

## Addition: Indigo (Y5)

### Mental Work

Derive and recall

- what must be added to any 4-digit number to make the next multiple of 1000, e.g.  $4087 + \Delta = 5000$
- what must be added to a decimal with units and tenths to make the next whole number, e.g.  $7.2 + \Delta = 8$

Work mentally (with jottings if needed)

- add a pair of 2-digit numbers or 3-digit multiples of 10, e.g.  $38 + 86$ ,  $350 + 360$  (partition: add hundreds, tens or ones separately then recombine)
- add mentally with increasingly larger numbers
- add a near multiple of 10 or 100 to any 2-digit or 3-digit number, e.g.  $235 + 198$  (add a multiple of 10 or 100 and adjust, or double and adjust)
- add any pairs of decimal fractions each with units and tenths, e.g.  $5.7 + 2.5$  (use knowledge of  $57 + 25$ )
- count on in minutes and hours, bridging through 60 (analogue and digital times); partition

Children should be encouraged to:

\* **approximate** their answers before calculating

\***consider if a mental calculation** would be appropriate **before** using written methods

\***check their answers** after calculation using an appropriate strategy

### Number lines

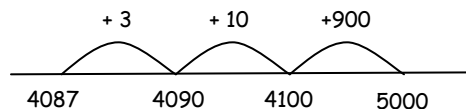
All of the mental calculations listed above can be worked out using an empty number line, and this is an extremely valuable way to analyse where errors are being made so that these can be addressed.

They are particularly useful to support missing number calculations, e.g.  $4087 + \Delta = 5000$

Number lines can also be used to try out different operations and find the most efficient.

$$4087 + \Delta = 5000$$

$$\text{Alternatively } 5000 - 4087 =$$



### Recording

As Y4, children should be expected to use column method to effectively add numbers with more than 4 digits. They should also begin to add several numbers with different numbers of digits.

$$\begin{array}{r} 587 \\ + 475 \\ \hline 1062 \\ 11 \end{array} \quad \begin{array}{r} 3587 \\ + 675 \\ \hline 4262 \\ 111 \end{array}$$

### Missing number calculations

Continue using a range of equations with appropriate numbers (see above for number line use)

Solve multi-step problems with addition

Determine levels of accuracy using rounding and inverse operations.

**CHILDREN SHOULD NOT MOVE ON TO THE NEXT STAGE IF:**

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