Addition

addend + addend = sum

Mental strategies

Children first learn how to solve addition calculations in their head. There are many strategies for this and children are encouraged to explore all of them and begin to make decisions about which ones would be useful for different questions.

Using number bonds



Counting on

Year 1 Children learn that it is better to start at the larger number and then count on the required number of steps/jumps. The number they land on gives the sum.	Year 2Children count on in ones from any 2-digit number:Method 1Count on from 25.21222324252627282930 $25 + 3 = 28$	Year 3 From year 2, children count on in ones and tens from any 3-digit number. They also learn to count on in hundreds from any 3-digit number:
Children also learn to count on in tens from any 2-digit number:		



Making ten (or power of)

This strategy is explicitly taught in years 1 and 4, but is used in all year groups.

<u>Year 1</u> Children learn to partition one of the addends and then add it in two steps, by first making ten. 6+8=?	Year 3 Children continue to make ten but with three-digit numbers and then also apply it to making 100	Year 4 Children apply this strategy to making ten with larger numbers and then making 100 or making 1000.
$ \begin{array}{c} 6 + 8 \\ 2 + 8 = 10 \\ 10 + 4 = 14 \end{array} $	8 + 236 = 4 + 240 4 4 8 + 236 = 244	3041 + 9 = make 10 3041 + 9 = 3040 + 10 3041 + 9 = 3050



Adding to one value (ones, tens, hundreds etc.)

Year 1Children start by partitioning a number into tens and ones. They add the onesto the ones and then finally add on the tens. 12 12 12 12 12 12 10 $12 + 6 = 18$ There are 18 candles altogether.	Year 2 Children partition the number into tens and ones. They add the tens to the tens and then finally add on the ones. $19 + 20$ (10) $10 + 20 = 30$ $9 + 30 = 39$ $19 + 20 = 39$
Year 3	Year 5
Children apply what they learnt in years 1 and 2 to three-digit numbers. They	Children apply their learning to larger numbers. They focus on the digit in one
also partition numbers to add just hundreds.	place and change this to add.



<u>Unitising</u>

Year 2	Key Stage 2
Children learn to change the units of a calculation. In year 2, they	Although this strategy is not taught in Key Stage 2, it is used when solving written
apply this to adding tens.	methods. Children add ones, tens, hundreds and thousands by changing the units.
3+2=5 There are 50 doughnuts. 000000 000000 000000 000000 000000	Add the ones. 4 ones + 0 ones = 4 ones Add the tens. 1 tens + 4 tens = 5 tens Add the hundreds. 3 hundreds + 2 hundreds = 5 hundreds Add the thousands. 2 thousands + 4 thousands = 6 thousands In Key Stage 2, this strategy is also taught when adding fractions and decimals.

Adjusting

<u>Year 4</u>

When adding numbers that are close to an easy amount (e.g. a multiple of 10), children learn that they can add "too much" and then subtract to adjust for the correct answer.



Written strategies

The main written strategy for solving addition problems is **column addition**. This should only be used when the calculation is too difficult to solve mentally.







The strategy is used in Years 5 and 6 to solve calculations with 5 and 6-digit numbers and also with decimals, but there is no explicit teaching as children should be confident by this point.