

Strategies for the Written Method of Calculation for Addition

(Strategies indicate end of year expectations)

Year One

Statutory Guidance: add one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems.

<p style="text-align: center;">Addition Strategy A</p> <p style="text-align: center;">Recording using symbols or pictures</p> <p style="text-align: center;">Developing a mental picture of the number system</p> <p style="text-align: center;">4 and 2 makes...</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$4 + 2 = 6$</p>	<p style="text-align: center;">Addition Strategy B</p> <p style="text-align: center;">Counting on a numbered number line</p> <p style="text-align: center;">$3 + 2 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$3 + 2 = 5$</p>	<p style="text-align: center;">Addition Strategy C</p> <p style="text-align: center;">Counting on in ones using a blank number line</p> <p style="text-align: center;">$8 + 6 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$8 + 6 = 14$</p>	<p style="text-align: center;">Addition Strategy D</p> <p style="text-align: center;">Counting on to the nearest 10</p> <p style="text-align: center;">and then counting on the rest on a number line</p> <p style="text-align: center;">$8 + 6 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$8 + 6 = 14$</p>
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Year Two

Statutory Guidance: solve problems with addition: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods. Add numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; two-digit number and tens; two two-digit numbers; adding three one-digit numbers.

<p style="text-align: center;">Addition Strategy E</p> <p style="text-align: center;">Counting on in 10s from any 2-digit number on a number line</p> <p style="text-align: center;">$43 + 32 = 43 + 30$ then $+2$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$42 + 32 = 75$</p>	<p style="text-align: center;">Addition Strategy F</p> <p style="text-align: center;">Using partitioning and a blank number line</p> <p style="text-align: center;">$54 + 27 = 50 + 20 + 4 + 7$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$54 + 27 = 81$</p>	<p style="text-align: center;">Addition Strategy F2</p> <p style="text-align: center;">Moving towards columnar addition</p> <p style="text-align: center;">$34 + 23 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$34 + 23 = 57$</p>
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Year Three

Statutory Guidance: add numbers with up to three digits, using formal written methods of columnar addition. Solve problems, including missing number problems, using number facts, place value, and more complex addition.

<p style="text-align: center;">Addition Strategy G</p> <p style="text-align: center;">The expanded column method (TU + TU)</p> <p style="text-align: center;">$67 + 24 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$67 + 24 = 91$</p>	<p style="text-align: center;">Addition Strategy H</p> <p style="text-align: center;">The expanded column method (HTU + H TU)</p> <p style="text-align: center;">$543 + 738 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$543 + 738 = 1,281$</p>	<p style="text-align: center;">Addition Strategy H2</p> <p style="text-align: center;">The expanded column method without brackets</p> <p style="text-align: center;">$347 + 684 =$</p> <div style="text-align: center;"> </div> <p style="text-align: center;">$347 + 684 = 1,031$</p>
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Year Four

Statutory Guidance: add numbers with up to four digits using the formal written methods of columnar addition where appropriate.


Measurement: based on statutory guidance linked to money and measures to two decimal places.

Addition Strategy I

The expanded column method using decimals

$$84.7 + 39.4 =$$
$$\begin{array}{r} 84.7 \\ + 39.4 \\ \hline 110.0 \quad (0.7 + 0.4) \\ + 13.0 \quad (4 + 9) \\ \hline 124.1 \quad (80 + 30) \end{array}$$

$84.7 + 39.4 = 124.1$




Addition Strategy J

The compact column method
(HTU + H TU and above)

$$573 + 748 =$$
$$\begin{array}{r} 573 \\ + 748 \\ \hline 1321 \\ \text{xx} \end{array}$$

$573 + 748 = 1,321$




Addition Strategy K

The compact column method up to 4 digits
(Th H T U + Th H T U)

$$5,273 + 1,844 =$$
$$\begin{array}{r} 5273 \\ + 1844 \\ \hline 7117 \\ \text{xx} \end{array}$$

$5,273 + 1,884 = 7,117$




Addition Strategy L

The compact column method
(Linked to money and measures to 2 decimal places)

$$67.75 + 21.50 =$$
$$\begin{array}{r} 67.75 \\ + 21.50 \\ \hline 89.25 \\ \text{x} \end{array}$$

$67.75 + 21.50 = 89.25$



Year Five

Statutory Guidance: add whole numbers with more than four digits, including using formal written methods (columnar addition).


Measurement: based on statutory guidance linked to money and measures to two decimal places.

Addition Strategy L

The compact column method
(Linked to money and measures to 2 decimal places)

$$67.75 + 21.50 =$$
$$\begin{array}{r} 67.75 \\ + 21.50 \\ \hline 89.25 \\ \text{x} \end{array}$$

$67.75 + 21.50 = 89.25$




Addition Strategy M

The compact column method more than 4 digits
(Th H T U + Th H T U and above)

$$12,478 + 7,369 =$$
$$\begin{array}{r} 12478 \\ + 7369 \\ \hline 19847 \\ \text{xx} \end{array}$$

$12,478 + 7,369 = 19,847$



Year Six

Statutory Guidance: solve addition multi-step problems in contexts, deciding which operations and methods to use and why.

Measurement: solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.