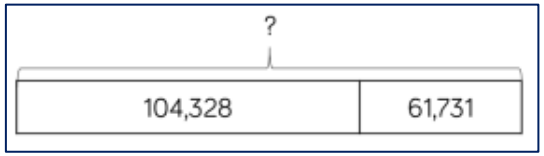
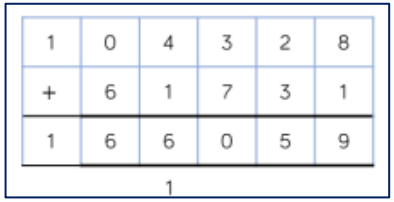
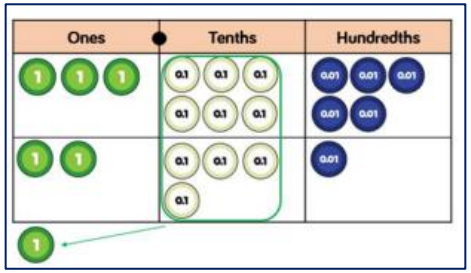
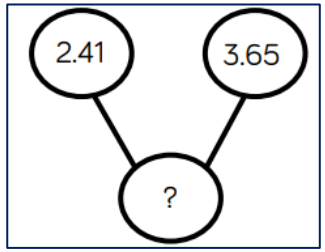
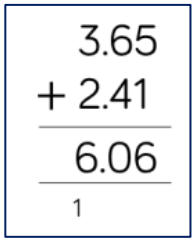
Recall and use multiplication and division facts for the 12-times table			12 x 5 = 60 5 x 12 = 60 60 ÷ 5 = 12 60 ÷ 12 = 5

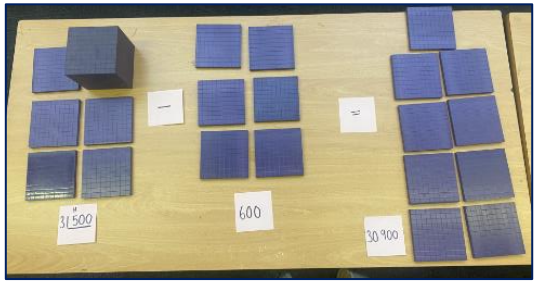
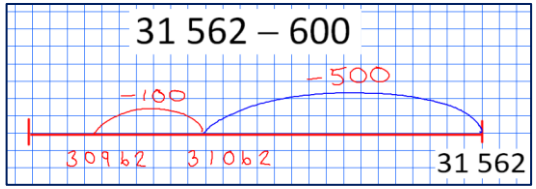
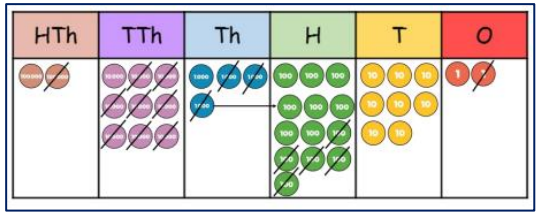
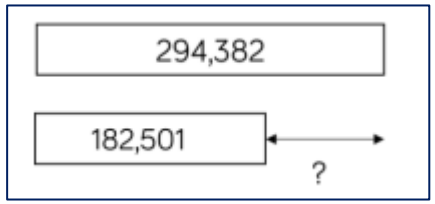
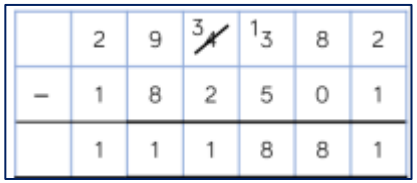
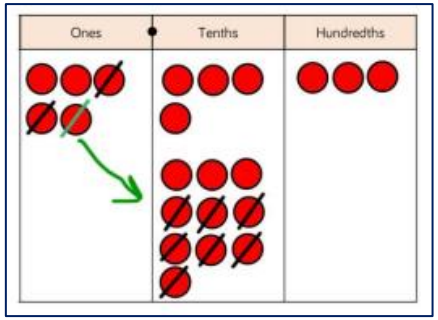
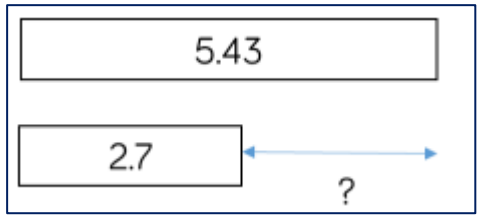
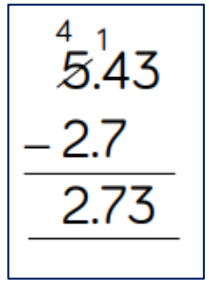
Year 3/4 Division			
Concept	**Concrete**	**Pictorial**	**Abstract**
Divide 2 and 3-digit numbers using the formal written method of short division. (**without remainders**)			
Divide 2 and 3-digit numbers using the formal written method of short division. (**with remainders**)			

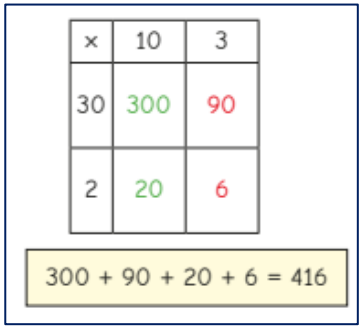
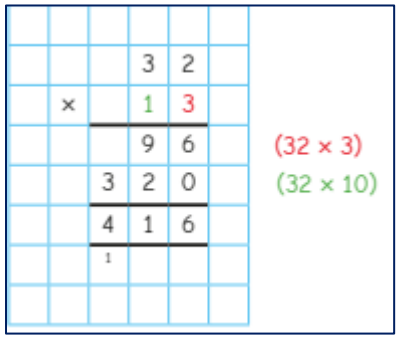
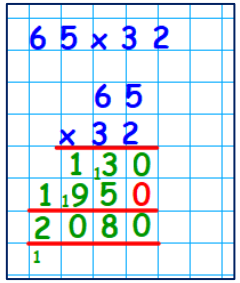
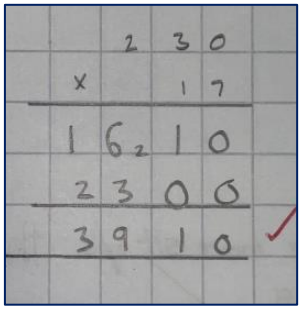
Upper Key Stage Two (Years 5 and 6)

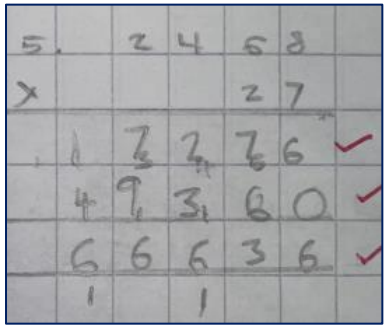
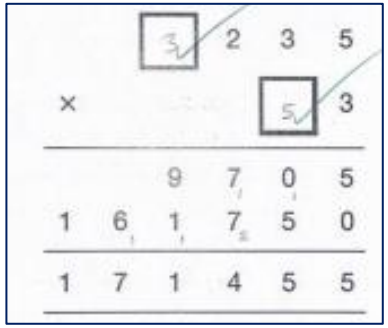
The principal focus of mathematics teaching in upper key stage 2 is to ensure that children extend their understanding of the number system and place value to include larger integers. This should develop the connections that children make between multiplication and division with fractions, decimals, percentages and ratio, and apply this knowledge to solving problems. At this stage, children should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. By the end of year 6, children should be fluent in written methods for all four operations, including long multiplication and division.

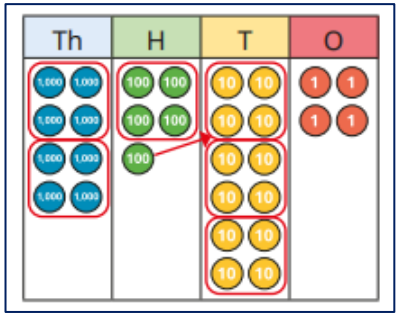
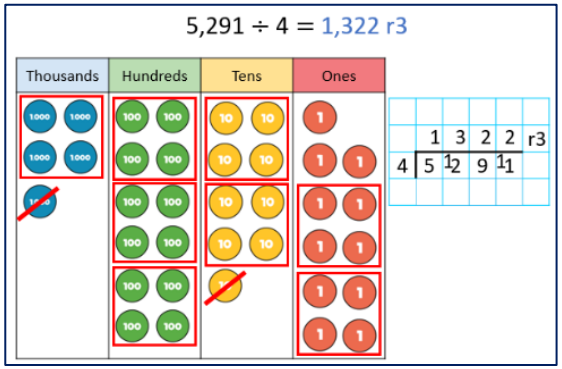
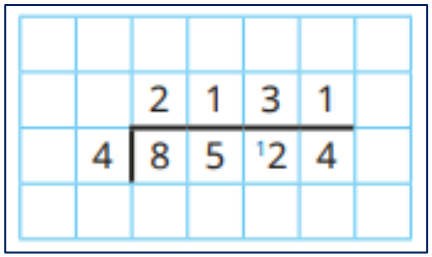
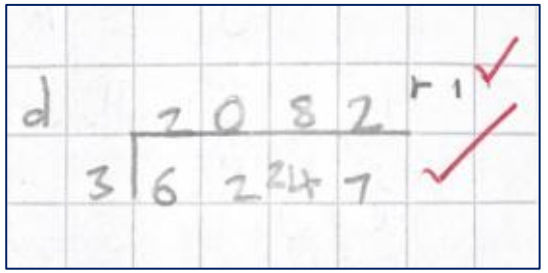
UKS2 Addition

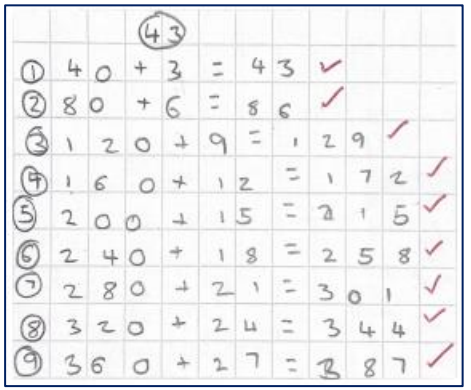
Concept	Concrete	Pictorial	Abstract
Add numbers mentally with increasingly large numbers			**35 584 + 700** **35 584 + 500 = 40 084** **40 084 + 200 = 40 284**
Add with more than 4 digits using formal written methods			
Add with up to 3 decimal places			

UPKS2 Subtraction			
Concept	**Concrete**	**Pictorial**	**Abstract**
Subtract numbers mentally with increasingly large numbers			**31 562 – 600** **31 562 – 500 = 31 062** **31 062 – 100 = 30 962**
Subtract with more than 4 digits using formal written methods			
Subtract with up to 3 decimal places			

UPKS2 Multiplication			
Concept	**Concrete**	**Pictorial**	**Abstract**
Multiply numbers with up to 4 digits by a 2-digit number using an expanded formal written method. (Year 5)			
Multiply numbers with up to 4 digits by a 2-digit number using a compact formal written method. (Year 5)			
Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication (Year 6)			3-digit x 2-digit 

			4-digit x 2 digit  **And solve problems e.g.** 

UPKS2 Division			
Concept	**Concrete**	**Pictorial**	**Abstract**
Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context		8524 ÷ 4 =  With remainders:  	8524 ÷ 4 =  With remainders: 6247 ÷ 3 = 

* Skill taught before long division for generating unknown multiples (anything above 12) done through either repeated addition or through partition method (see abstract) (Year 6)		Calculate 589 ÷ 19 = 31 19 38 57 76 95 114 133 152 171 190 3 1 19 5 8 9 – 5 7 1 9 – 1 9 0	
Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. (Year 6)			432 ÷ 12 = 36 0 3 6 12 4 4 3 7 2

Divide numbers up to 4 digits by a 2-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 (Year 6)