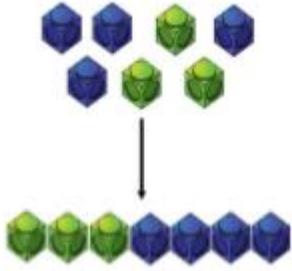
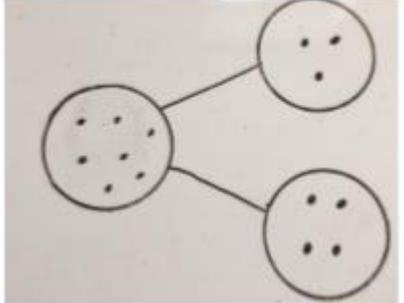
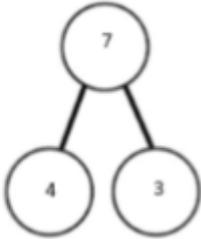
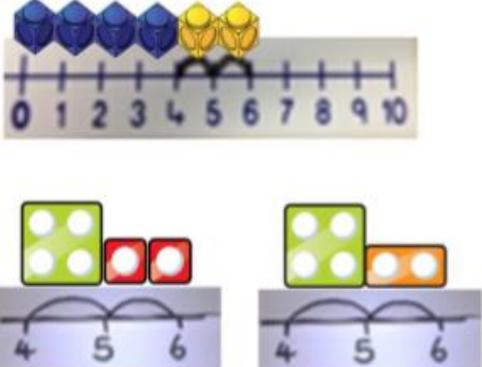
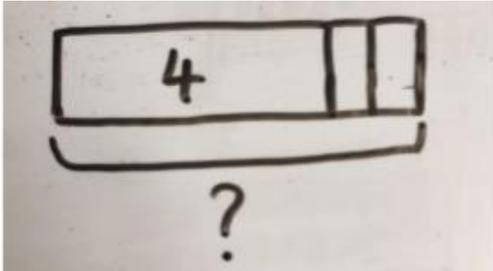
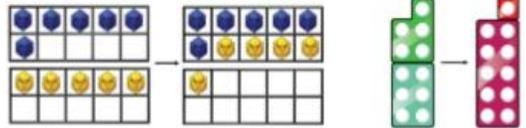
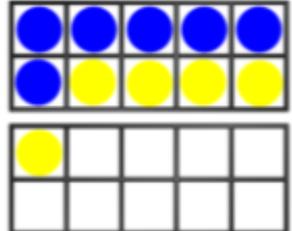


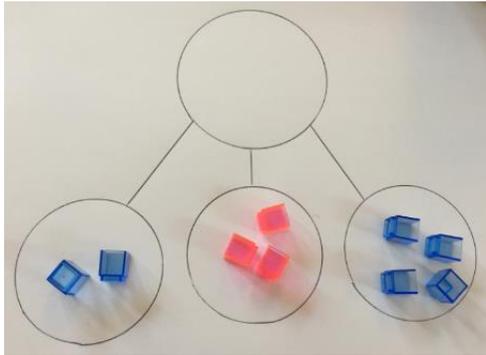
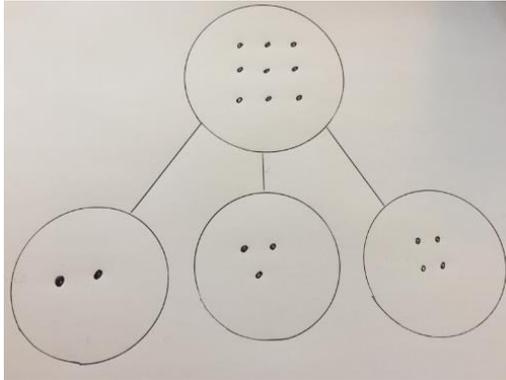
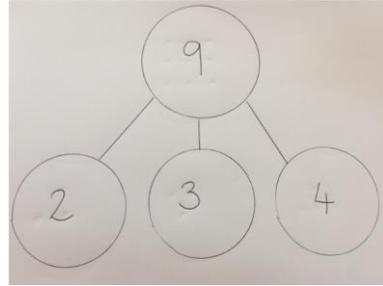
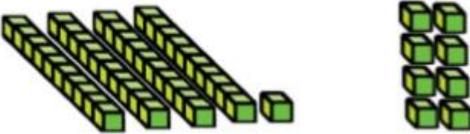
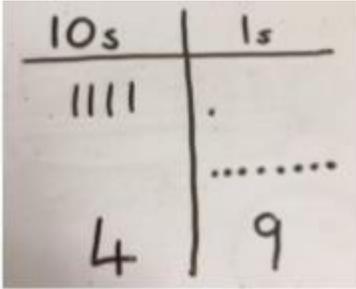
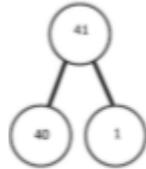
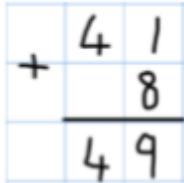
YEAR 1 – ADDITION

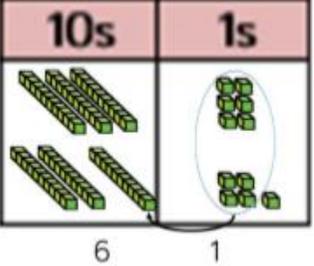
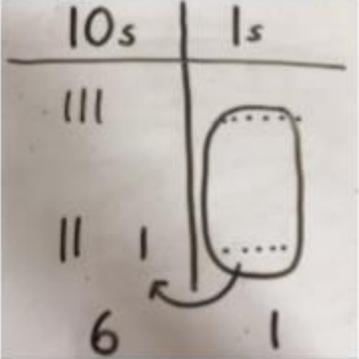
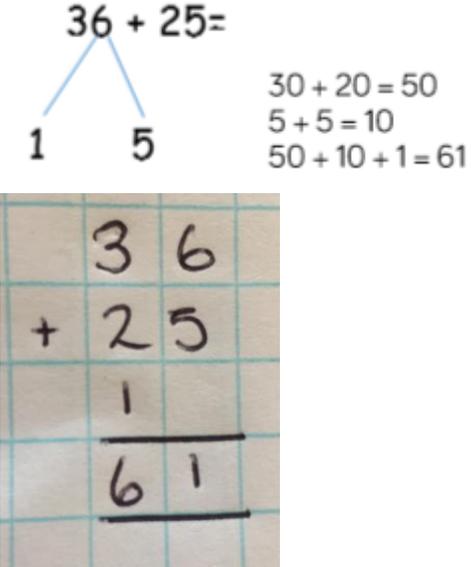
	CONCRETE	PICTORIAL	ABSTRACT
<p>Combining two parts to make a whole</p>	<p>Use a range of manipulatives (e.g. cubes, shells, teddy bears)</p> 	<p>Children to represent the cubes using dots or crosses. They could put each part on a part whole model too</p> 	<p>$4 + 3 = 7$. Four is a part, three is a part and the whole is seven.</p> 
<p>Counting on using number lines</p>	<p>Using cubes or Numicon</p> 	<p>A bar model which encourages the children to count on, rather than count all.</p> 	<p>The abstract number line:</p> <p>What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? $4 + 2$</p> 
<p>Regrouping to make 10</p>	<p>Using tens frames and counters/ cubes or using Numicon</p> <p>$6 + 5$</p> 	<p>Children to draw the ten frame and counters/cubes.</p> 	<p>Children to develop and understanding of equality.</p> $6 + \square = 11$ $6 + 5 = 5 + \square$ $6 + 5 = \square + 4$

YEAR 1 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>						STEM SENTENCES <i>(new vocab in bold/italic)</i>
<i>part</i>	<i>whole</i>	<i>total</i>	<i>sum</i>	<i>add</i>	<i>counting</i>	<p><i>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</i></p> <p><i>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</i></p> <p><i>The total of _____ and _____ is _____ (The total of 6 and 4 is 10).</i></p>
<i>tens</i>	<i>ones</i>	<i>equal</i>	<i>same value</i>	<i>plus</i>		
<i>more than</i>						

YEAR 2 – ADDITION

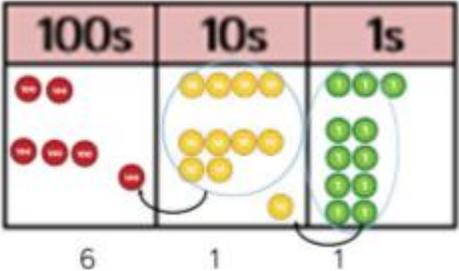
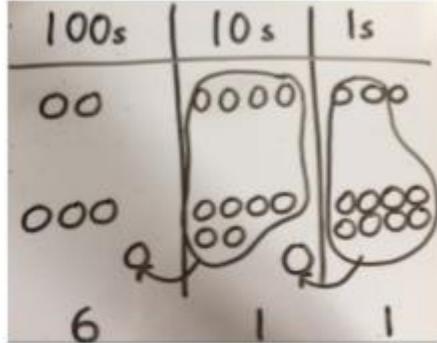
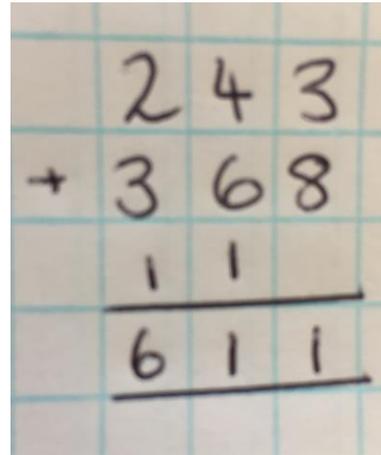
	CONCRETE	PICTORIAL	ABSTRACT						
<p>Adding 3 single digit numbers</p>	<p>Using manipulatives</p> 	<p>Children to represent the cubes using dots or crosses. They could put each part on a part whole model too</p> 	<p>$2 + 3 + 4 = 9$. Four is a part, three is a part, two is a part and the whole is nine.</p>  <table border="1" style="margin-left: auto; margin-right: auto; text-align: center;"> <tr> <td colspan="3">9</td> </tr> <tr> <td>2</td> <td>3</td> <td>4</td> </tr> </table>	9			2	3	4
9									
2	3	4							
<p>TO + O using base 10.</p>	<p>Continue to develop understanding of partitioning and place value $41 + 8$</p> 	<p>Children to represent the base 10 (e.g. lines of tens and dot/crosses for ones).</p> 	<p>$41 + 8$</p>  <p>$1 + 8 = 9$ $40 + 9 = 49$</p> 						

	CONCRETE	PICTORIAL	ABSTRACT
TO + TO using base 10.	Continue to develop understanding of partitioning and place value. $36 + 25$ 	Children to represent the base 10 in a place value chart. 	Looking for ways to make 10. $36 + 25 =$ 

YEAR 2 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>						STEM SENTENCES <i>(new vocab in bold/italic)</i>
part	whole	total	sum	add	counting	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The total of _____ and _____ is _____ (The total of 6 and 4 is 10). The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).
tens	ones	equal	same value		plus	
more than						

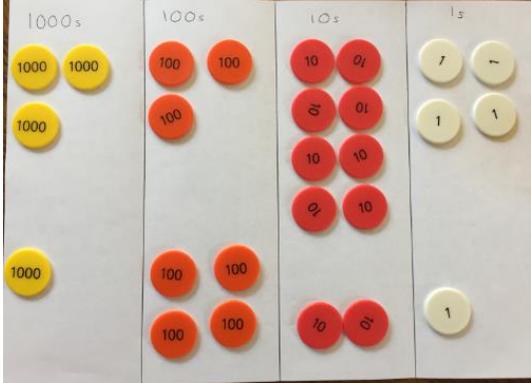
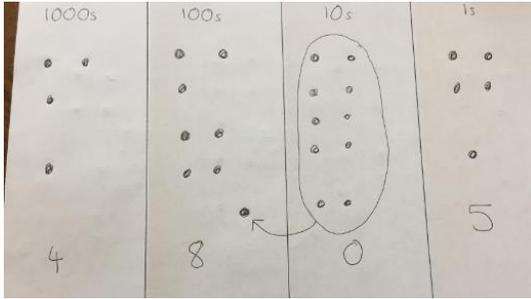
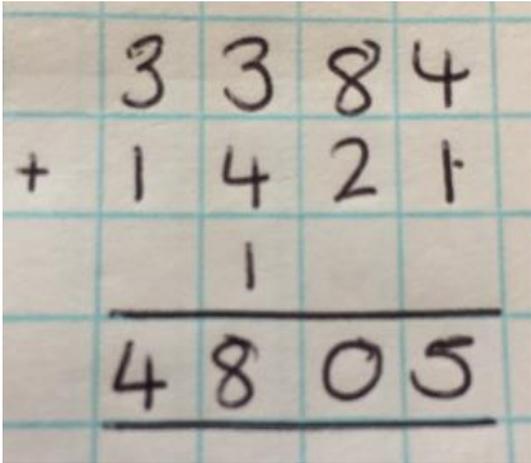
YEAR 3 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Use of place value counters to add HTO + TO, HTO + HTO etc</p>	<p>When there are 10 ones in the 1s column – we exchange for 1 ten; when there are 10 tens in the 10s column – we exchange for 1 hundred.</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	<p>Formal method</p> 

YEAR 3 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>	STEM SENTENCES <i>(new vocab in bold/italic)</i>																		
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part	whole	total	sum	add	counting														
tens	ones	equal	same value	plus	exchange														
more than	column	hundreds																	

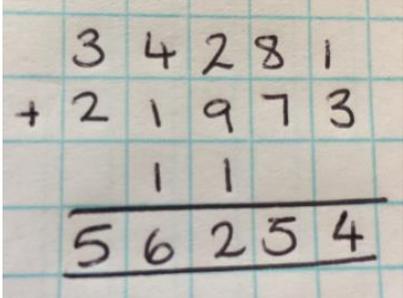
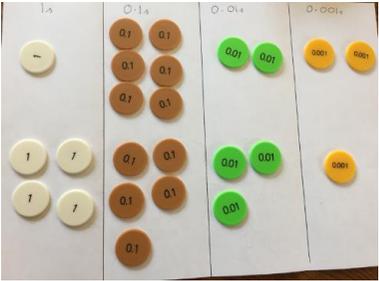
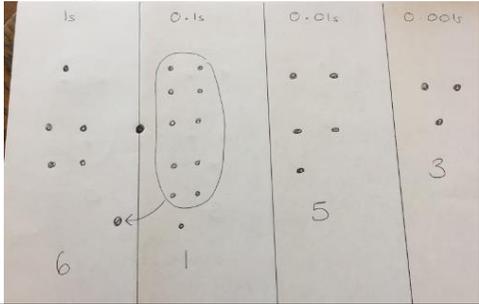
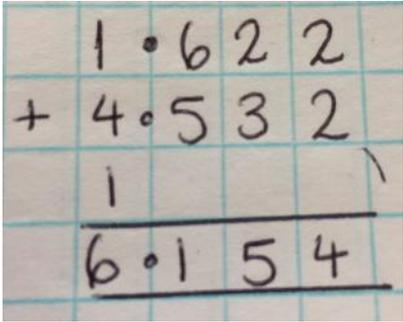
YEAR 4 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Use of place value counters to add ThHTO + TO, ThHTO + HTO, ThHTO + ThHTO etc</p>	<p>When there are 10 ones in the 1s column – we exchange for 1 ten; when there are 10 tens in the 10s column – we exchange for 1 hundred; when there are 10 hundreds in the 100s column – we exchange for 1 thousand.</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	<p>Formal method</p> 

YEAR 4 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>	STEM SENTENCES <i>(new vocab in bold/italic)</i>
<p>part whole total sum add</p> <p>tens ones equal same value plus</p> <p>more than column hundreds exchange</p> <p><i>thousands</i></p>	<p>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</p> <p>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</p> <p>The total of _____ and _____ is _____ (The total of 6 and 4 is 10).</p> <p>The sum of _____ and _____ is _____ (The sum of 6 and 4 is 10).</p>

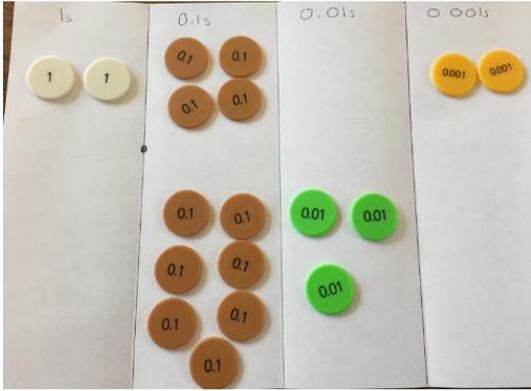
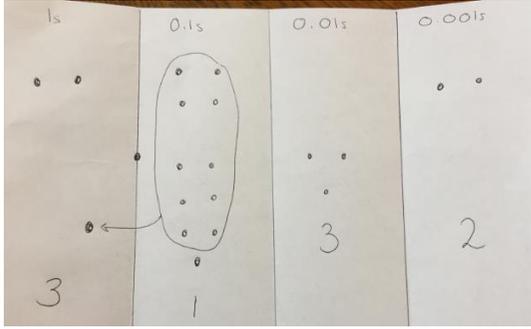
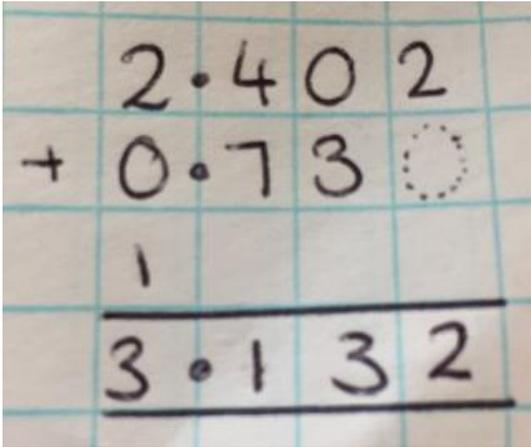
YEAR 5 – ADDITION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Use of place value counters to add integers</p>			<p>Formal method</p> 
<p>Use of place values to add decimals up to 3 d.p (same number of decimal places).</p>	<p>Exchange counters for the next base 10 unit.</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	<p>Formal method</p> 

YEAR 5 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>	STEM SENTENCES <i>(new vocab in bold/italic)</i>																														
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part	whole	total	sum	add	counting																										
tens	ones	equal	same value		plus																										
more than		column	hundreds		exchange																										
thousands		decimal	tenth		hundredth																										
thousandth																															

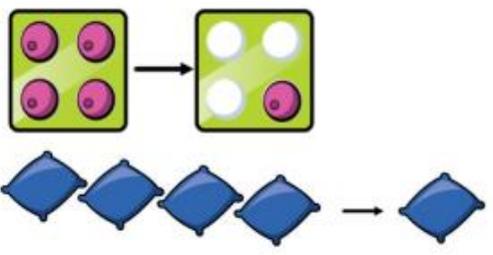
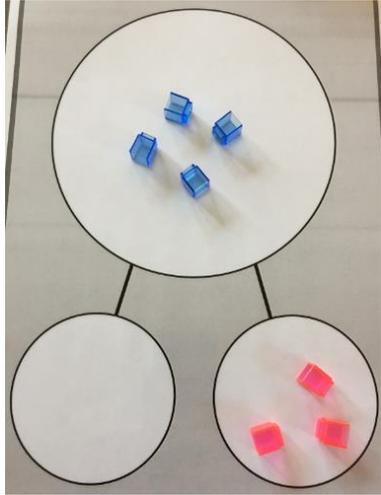
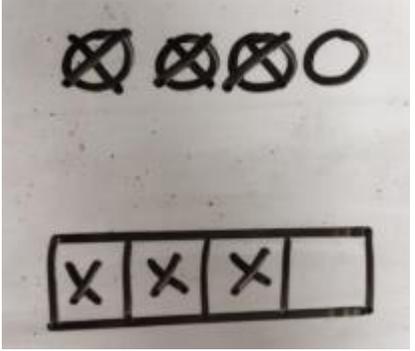
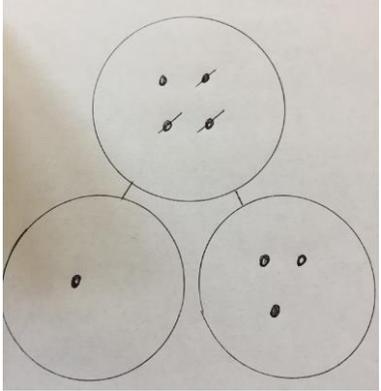
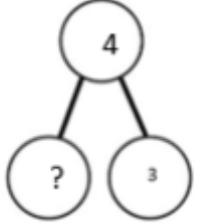
YEAR 6 – ADDITION

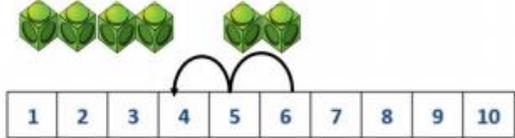
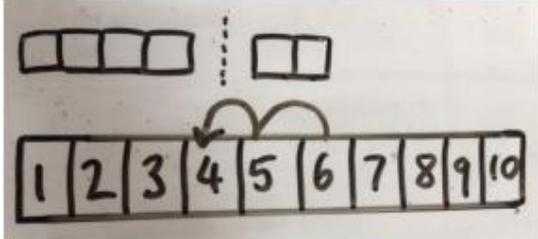
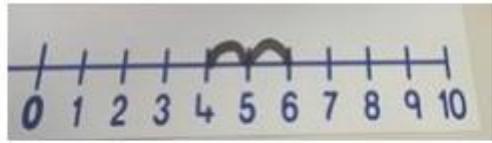
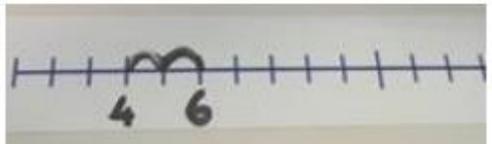
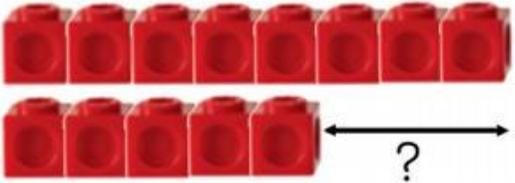
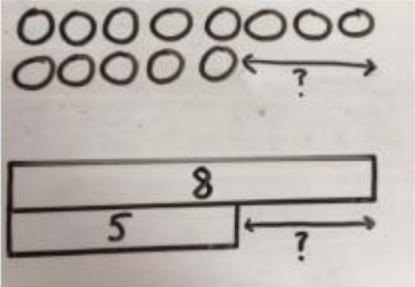
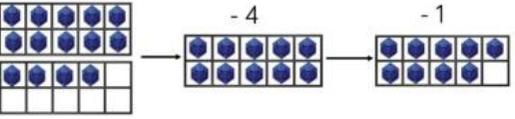
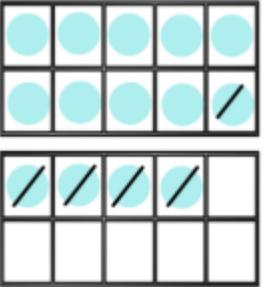
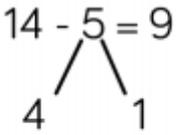
	CONCRETE	PICTORIAL	ABSTRACT
<p>Use of place values to add decimals up to 3 d.p (different number of decimal places.</p>	<p>Exchange counters for the next base 10 unit.</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	<p>Formal method</p> 

YEAR 6 – ADDITION

VOCABULARY <i>(new vocab in bold/italic)</i>					STEM SENTENCES <i>(new vocab in bold/italic)</i>	
part	whole	total	sum	add	counting	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The total of ____ and ____ is _____. (The total of 6 and 4 is 10). The sum of ____ and ____ is _____. (The sum of 6 and 4 is 10).
tens	ones	equal	same value	plus	exchange	
more than		column	hundreds	exchange	hundredth	
thousands		decimal	tenth			
thousandth						

YEAR 1 – SUBTRACTION

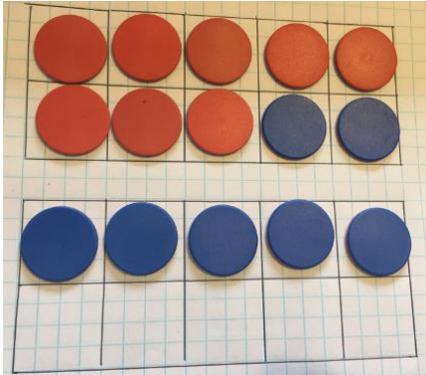
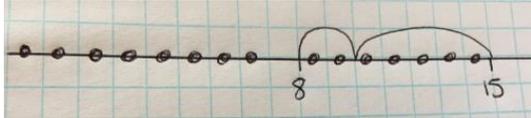
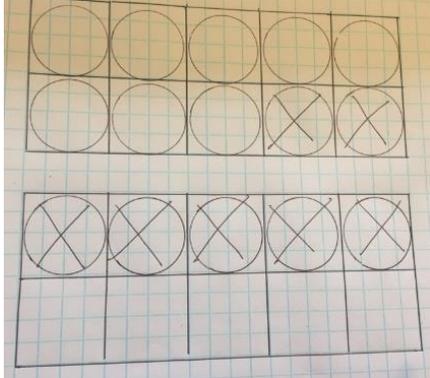
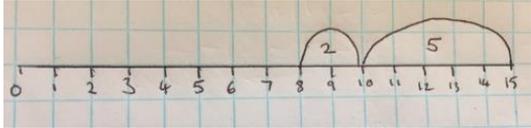
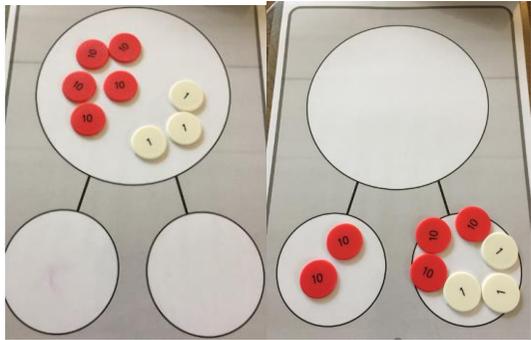
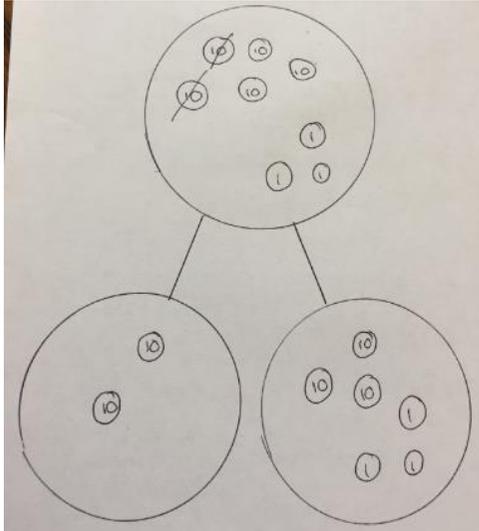
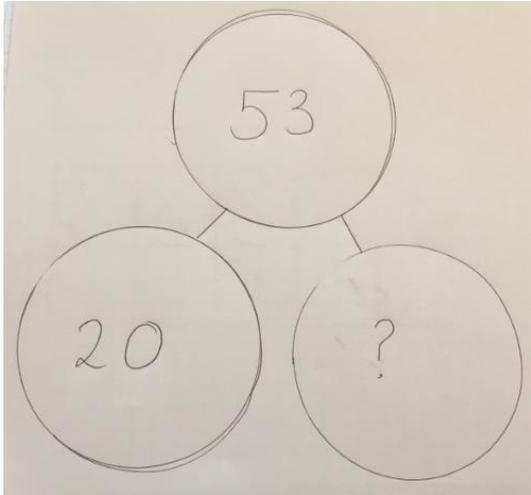
	CONCRETE	PICTORIAL	ABSTRACT				
<p>Physically taking away and removing objects from a whole.</p>	<p>Tens frame, Numicon, cube and other items such as bean bags could be used.</p> <p>$4 - 3 = 1$</p>  	<p>Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used.</p>  <p>Using the part whole model –drawing dots</p> 	<p>$4 - 3 =$</p> <p> $= 4 - 3$</p> <table border="1" data-bbox="1579 343 1892 422"> <tr> <td colspan="2">4</td> </tr> <tr> <td>3</td> <td>?</td> </tr> </table> 	4		3	?
4							
3	?						

	CONCRETE	PICTORIAL	ABSTRACT
Counting back	Using number lines or number tracks – children start with 6 and count back 2 $6 - 2 = 4$ 	Children to represent what they see pictorially 	Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line.  
Finding the difference.	Using cubes, Numicon or Cuisinaire rods, other objects can also be used. Calculate the difference between 8 and 5. 	Children to draw the cubes/ other concrete objects which they have used or the bar model to illustrate that they need to calculate. 	Find the difference between 8 and 5. $8 - 5$, the difference is <input type="text"/> Children to explore why $9 - 6 = 8 - 5 = 7 - 4$ have the same difference.
Making 10	Using ten frames $14 - 5$ 	Children to present the ten frame pictorially and discuss what they did to make 10. 	Children to show how they can make 10 by partitioning the subtrahend. $14 - 5 = 9$  $14 - 4 = 10$ $10 - 1 = 9$

YEAR 1 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>	STEM SENTENCES <i>(new vocab in bold/italic)</i>
<p style="text-align: center;"><i>take away</i> <i>less than</i> <i>the difference</i> <i>subtract</i></p> <p style="text-align: center;"><i>minus</i> <i>fewer</i> <i>decrease</i></p>	<p>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</p> <p>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</p> <p><i>The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).</i></p>

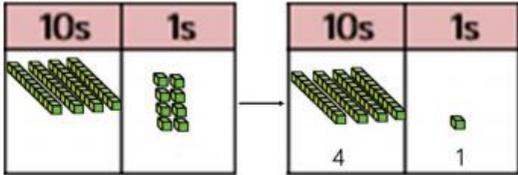
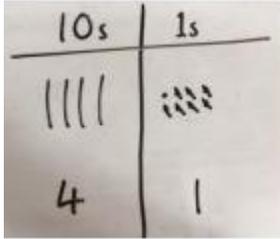
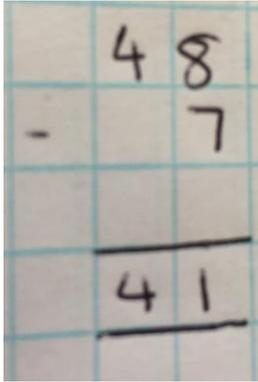
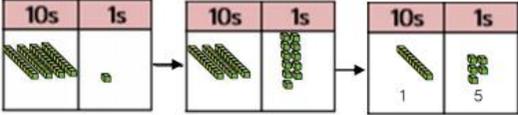
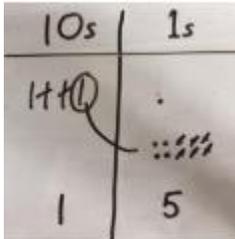
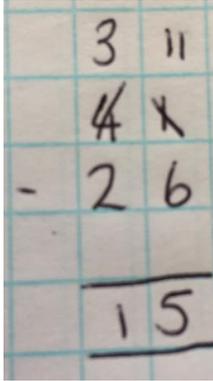
YEAR 2 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
2-digit – 1s	<p>Using a bead string</p>  <p>Tens frame</p> 	<p>Bead string drawing</p>  <p>Tens frame – cross out</p> 	<p>Number line</p> 
2-digit – 10s	<p>Using dienes or place value counters</p> 	<p>Using place value grid with circles labelled with units</p> 	<p>Using part whole model</p> 

YEAR 2 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>				STEM SENTENCES <i>(new vocab in bold/italic)</i>
take away minus tens	less than decrease ones	the difference Partitioning	subtract place value	<p>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</p> <p>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</p> <p>The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).</p>

YEAR 3 – SUBTRACTION

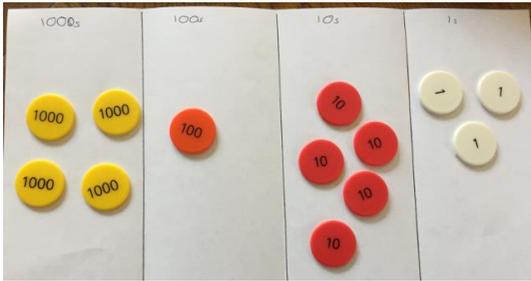
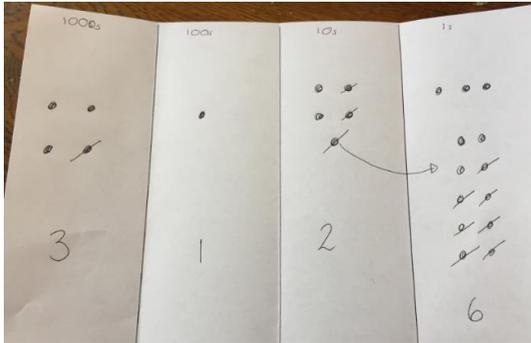
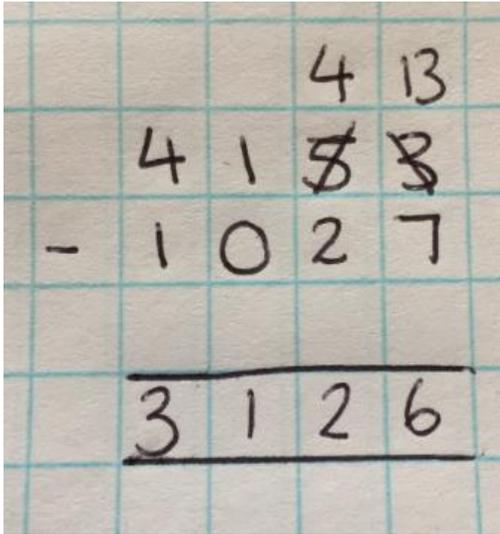
	CONCRETE	PICTORIAL	ABSTRACT
<p>Column method TO - O</p>	<p>Using base 10 48-7</p> 	<p>Children to represent the base 10 pictorially.</p> 	<p>Column method or children could count back 7.</p> 
<p>Column method TO - TO</p>	<p>Using base 10 and having to exchange 41 - 26</p> 	<p>Represent the base 10 pictorially, remembering to show the exchange.</p> 	<p>Formal column method. Children must understand that when they have exchanged the 10 they still have 41 because $41 = 30 + 11$</p> 

	CONCRETE	PICTORIAL	ABSTRACT
Column method HTO - TO	Using place value counters. $234 - 88$ 	Represent the place value counters pictorially; remembering to show what has been exchanged. 	Formal column method. Children must understand what has happened when they have crossed out digits.

YEAR 3 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>				STEM SENTENCES <i>(new vocab in bold/italic)</i>	
take away	less than	the difference	subtract	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).	
minus	fewer	decrease	ones		
place value	tens	partitioning column	exchange		

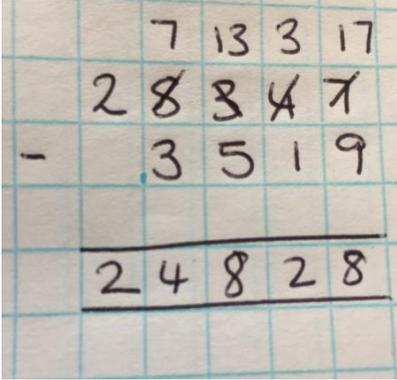
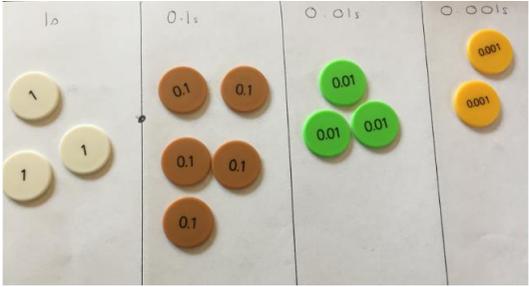
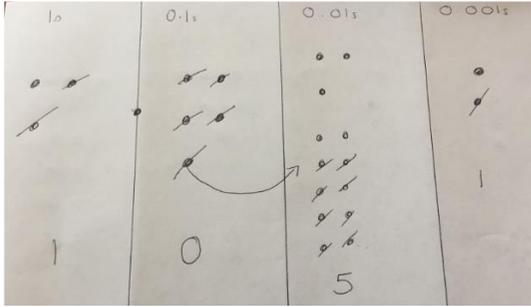
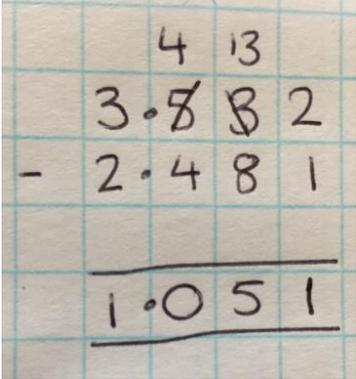
YEAR 4 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Column method 4-digit – up to 4-digit</p>	<p>Using place value counters.</p> 	<p>Represent the place value counters pictorially; remembering to show what has been exchanged.</p> 	<p>Formal column method. Children must understand what has happened when they have crossed out digits.</p> 

YEAR 4 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>				STEM SENTENCES <i>(new vocab in bold/italic)</i>
take away minus place value thousands	less than decrease tens	the difference partitioning column	subtract ones exchange	<p>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</p> <p>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</p> <p>The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).</p>

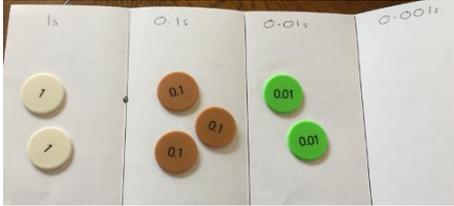
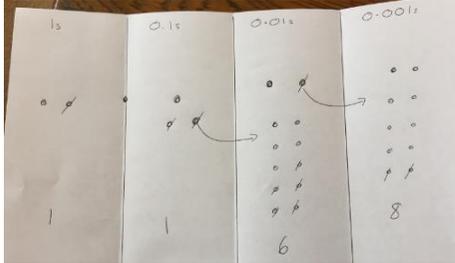
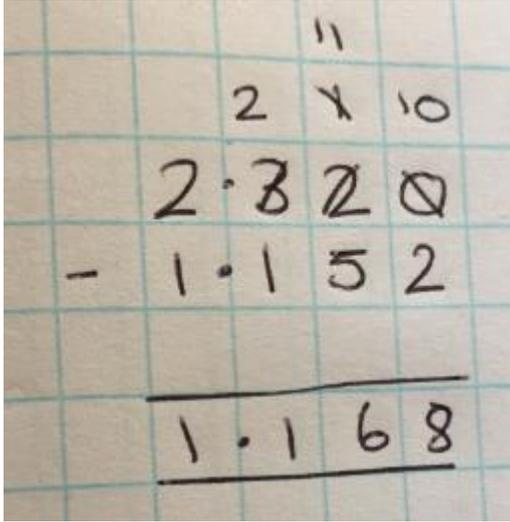
YEAR 5 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Column method - integers</p>			<p>Formal column method. Children must understand what has happened when they have crossed out digits.</p> 
<p>Column method – decimals (same number up to 3 d.p)</p>	<p>Using place value counters</p> 	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p> 	<p>Formal column method. Children must understand what has happened when they have crossed out digits.</p> 

YEAR 5 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>				STEM SENTENCES <i>(new vocab in bold/italic)</i>
take away minus fewer place value thousands <i>thousandth</i>	less than decrease tens <i>decimal</i>	the difference partitioning column <i>tenth</i>	subtract Ones Exchange <i>Hundredth</i>	The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4) A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10) The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).

YEAR 6 – SUBTRACTION

	CONCRETE	PICTORIAL	ABSTRACT
<p>Column method – decimals (different number up to 3 d.p)</p>	<p>Using place value counters</p>  <p>A place value chart with four columns labeled 1s, 0.1s, 0.01s, and 0.001s. The 1s column has two yellow counters (1 and 1). The 0.1s column has two brown counters (0.1 and 0.1). The 0.01s column has two green counters (0.01 and 0.01). The 0.001s column is empty.</p>	<p>Children to represent the counters in a place value chart, circling when they make an exchange.</p>  <p>A place value chart similar to the one above, but with arrows indicating an exchange. One yellow counter from the 1s column is being moved to the 0.1s column, and one brown counter from the 0.1s column is being moved to the 0.01s column. The 0.01s column now has three green counters.</p>	<p>Formal column method. Children must understand what has happened when they have crossed out digits.</p>  <p>Handwritten column subtraction on grid paper. The problem is 2.820 minus 1.152. The result is 1.668. The digits 2, 8, and 0 in the original number are crossed out. The result 1.668 is underlined.</p>

YEAR 6 – SUBTRACTION

VOCABULARY <i>(new vocab in bold/italic)</i>				STEM SENTENCES <i>(new vocab in bold/italic)</i>
take away	less than	the difference	subtract	<p>The whole is _____ so a part is _____ and a part is _____ (The whole is 10 so a part is 6 and a part is 4)</p> <p>A part is _____ and a part is _____ so the whole is _____ (A part is 7 and a part is 3 so the whole is 10)</p> <p>The difference between _____ and _____ is _____ (The difference between 12 and 4 is 8).</p>
minus	fewer	decrease	ones	
place value	tens	partitioning	exchange	
thousands	decimal	column	hundredth	
thousandth		tenth		

