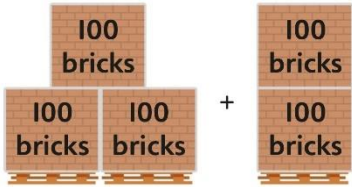
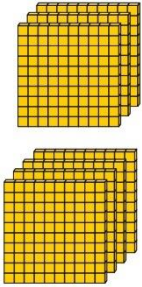
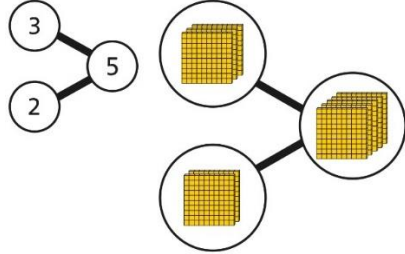

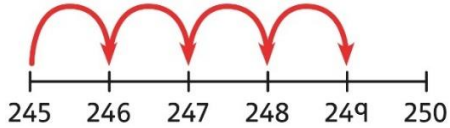

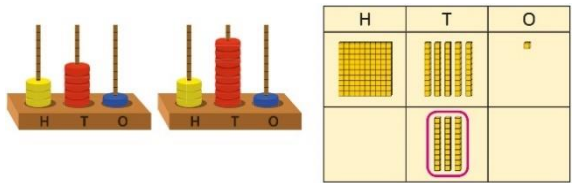
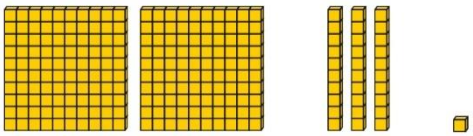
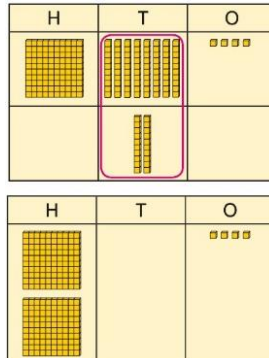
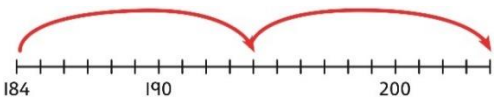


Year 3

	Concrete	Pictorial	Abstract
Year 3 Addition			
Understanding 100s	<p>Understand the cardinality of 100, and the link with 10 tens.</p> <p>Use cubes to place into groups of 10 tens.</p>	<p>Unitise 100 and count in steps of 100.</p>	<p>Represent steps of 100 on a number line and a number track and count up to 1,000 and back to 0.</p>
Understanding place value to 1,000	<p>Unitise 100s, 10s and 1s to build 3-digit numbers.</p>	<p>Use equipment to represent numbers to 1,000.</p> <p>Use a place value grid to support the structure of numbers to 1,000.</p> <p>Place value counters are used alongside other equipment. Children should understand how each counter represents a different unitised amount.</p>	<p>Represent the parts of numbers to 1,000 using a part-whole model.</p> <p>$215 = 200 + 10 + 5$</p> <p>Recognise numbers to 1,000 represented on a number line, including those between intervals.</p>

<p>Adding 100s</p>	<p>Use known facts and unitising to add multiples of 100.</p>  <p>$3 + 2 = 5$ $3 \text{ hundreds} + 2 \text{ hundreds} = 5 \text{ hundreds}$ $300 + 200 = 500$</p>	<p>Use known facts and unitising to add multiples of 100.</p>  <p>$3 + 4 = 7$ $3 \text{ hundreds} + 4 \text{ hundreds} = 7 \text{ hundreds}$ $300 + 400 = 700$</p>	<p>Use known facts and unitising to add multiples of 100.</p> <p>Represent the addition on a number line.</p> <p>Use a part-whole model to support unitising.</p>  <p>$3 + 2 = 5$ $300 + 200 = 500$</p>												
<p>3-digit number + 1s, no exchange or bridging</p>	<p>Use number bonds to add the 1s.</p>  <p>$214 + 4 = ?$</p> <p>Now there are $4 + 4$ ones in total. $4 + 4 = 8$</p> <p>$214 + 4 = 218$</p>	<p>Use number bonds to add the 1s.</p> <table border="1" data-bbox="958 916 1263 1158"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>4</td> <td>9</td> </tr> </tbody> </table> <p>Use number bonds to add the 1s. $5 + 4 = 9$</p> <p>$245 + 4$ $5 + 4 = 9$</p> <p>$245 + 4 = 249$</p>	H	T	O							2	4	9	<p>Understand the link with counting on.</p> <p>$245 + 4$</p>  <p>Use number bonds to add the 1s and understand that this is more efficient and less prone to error.</p> <p>$245 + 4 = ?$</p> <p>I will add the 1s. $5 + 4 = 9$</p>
H	T	O													
2	4	9													

<p>3-digit number + 1s with exchange</p>	<p>Understand that when the 1s sum to 10 or more, this requires an exchange of 10 ones for 1 ten.</p> <p>Children should explore this using unitised objects or physical apparatus.</p>	<p>Exchange 10 ones for 1 ten where needed. Use a place value grid to support the understanding.</p> <div style="display: flex; flex-direction: column; align-items: center;"> <table border="1" style="margin-bottom: 5px;"> <tr><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td></td></tr> </table> <table border="1" style="margin-bottom: 5px;"> <tr><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td></td></tr> </table> <table border="1" style="margin-bottom: 5px;"> <tr><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td></td></tr> </table> <table border="1" style="margin-bottom: 5px;"> <tr><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td></td></tr> </table> <table border="1" style="margin-bottom: 5px;"> <tr><th>H</th><th>T</th><th>O</th></tr> <tr><td></td><td></td><td></td></tr> </table> </div> <p>$135 + 7 = 142$</p>	H	T	O				H	T	O				H	T	O				H	T	O				H	T	O				<p>So, $245 + 4 = 249$</p> <p>Understand how to bridge by partitioning to the 1s to make the next 10.</p> <div style="text-align: center;"> </div> <p>$135 + 7 = ?$ $135 + 5 + 2 = 142$</p> <p>Ensure that children understand how to add 1s bridging a 100.</p> <p>$198 + 5 = ?$ $198 + 2 + 3 = 203$</p>
H	T	O																															
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<p>3-digit number + 10s, no exchange</p>	<p>Calculate mentally by forming the number bond for the 10s.</p>  <p>$234 + 50$ <i>There are 3 tens and 5 tens altogether.</i> $3 + 5 = 8$ <i>In total there are 8 tens.</i> $234 + 50 = 284$</p>	<p>Calculate mentally by forming the number bond for the 10s.</p> <p>$351 + 30 = ?$</p>  <p>$5 \text{ tens} + 3 \text{ tens} = 8 \text{ tens}$ $351 + 30 = 381$</p>	<p>Calculate mentally by forming the number bond for the 10s.</p> <p>$753 + 40$</p> <p><i>I know that $5 + 4 = 9$</i></p> <p><i>So, $50 + 40 = 90$</i> $753 + 40 = 793$</p>
<p>3-digit number + 10s, with exchange</p>	<p>Understand the exchange of 10 tens for 1 hundred.</p> 	<p>Add by exchanging 10 tens for 1 hundred.</p> <p>$184 + 20 = ?$</p>  <p>$184 + 20 = 204$</p>	<p>Understand how the addition relates to counting on in 10s across 100.</p>  <p>$184 + 20 = ?$</p> <p><i>I can count in 10s ... 194 ... 204</i> $184 + 20 = 204$</p> <p>Use number bonds within 20 to support efficient mental calculations.</p> <p>$385 + 50$ <i>There are 8 tens and 5 tens.</i> <i>That is 13 tens.</i></p>

			$385 + 50 = 300 + 130 + 5$ $385 + 50 = 435$
3-digit number + 2-digit number	<p>Use place value equipment to make and combine groups to model addition.</p>	<p>Use a place value grid to organise thinking and adding of 1s, then 10s.</p>	<p>Use the vertical column method to represent the addition. Children must understand how this relates to place value at each stage of the calculation.</p>
3-digit number + 2-digit number, exchange required	<p>Use place value equipment to model addition and understand where exchange is required.</p> <p><i>Use place value counters to represent $154 + 72$.</i></p> <p><i>Use this to decide if any exchange is required.</i></p> <p><i>There are 5 tens and 7 tens. That is 12 tens so I will exchange.</i></p>	<p>Represent the required exchange on a place value grid using equipment.</p> <p>$275 + 16 = ?$</p> <p>$275 + 16 = 291$</p> <p>Note: In this example, a mental method may be more efficient. The numbers for the example calculation have been chosen to allow children to visualise the concept and see how the method relates to place value.</p>	<p>Use a column method with exchange. Children must understand how the method relates to place value at each stage of the calculation.</p> <p>$275 + 16 = 291$</p>

		Children should be encouraged at every stage to select methods that are accurate and efficient.	
<p>3-digit number + 3-digit number, no exchange</p>	<p>Use place value equipment to make a representation of a calculation. This may or may not be structured in a place value grid.</p> <p><i>326 + 541 is represented as:</i></p>	<p>Represent the place value grid with equipment to model the stages of column addition.</p>	<p>Use a column method to solve efficiently, using known bonds. Children must understand how this relates to place value at every stage of the calculation.</p>
<p>3-digit number + 3-digit number, exchange required</p>	<p>Use place value equipment to enact the exchange required.</p> <p><i>There are 13 ones. I will exchange 10 ones for 1 ten.</i></p>	<p>Model the stages of column addition using place value equipment on a place value grid.</p>	<p>Use column addition, ensuring understanding of place value at every stage of the calculation.</p> <p>$126 + 217 = 343$</p>

			<p>Note: Children should also study examples where exchange is required in more than one column, for example $185 + 318 = ?$</p>
<p>Representing addition problems, and selecting appropriate methods</p>	<p>Encourage children to use their own drawings and choices of place value equipment to represent problems with one or more steps.</p> <p>These representations will help them to select appropriate methods.</p>	<p>Children understand and create bar models to represent addition problems.</p> <p>$275 + 99 = ?$</p> <p>$275 + 99 = 374$</p>	<p>Use representations to support choices of appropriate methods.</p> <p><i>I will add 100, then subtract 1 to find the solution.</i></p> <p>$128 + 105 + 83 = ?$ <i>I need to add three numbers.</i></p>

			$128 + 105 = 233$ 233  316 
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