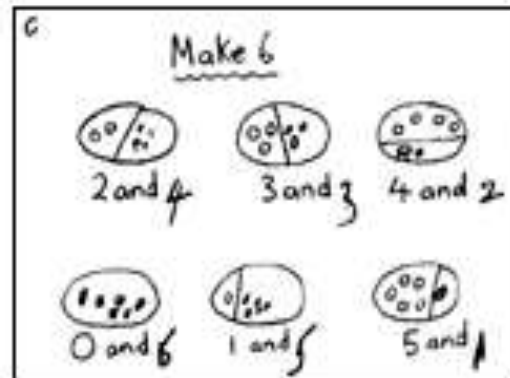




EYFS

What will addition look like?

Practical, counting objects and relating addition to combining two groups of objects. Children are also encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc.

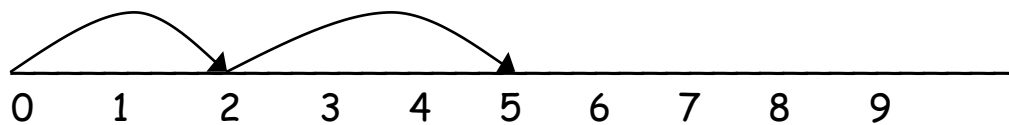


Year 1

What will addition look like?

Use of the number track and number line - hopping and recording.

$$2 + 3 = 5$$



2 and 3 equals 5

$$2 + 3 = _$$

$$_ + _ = 4$$

$$10 = 6 + _$$

$$5 + 3 + 1 = 9$$



PROGRESSION IN ADDITION



Continue to develop pupils' understanding of addition with practical activities using concrete apparatus, such as bundles of straws, numicon, counters and diennes.

Guidance

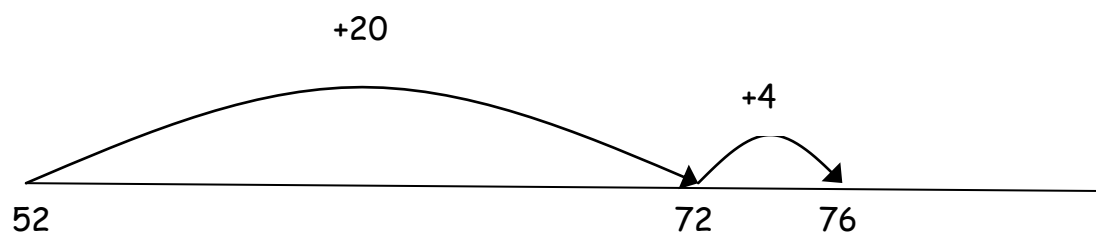
- Pupils memorise and reason with number bonds to 10 and 20 in several forms (e.g. $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.
- Pupils combine and increase numbers, counting forwards and backwards.
- They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms put together, add, altogether, total, take away, distance between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.

Year 2

What will addition look like?

Pupils continue to use the number line to calculate with bigger numbers, partitioning the smaller number and adding the most significant digit first.

(a) $52 + 24 = 76$



(b) $61 + 14 = _$

(c) $12 + 7 + 4 = _$

When children have a good understanding of place value and partitioning, introduce the columnar methods with additions that do not cross the tens boundary using concrete apparatus laid out in a columnar form.



PROGRESSION IN ADDITION



Level 3b

Expanded method

It is important that the children have a good understanding of place value and partitioning using concrete resources and visual images to support calculations. The expanded method enables children to see what happens to numbers in the standard written method.

$48 + 36$

$$\begin{array}{r} 67 \\ + 24 \\ \hline 11 \\ \hline 80 \\ \hline 91 \end{array}$$

$$\begin{array}{r} 83 \\ + 42 \\ \hline 5 \\ \hline 120 \\ \hline 125 \end{array}$$

and check answer

Progressing to 3 digit numbers

$$\begin{array}{r} 124 \\ + 137 \\ \hline 11 \\ \hline 50 \\ \hline 200 \\ \hline 251 \end{array}$$

Guidance

- Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.



PROGRESSION IN ADDITION



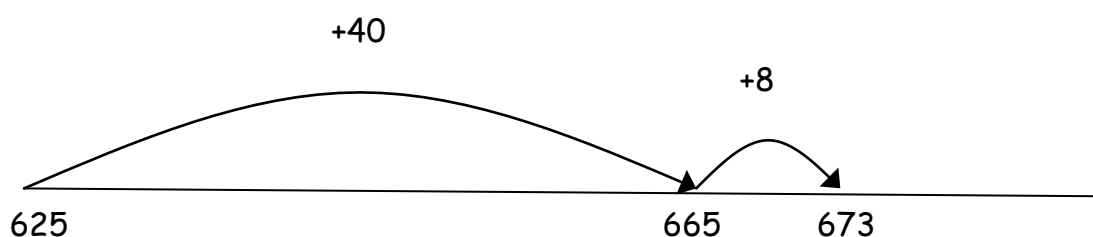
- Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent

Year 4

What will addition look like?

Partition one number when adding mentally.

$$625 + 48 = 673$$



Pupils use their understanding of the expanded columnar methods of addition to progress to use the compact method.

$$\begin{array}{r} 625 \\ + 48 \\ \hline 673 \\ 1 \end{array}$$

$$\begin{array}{r} 1294 \\ + 2345 \\ \hline 3639 \\ 1 \end{array}$$

Guidance

- Pupils continue to practise both mental methods and columnar spacing addition and subtraction with increasingly large numbers to aid fluency.

Year 5

What will addition look like?

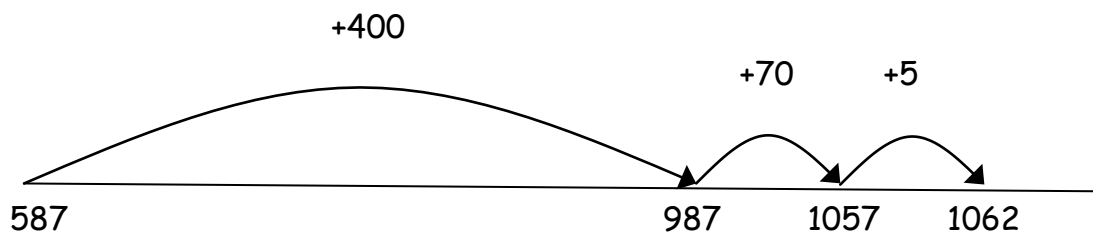
Adding larger numbers mentally, partitioning the smaller number.



PROGRESSION IN ADDITION



$$587 + 475 = 1062$$



Pupils use the compact column method to calculate with decimal numbers, and with larger whole numbers.

$$\begin{array}{r} 6.72 \\ 8.56 \\ + 2.30 \\ \hline \text{£ } 17.58 \\ 1 \end{array}$$

Guidance

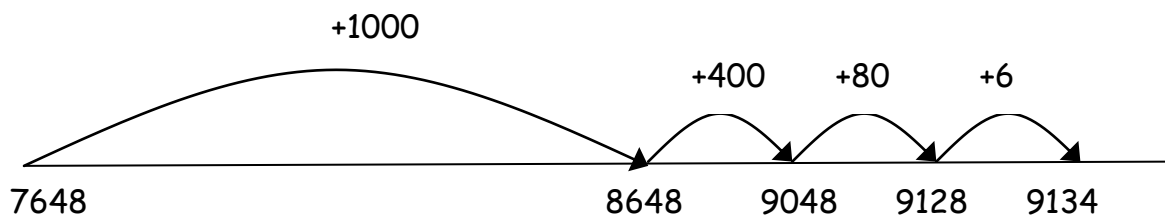
- Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency.
- They practise mental calculations with increasingly large numbers to aid fluency.

Year 6

What will addition look like?

Adding larger numbers mentally, supported by the number line, partitioning the smaller number.

$$7648 + 1486 =$$





PROGRESSION IN ADDITION



Pupils add larger whole numbers using the columnar method. They add decimals with differing numbers of decimal places using the columnar method. Pupils may fill empty columns with zeros initially, to preserve place value.

$$\begin{array}{r} 7648 \\ + 1486 \\ \hline 9134 \\ \hline 111 \end{array}$$

$$124.9 + 7.25$$

$$\begin{array}{r} 124.90^* \\ + 7.25 \\ \hline 132.15 \\ \hline 11 \end{array}$$

Guidance

- Pupils practise addition and subtraction for larger numbers, using the formal written methods of columnar addition and subtraction.
- They undertake mental calculations with increasingly large numbers and more complex calculations.

Additional Notes

Children should not be made to go onto the next stage if:

- 1) they are not ready.
- 2) they are not confident.

Children should be encouraged to approximate their answers before calculating.

Children should be encouraged to check their answers after calculation using an appropriate strategy.

Children should be encouraged to consider if a mental calculation would be appropriate before using written methods.