

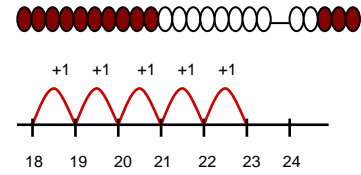
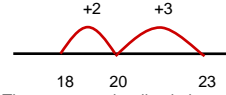
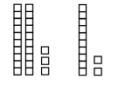
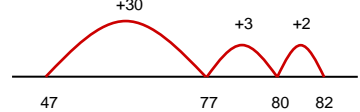
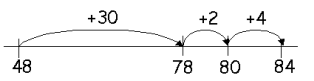
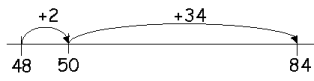


Calculation Policy : Addition

	Age related expectations	Methods				Rapid recall	Mental calculation	
EYFS	<p>Addition as 'combining 2 groups'</p> <p>In practical activities / discussion begin to use vocabulary involved in Adding</p> <p style="text-align: center;">1 digit + 1 digit</p>	<p>Practical / recorded using ICT (e.g. digital photos / pictures on IWB)</p>	<p>Pictures / Objects</p> <p>I buy 2 cats and my friend buys 3 cats. How many cats did we buy altogether?</p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin: 5px;"> May be recorded as: $2 + 3 = 5$ </div> 	<p>Symbols</p> <p>8 people are on the bus. 5 more get on at the next stop. How many people are on the bus now?</p>  <p style="text-align: center; border: 1px solid black; padding: 2px; margin-top: 5px;">[May be recorded as: $8 + 5 = 13$]</p>		1 more (nos up to 20)	Add 2 single digit nos (see recording)	
Y1	<p>Addition as 'counting on'</p> <p>1 digit + 2 digit numbers to 20 (bridging 20)</p>		<p>Pictures/Symbols (see above)</p>	<p>Number track / Number line – jumps of 1 (modelled using bead strings)</p> <p>$18 + 5 = 23$</p> 				<p>Empty Number line (efficient jumps)</p> <p>$18 + 5$</p>  <p>The empty number line helps to record the steps on the way to calculating the total. The steps can sometimes bridge through a multiple of 10.</p>
Y2	<p>Add two 2 digit numbers (bridging 10s / 100)</p> <p>Add three 1 digit numbers</p> <p style="text-align: center;">See mental calculation.</p>	<p>Pictures/Symbols</p> <p>$23 + 12 = 35$</p> 	<p>Empty Number line (efficient jumps)</p> <p>$47 + 35$</p>  <p style="text-align: center; border: 1px solid black; padding: 2px; margin-top: 5px;">[Also jumps can be in 10s and 1s]</p>	<p>No number line - mental + jottings</p> <p>$47 + 35 = 82$</p> <p>$(47 + 30) = 77$ $(77 + 3) = 80$ $(80 + 2) = 82$</p>	<p>Partitioning</p> <p>$47 + 35$</p> <p>$40 + 30 = 70$ $7 + 5 = 12$</p>	Addition facts up to 20 Pairs to 100 (using multiples of 10) eg 20/80	2 digit and 1 digit 2 digit and multiple of 10 up to 100 two 2 digit numbers three 1 digit	
Y3	<p>Adding tens or hundreds to 3 digit numbers</p> <p>Add numbers with up to 3 digits</p>	<p>Empty number line</p> <p>The empty number line helps to record the steps on the way to calculating the total. The steps often bridge through a multiple of 10.</p> <p>Example:</p> <p>$48 + 36 = 84$</p>  	<p>No number line - mental + jottings</p> <p>$374 + 248 = 622$</p> <p><i>Mental --- jotting</i></p> <p>$(374 + 200) = 574$ $(574 + 40) = 614$ $(614 + 8) = 622$</p>	<p>Partitioning</p> <p>When adding larger numbers, it becomes less efficient to count on so partitioning is used.</p> <p>Partition into (hundreds) tens, ones, tenths, hundredths etc, add to form partial sums and then recombine.</p> <p>Partitioning all the numbers mirrors the standard column method where ones are placed under ones and tens under tens etc.</p> <p>$47 + 76 = 40 + 7 = 70 + 6 = 110 + 13 = 123$</p> <p>$375 + 567 = 300 + 70 + 5 = 500 + 60 + 7 = 800 + 130 + 12 = 942$</p>	<p>Expanded column method (many children will not need this step)</p> <p>The expanded method leads children to the more compact column method so that they understand the structure and efficiency of it.</p> <p>The amount of time that should be spent teaching and practising the expanded method will depend on how secure the children are in their recall of number facts and in their understanding of place value.</p>			<p>Formal column method</p> <p>Once learned, this method is quick and reliable. Extend to adding three two-digit numbers, two three-digit numbers, and numbers with different numbers of digits. This method of can also be used to add decimals.</p>
Y4	<p>Add numbers with up to 4 digits using formal methods</p> <p>Decimals: money – up to 2 dp (£7.85 + £3.49)</p>			<p>The expanded method leads children to the more compact column method so that they understand the structure and efficiency of it.</p> <p>The amount of time that should be spent teaching and practising the expanded method will depend on how secure the children are in their recall of number facts and in their understanding of place value.</p>	<p>Once learned, this method is quick and reliable. Extend to adding three two-digit numbers, two three-digit numbers, and numbers with different numbers of digits. This method of can also be used to add decimals.</p>	Bonds to 1000 Multiples of 50 that total 1000 Derive sums of pairs of multiples of 10 / 100 / 1000	2 digit + 2 digit (Pairs of multiples of 10 / 100 / 1000) Three, 2-digit multiples of 10 Two, three-digit multiples of 10 Add fractions with common denominators	
Y5	<p>Add numbers with more than 4 digits using formal methods</p> <p>Decimals up to 3 dp (23.745 + 48.56)</p>			<p>Partitioning – mental with jottings</p> <p>$374 + 248$</p> <p>$(300 + 200) = 500$ $(70 + 40) = 110$ $(4 + 8) = 12$</p> <p>$3.243 \text{ km} + 18.07 \text{ km}$</p> <p>$(3 + 18) = 21$ $(0.2 + 0.0) = 0.2$ $(0.04 + 0.07) = 0.11$ $(0.003 + 0) = 0.003$</p>	<p>Expanded column method (many children will not need this step)</p> <p>The amount of time that should be spent teaching and practising the expanded method will depend on how secure the children are in their recall of number facts and in their understanding of place value.</p>			<p>Once learned, this method is quick and reliable. Extend to adding three two-digit numbers, two three-digit numbers, and numbers with different numbers of digits. This method of can also be used to add decimals.</p>
Y6	<p><i>Consolidate / extend Y5 including:</i> Application to solving multi-step problems</p> <p>Add fractions with different denominator and mixed numbers</p>			<p>Partitioning – mental with jottings</p> <p>$374 + 248$</p> <p>$(300 + 200) = 500$ $(70 + 40) = 110$ $(4 + 8) = 12$</p> <p>$3.243 \text{ km} + 18.07 \text{ km}$</p> <p>$(3 + 18) = 21$ $(0.2 + 0.0) = 0.2$ $(0.04 + 0.07) = 0.11$ $(0.003 + 0) = 0.003$</p>	<p>Expanded column method (many children will not need this step)</p> <p>The amount of time that should be spent teaching and practising the expanded method will depend on how secure the children are in their recall of number facts and in their understanding of place value.</p>	<p>Once learned, this method is quick and reliable. Extend to adding three two-digit numbers, two three-digit numbers, and numbers with different numbers of digits. This method of can also be used to add decimals.</p>	(derive) Bonds up to 1 (2 dp)	

Calculation Policy : Addition