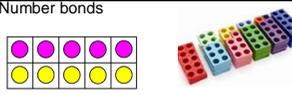
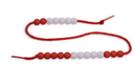
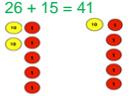
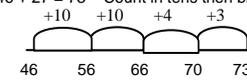
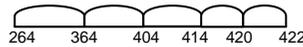
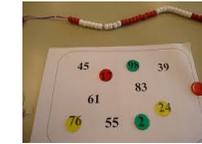


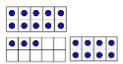
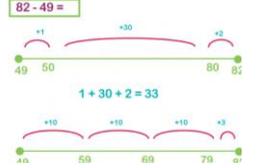


# Addition

<p><b>Written Methods</b></p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Apply increasing knowledge of written methods  <math>26 + 15 = 41</math>  <math>20 + 10 = 30</math>  <math>6 + 5 = 11</math></p>	<p>Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction  <math display="block">\begin{array}{r} 423 \\ + 88 \\ \hline 511 \end{array}</math></p>	<p>Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate  <math display="block">\begin{array}{r} 2458 \\ + 596 \\ \hline 3054 \\ \hline \end{array}</math></p>	<p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)  <math display="block">\begin{array}{r} 23454 \\ + 596 \\ \hline 24050 \\ \hline \end{array}</math></p>	<p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p>
<p><b>Developing conceptual understanding</b></p>	<p>Number bonds            Ten Frame      Numicon          Use bonds of 10 to calculate bonds of 20  <math>5 + 5</math>          Count all            Count on              Count on, on number track, in 1s  </p>	<p>Number track / Number line/ Hundred Square – jumps of 1 then efficient jumps using number bonds    <math>13 + 7 = 20</math>          Partition into tens and ones. Use dienes or place value counters to support  <math>26 + 15 = 41</math>    <math>26 + 15 = 41</math>  <math>20 + 10 = 30</math>  <math>6 + 5 = 11</math>          (Children can exchange ones counters for tens counters)  <math>46 + 27 = 73</math>    Count in tens then bridge.    <math>46 \quad 56 \quad 66 \quad 70 \quad 73</math>          Round and adjust e.g.  <math>25 + 29</math> by +30 then -1          Partition and recombine  <math>47 + 25 = 60 + 12 = 72</math></p>	<p>Number line: <math>264 + 158</math> efficient jumps    <math>264 \quad 364 \quad 404 \quad 414 \quad 420 \quad 422</math>  <math>40 + 80 = 120</math> using <math>4 + 8 = 12</math>          So <math>400 + 800 = 1200</math>          Round and adjust e.g.  <math>243 + 198</math> by +200 then -2          Pairs that make 100            Place value counters, 100s, 10s, 1s            Or with £1's, 10p's and 1p's</p>			
<p><b>With jottings</b> ... or in your head</p>	<p>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \quad - 9</math>          Add one-digit numbers to 20, including 0          Add two two-digit numbers to 20, including 0</p>	<p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:          * a two-digit number and ones          * a two-digit number and tens          * two two-digit numbers          * adding three one-digit numbers</p>	<p>Add and subtract numbers mentally, including:          * a three-digit number and ones          * a three-digit number and tens          * a three-digit number and hundreds</p>	<p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p>	<p>Add and subtract numbers mentally with increasingly large numbers</p>	<p>Perform mental calculations, including with mixed operations and large numbers</p>
<p><b>Just know it!</b></p>	<p>Represent &amp; use number bonds and related subtraction facts within 20          Add and subtract one-digit and two-digit numbers to 20, including zero</p>	<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p>				
<p><b>Year</b></p>	<p><b>1</b></p>	<p><b>2</b></p>	<p><b>3</b></p>	<p><b>4</b></p>	<p><b>5</b></p>	<p><b>6</b></p>
<p><b>Foundations</b></p>	<p>1 more          Number bonds: 5, 6          Largest number first. Number bonds: 7, 8          Add 10. Number bonds: 9, 10          Ten plus ones. Doubles up to 10          Use number bonds of 10 to derive bonds of 11</p>	<p>10 more          Number bonds: 20, 12, 13          Number bonds: 14, 15          Add 1 digit to 2 digit by bridging.          Partition second number, add tens then ones          Add 10 and multiples. Number bonds: 16 and 17          Doubles up to 20 and multiples of 5          Add near multiples of 10.          Number bonds: 18, 19          Partition and recombine</p>	<p>Add multiples of 10, 100          Add single digit bridging through boundaries          Partition second number to add Pairs of 100          Use near doubles to add          Add near multiples of 10 and 100 by rounding and adjusting          Partition and recombine</p>	<p>Add multiples of 10s, 100s, 1000s          Fluency of 2 digit + 2 digit          Partition second number to add          Decimal pairs of 10 and 1          Use near doubles to add          Adjust both numbers before adding          Add near multiples          Partition and recombine</p>	<p>Add multiples of 10s, 100s, 1000s, tenths,          Fluency of 2 digit + 2 digit including with decimals          Partition second number to add          Use number facts, bridging and place value          Adjust numbers to add          Partition and recombine</p>	<p>Add multiples of 10s, 100s, 1000s, tenths, hundredths          Fluency of 2 digit + 2 digit including with decimals          Partition second number to add          Use number facts, bridging and place value          Adjust numbers to add          Partition and recombine</p>



# Subtraction

Written Methods	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Apply increasing knowledge of written methods	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
<p><b>Developing conceptual understanding</b></p> <p>Number bonds   Ten Frame   Difference between 7 and 10</p> <p>6 less than 10 is 4  </p> <p>Count out, then count how many are left.  <math>7 - 4 = 3</math>  </p> <p>Count back on a number track, then number line.  <math>15 - 6 = 9</math>  </p> <p>Finding the difference e.g.  <b>What is the difference between 13 and 8?</b>  <math>13 - 8 = \_</math>  <math>8 + \_ = 13</math>  </p>	<p>Number track / Number line – jumps of 1 then efficient jumps using number bonds   <math>13 - 5 = 8</math></p> <p>Using a number line, <math>37 - 21 = 16</math>  </p> <p>Difference between 82 – 49 by counting up, <math>49 + \_ = 82</math>  </p> <p>Taking away and exchanging, <math>82 - 49 =</math>      Using tens and units counters:  <math>82 = 8 \text{ tens and } 2 \text{ units}</math> but we can't practically take away 49.      So, Exchange <b>1 ten for ten units</b>, so you have <b>7 tens and 12 units</b>.      Take away <math>49 = 4 \text{ tens and } 9 \text{ units}</math>. What is left?</p>	<p>Taking away and exchanging, <math>344 - 187</math>      Place value counters  </p> <p><math>344 = 3 \text{ hundreds counters, } 4 \text{ tens counters and } 4 \text{ units counters}</math></p> <p><b>But how can we take away 187?</b></p> <p>Exchange to create <b>3 hundreds counters, 3 tens counters and 14 units counters</b>.</p> <p><b>Now we can take away the 7. But how can we take away the 80?</b></p> <p>Exchange to create <b>2 hundreds counters, 13 tens counters and 7 units counters</b>.</p> <p><b>Now we can take away the 100.</b></p>	$\begin{array}{r} 344 \\ - 187 \\ \hline 157 \end{array}$ $\begin{array}{r} 344 \\ - 187 \\ \hline 157 \end{array}$	$\begin{array}{r} 52344 \\ - 1187 \\ \hline 51157 \end{array}$ $\begin{array}{r} 52344 \\ - 1187 \\ \hline 51157 \end{array}$		
<p><b>With jottings ... or in your head</b></p>	<p>Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \_ - 9</math></p>	<p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> <li>* a two-digit number and ones</li> <li>* a two-digit number and tens</li> <li>* two two-digit numbers</li> <li>* adding three one-digit numbers</li> </ul>	<p>Add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> <li>* a three-digit number and ones</li> <li>* a three-digit number and tens</li> <li>* a three-digit number and hundreds</li> </ul>	<p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p>	<p>Add and subtract numbers mentally with increasingly large numbers</p>	<p>Perform mental calculations, including with mixed operations and large numbers</p>
<p><b>Just know it!</b></p>	<p>Represent and use number bonds and related subtraction facts within 20          Add and subtract one-digit and two-digit numbers to 20, including zero</p>	<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p>				
<p><b>Year</b></p>	<p><b>1</b></p>	<p><b>2</b></p>	<p><b>3</b></p>	<p><b>4</b></p>	<p><b>5</b></p>	<p><b>6</b></p>
<p><b>Foundations</b></p>	<p>1 less          Number bonds, subtraction: 5, 6          Count back          Number bonds, subtraction: 7, 8          Subtract 10.          Number bonds, subtraction: 9, 10          Teens subtract 10.          Difference between</p>	<p>10 less          Number bonds, subtraction: 20, 12, 13          Number bonds, subtraction: 14, 15          Subtract 1 digit from 2 digit by bridging          Partition second number, count back in 10s then 1s          Subtract 10 and multiples of 10          Number bonds, subtraction: 16, 17          Subtract near multiples of 10          Difference between          Number bonds, subtraction: 18, 19</p>	<p>Subtract multiples of 10 and 100          Subtract single digit by bridging through boundaries          Partition second number to subtract          Difference between          Subtract near multiples of 10 and 100 by rounding and adjusting          Difference between</p>	<p>Subtract multiples of 10s, 100s, 1000s          Fluency of 2 digit subtract 2 digit          Partition second number to subtract          Decimal subtraction from 10 or 1          Difference between          Subtract near multiples by rounding and adjusting          Difference between</p>	<p>Subtract multiples of 10s, 100s, 1000s, tenths,          Fluency of 2 digit - 2 digit including with decimals          Partition second number to subtract          Difference between          Adjust numbers to subtract          Difference between</p>	<p>Subtract multiples of 10s, 100s, 1000s, tenths, hundredths          Fluency of 2 digit - 2 digit including with decimals          Partition second number to subtract          Use number facts bridging and place value          Adjust numbers to subtract          Difference between</p>