Notes for Parents

Addition

celebrating learning together

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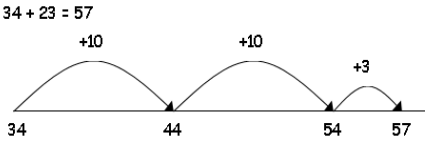
Addition vocabulary:

To add successfully, children need to be able to:

- recall all addition pairs to 9+9 and complements in 10
- add mentally a series of one-digit numbers, such as 5+8+4
- add multiples of 10 (such as 60+70) or of 100 (such as 600+700) using the related addition fact, 6+7, and their knowledge of place value
- partition two-digit and three-digit numbers into multiples of 100, 10 and 1 in different ways

Written methods for addition of whole numbers

Stage 1: The empty number line

Method	Example
The mental methods that lead to column addition generally involve partitioning, e.g. adding the tens and ones separately, often starting with the tens. Children need to be able to partition numbers in ways other than into tens and ones to help them make multiples of ten by adding in steps. The empty number line helps to record the steps on the way to calculating the total.	Steps can be recorded on a number line. The steps often bridge through a multiple of 10. 

Stage 2: Partitioning

Method	Example
The next stage is to record mental methods using partitioning. Add the tens and then the ones to form partial sums and then add these partial sums. Partitioning both numbers into tens and ones mirrors the column method where ones are placed under ones and tens under tens. This also links to mental methods.	Record steps in addition using partitioning: 47 + 76 = 47 + 70 + 6 = 117 + 6 = 123 47 + 76 = 40 + 70 + 7 + 6 = 110 + 13 = 123 Partitioned numbers are then written one under another where the most significant number is written first: 70 40 7 + 6

Stage 3: Expanded method in columns

Method	Example	
Move on to a layout showing the addition of the tens to the tens and the ones to the ones separately. To find the partial sums either the tens or the ones can be found in any order. As children gain confidence, ask them to start by adding the ones digits first always. The addition of the tens in the calculations 47 + 76 is described in the words 'forty plus seventy equals one hundred and ten', stressing the link to the related fact 'four plus seven equals eleven'. The expanded method leads children to the more compact method so that they understand its structure and efficiency.	Write the numbers in columns. Adding the tens first: 67 + 24 11 (7+ 4) 80 (60+20) 91	Discuss how adding the ones first give the same answer as adding the tens first. Refine over time to adding the ones first consistently.

Stage 4: Column method

Method	Example
In this method, recording is reduced further. Carry digits are recorded below the line, using the words 'carry ten' or 'carry one hundred', not 'carry one'. Later, extend to adding three two digit numbers and numbers with different numbers of digits.	Column addition remains efficient when used with larger whole numbers and decimals. Once learned, method is quick and reliable. 587 + 475 = 1062 (1 1) 3587 + 675 = 4262 (1 1 1)