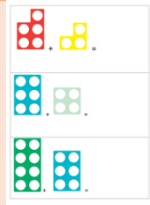


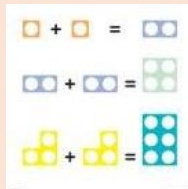
# CALCULATION POLICY - ADDITION

	Year 3	Year 4	Year 5	Year 6																																																																																																																																																																						
<b>Mental Calculations and Methods *</b>	<p>Add numbers 1 and 2 digit numbers to 3 digit numbers. Add multiples of 10, 100. Add single digit bridging through boundaries. Partition second number to add and recombine. Use near doubles to add. Add near multiples of 10 and 100 by rounding and adjusting.</p>	<p>Continue to add numbers mentally. Add multiples of 10s, 100s, 1000s. Fluency of 2 digit + 2 digit. Partition second number to add then recombine. Decimal pairs of 10 and 1. Use near doubles to add. Add near multiples. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>Add multiples of 10s, 100s, 1000s, tenths. Fluency of 2 digit + 2 digit including with decimals. Partition second number to add then recombine. Use number facts, bridging and place value. Adjust numbers to add. Add and subtract numbers mentally with increasingly large numbers</p>	<p>Perform mental calculations, including with mixed operations and large numbers Add multiples of 10s, 100s, 1000s, tenths, hundredths. Fluency of 2 digit + 2 digit including with decimals. Partition second number to add then recombine. Use number facts, bridging and place value. Adjust numbers to add.</p>																																																																																																																																																																						
<b>Written Methods *</b>	<p>Add numbers with up to four digits, using formal written methods of columnar addition with regrouping to carry.  Solve addition problems in contexts, deciding which operations and methods to use and why</p>	<p>Add numbers with up to four-digits using the formal written methods of columnar addition where appropriate. Add decimals to two decimal places.  Solve addition multi-step problems in contexts, deciding which operations and methods to use and why</p>	<p>Add whole numbers with more than 4 digits, including using formal written methods (columnar addition). Add decimals to two decimal places.  Solve addition multi-step problems in contexts, deciding which operations and methods to use and why</p>	<p>Add whole numbers with more than 5 digits, including using formal written methods (columnar addition). Add decimals  Solve addition multi-step problems in contexts, deciding which operations and methods to use and why</p>																																																																																																																																																																						
<b>Developing Conceptual</b>	<p>Counting on songs, rhymes games and with apparatus. Count all and 1 more with apparatus.</p>	<p>Complete the sums.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;"><math>10 + 0 = \boxed{10}</math></td> <td style="padding: 2px;"><math>2 + \boxed{8} = \boxed{10}</math></td> <td style="padding: 2px;"><math>\boxed{5} + 5 = \boxed{10}</math></td> </tr> <tr> <td style="padding: 2px;"><math>8 + 2 = \boxed{10}</math></td> <td style="padding: 2px;"><math>0 + 10 = \boxed{10}</math></td> <td style="padding: 2px;"><math>\boxed{4} + \boxed{6} = \boxed{10}</math></td> </tr> <tr> <td style="padding: 2px;"><math>\boxed{6} + 4 = 10</math></td> <td style="padding: 2px;"><math>1 + 9 = \boxed{10}</math></td> <td style="padding: 2px;"><math>9 + \boxed{1} = 10</math></td> </tr> <tr> <td style="padding: 2px;"><math>\boxed{7} + \boxed{3} = \boxed{10}</math></td> <td style="padding: 2px;"><math>3 + \boxed{7} = 10</math></td> <td></td> </tr> </table> <p>(1:63)</p>	$10 + 0 = \boxed{10}$	$2 + \boxed{8} = \boxed{10}$	$\boxed{5} + 5 = \boxed{10}$	$8 + 2 = \boxed{10}$	$0 + 10 = \boxed{10}$	$\boxed{4} + \boxed{6} = \boxed{10}$	$\boxed{6} + 4 = 10$	$1 + 9 = \boxed{10}$	$9 + \boxed{1} = 10$	$\boxed{7} + \boxed{3} = \boxed{10}$	$3 + \boxed{7} = 10$		<p>Write additions and subtractions about the pictures.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px; text-align: center;">a)</td> <td style="padding: 2px; text-align: center;">b)</td> <td style="padding: 2px; text-align: center;">c)</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;"></td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"><math>32 + 25 = 57</math></td> <td style="text-align: center;"><math>44 + 52 = 96</math></td> <td style="text-align: center;"><math>26 + 62 = 88</math></td> </tr> <tr> <td style="text-align: center;"><math>25 + 32 = 57</math></td> <td style="text-align: center;"><math>52 + 44 = 96</math></td> <td style="text-align: center;"><math>62 + 26 = 88</math></td> </tr> <tr> <td style="text-align: center;"><math>57 - 32 = 25</math></td> <td style="text-align: center;"><math>96 - 44 = 52</math></td> <td style="text-align: center;"><math>88 - 62 = 26</math></td> </tr> <tr> <td style="text-align: center;"><math>57 - 25 = 32</math></td> <td style="text-align: center;"><math>96 - 52 = 44</math></td> <td style="text-align: center;"><math>88 - 26 = 62</math></td> </tr> </table> <p>(2:50)</p>	a)	b)	c)				$32 + 25 = 57$	$44 + 52 = 96$	$26 + 62 = 88$	$25 + 32 = 57$	$52 + 44 = 96$	$62 + 26 = 88$	$57 - 32 = 25$	$96 - 44 = 52$	$88 - 62 = 26$	$57 - 25 = 32$	$96 - 52 = 44$	$88 - 26 = 62$	<p>Write the numbers in the place value table. Estimate, then calculate the sum.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">a) <math>136 + 312</math></td> <td style="padding: 2px;"><table border="1" style="display: inline-table; text-align: center; width: 60px;"><tr><td>H</td><td>T</td><td>U</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table></td> <td style="padding: 2px;">b) <math>271 + 117</math></td> <td style="padding: 2px;"><table border="1" style="display: inline-table; text-align: center; width: 60px;"><tr><td>H</td><td>T</td><td>U</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table></td> </tr> <tr> <td style="padding: 2px;">E: <table border="1" style="display: inline-table; text-align: center; width: 60px;"><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table></td> <td style="padding: 2px;"><table border="1" style="display: inline-table; 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# CALCULATION POLICY - ADDITION



Doubles



Using numbers as labels for counting.



Fill in the missing numbers.

$$9 = 1 + \boxed{8} \quad 1 + 2 + \boxed{6} = 9 \quad 1 + 5 < 4 + \boxed{5}$$

$$9 = \boxed{5} + 4 \quad 3 + 3 + 3 = \boxed{9} \quad 6 - 1 < \boxed{9} - 1$$

$$5 = \boxed{9} - 4 \quad 9 - 7 - 1 = \boxed{1} \quad 2 + 7 > 2 + \boxed{4}$$

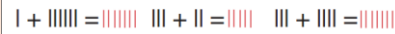
$$2 = 9 - \boxed{7} \quad 9 - 8 + \boxed{2} = 3 \quad \text{E.g: } \boxed{8} - 1 > 6$$

$$3 + \boxed{6} = 9 \quad \boxed{9} - 3 - 6 = 0$$

$$9 - \boxed{1} = 8 \quad 9 - \boxed{4} + 4 = 9$$

(1:60)

Show your answers by drawing sticks.



(1:45)

Write in the answers as Roman numerals.

- a) VIII + I = IX    b) IX + I = X    c) X + I = XI  
 d) VII + II = IX    e) VII + III = X    f) VII + IV = XI

(1:85)

Manipulatives and additional support:

Number bonds to 10 with apparatus:



Use bonds of 10 to calculate bonds of 20

Count all:



Count on: 8+5= 13



Count on, on number track, in 1s  
 $8 + 5 = 13$



Use Numicon to represent addition:

a)  $46 + 35 = \boxed{81}$     b)  $57 + 26 = \boxed{83}$     c)  $45 + 38 = \boxed{83}$

$$\begin{array}{r} 46 + 30 + 5 \\ 46 + 35 = \boxed{81} \end{array} \quad \begin{array}{r} 57 + 20 + 6 \\ 57 + 26 = \boxed{83} \end{array} \quad \begin{array}{r} 45 + 30 + 8 \\ 45 + 38 = \boxed{83} \end{array}$$

(2A:46)

Manipulatives and Additional Support:

Number track / Number line – jumps of 1 then efficient jumps using number bonds  
 $18 + 5 = 23$

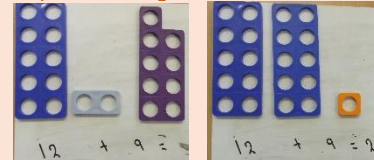
$46 + 27 = 73$  Count in tens then bridge.



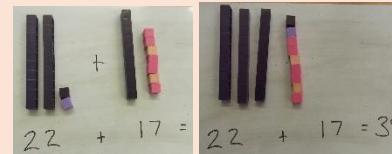
$25 + 29$  by  $+30$  then  $-1$   
 (Round and adjust)



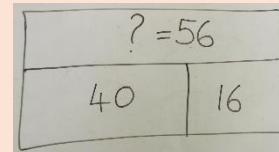
Represent using Numicon:



Represent using Diennes:  
 $22 + 17$



Bar Model:



Round the numbers to the nearest ten, then estimate and calculate the sums.

a) E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$

$$\begin{array}{r} 1436 \\ + 322 \\ \hline \end{array} \quad \begin{array}{r} 1362 \\ + 92 \\ \hline \end{array} \quad \begin{array}{r} 572 \\ + 356 \\ \hline \end{array} \quad \begin{array}{r} 638 \\ + 322 \\ \hline \end{array}$$

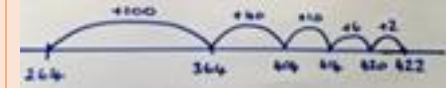
b) E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$  E:  $\begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array}$

$$\begin{array}{r} 856 \\ + 312 \\ \hline \end{array} \quad \begin{array}{r} 358 \\ + 911 \\ \hline \end{array} \quad \begin{array}{r} 862 \\ + 92 \\ \hline \end{array} \quad \begin{array}{r} 507 \\ + 408 \\ \hline \end{array}$$

(3B:93)

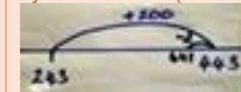
Manipulatives and Additional Support:

Number line:  $264 + 158$  efficient jumps



$400 + 800 =$   
 using  $4 + 8 = 12$   
 $40 + 80 = 120$   
 So  $400 + 800 = 1200$

$243 + 198$   
 by  $+200$  then  $-2$  (Round and adjust)

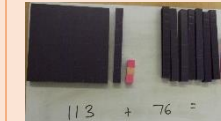


Pairs that make 100  
 $23 + 77$



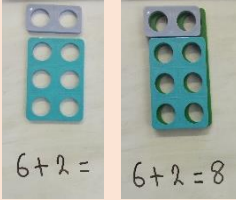
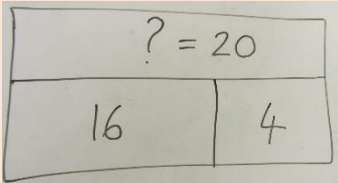
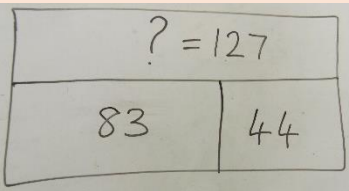
Bead string

Diennes 100s, 10s, 1s  
 $113 + 76$



(Also with £, 10p and 1p)

## CALCULATION POLICY - ADDITION

	 <p><math>6+2=</math>      <math>6+2=8</math></p> <p>Bar Model:</p> 		<p>Bar model</p> 
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\* please refer to Non-negotiables document

**MAYFLOWER COMMUNITY ACADEMY ADDITION SUPPORT VIDEOS CAN BE FOUND AT:**

YEAR FOUR: <https://www.youtube.com/watch?v=6aGOoWP8a-w>

YEAR FIVE: <https://www.youtube.com/watch?v=49jU6rkOMx0>

YEAR SIX: <https://www.youtube.com/watch?v=UcifX-Dr4gM>