



## Upper Key Stage 2

# ADDITION

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Developing Conceptual Understanding:  
**CONTEXTUAL - LINGUISTIC - PRACTICAL - CONCRETE**

**Continue to work through the informal jottings,  
 supported with practical apparatus, from LKS2.**

Developing Conceptual Understanding:  
**PICTORIAL - MENTAL**

- Partition and recombine:

$$2006 + 843 \quad \text{becomes} \quad 2000 + 800 + 40 + 9 \quad = \quad 2849$$

- Round and adjust:

$$2364 + 1999 \quad \text{do} \quad 2364 + 2000 - 1 \quad = \quad 4364 - 1 \quad = \quad 4363$$

[Can be usefully illustrated pictorially using numberlines]

$$£3.75 + £1.95 \quad \text{do} \quad £3.75 + £2 - 5\text{p} \quad = \quad £5.75 - 5\text{p} \quad = \quad £5.70$$

By Year 5, most children should find that column addition is the most efficient and quickest jotting!



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Abstract Recording:  
**INFORMAL JOTTINGS**

Not applicable - use column addition!

Abstract Recording:  
**OUR WRITTEN METHOD**

- Column Addition:

Eg; 7,891 + 6,427

Note: commas are optional - they only make large numbers easier to read. Where they are used, they should be written on a grid line, not in a square (ie presented in the same way as decimal points). They do not need to be recorded in the column addition calculation.

$$\begin{array}{r}
 \text{TTh Th H T O} \\
 7 \ 8 \ 9 \ 1 \\
 + \quad 6 \ 1 \ 4 \ 2 \ 7 \\
 \hline
 1 \ 4 \ 3 \ 1 \ 8
 \end{array}
 = 14,318$$

- Place Value Column Headers:

HM TM M , HTh TTh Th , H T O • t<sup>ths</sup> h<sup>ths</sup> th<sup>ths</sup>

Note the distinction between capital letters (eg T = tens) for whole numbers and lower case letters for decimal numbers (eg t<sup>ths</sup> = tenths).

Classrooms should all display the relevant place value column headers, appropriate to the size of numbers the children will be using as they work through the curriculum, with colour coding to emphasise the patterns (and the position of commas to support the reading of large numbers) in place value.

- Column Addition with decimals:

Eg; 6.1 + 0.3

$$\begin{array}{r}
 0 \cdot t^{\text{ths}} \\
 6 \cdot 1 \\
 + 0 \cdot 3 \\
 \hline
 6 \cdot 4
 \end{array}$$



- Column Addition with decimals (continued):

Eg;  $2.5 + 0.05$

$$\begin{array}{r}
 0 \cdot \text{t}^{\text{ths}} \text{ h}^{\text{ths}} \\
 2 \cdot 5 \ 0 \quad [0 \text{ added here as a place holder}] \\
 + 0 \cdot 0 \ 5 \\
 \hline
 2 \cdot 5 \ 5
 \end{array}$$

- Column Addition with different units:

We can only ever do any calculation when all the numbers have the same unit - so we need to convert one of the units.

Eg;  $\pounds 10.25 + 47\text{p}$  Convert 47p into  $\pounds 0.47$  (usually simplest to convert the smaller unit into the larger unit (p to  $\pounds$ ) although children should experiment with converting the larger unit into the smaller one in order to realise this - eg  $\pounds 10.25 = 1025\text{p}$ ).

$$\begin{array}{r}
 10 \cdot 25 \\
 + 0 \cdot 47 \\
 \hline
 \pounds 10 \cdot 72
 \end{array}$$

Eg;  $1.03 \text{ m} + 2 \frac{1}{2} \text{ m} + 67\text{cm}$

Convert cm into m ( $67\text{cm} = 0.67\text{m}$ )

$$\begin{array}{r}
 2 \cdot 50 \\
 1 \cdot 03 \\
 + 0 \cdot 67 \\
 \hline
 4 \cdot 20 \text{ m}
 \end{array}$$

Expectation: We would expect the majority of Year 6 children to be confidently using this method by the end of Key Stage 2.