SOUTHWICK C E PRIMARY SCHOOL

CALCULATION POLICY

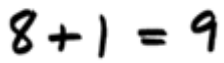
Addition

Reception Year

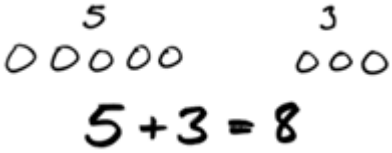
- Calculations involve real objects. Children combine two sets of objects to make a total. Recording (sketches and, later, simple number sentences) is modelled by teacher.

Year 1

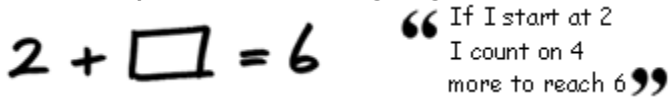
- Learners use practical apparatus (cubes, counters bead strings, fingers) to add numbers, and a 'number sentence' is recorded:



- Number lines are provided for 'counting on' by hopping up one step at a time (pointing with finger)
- Children's own jottings are actively encouraged:



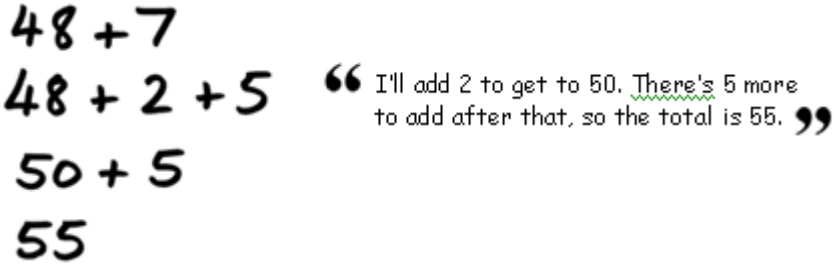
- Pupils are taught to put the larger number 'in their head' and count on using fingers (e.g. 3 + 6: start from the 6 and count on 3)
- Boxes represent missing digits in number sentences:



Year 2

- Children begin to draw and label their own number lines
- 'Formal' recording is horizontal:

- Children begin to partition (split up) numbers where it's helpful:



- Boxes represent missing digits or missing signs in number sentences:

$\square + 12 = 20$

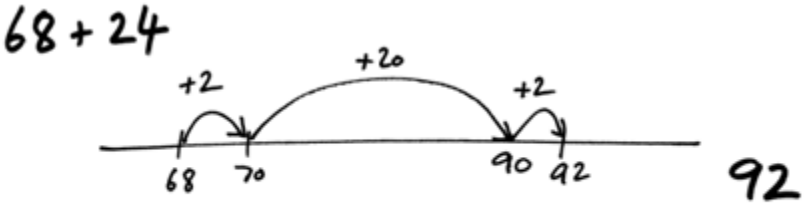
$27 \square 8 = 35$

Year 3

- Pupils practise partitioning numbers in different ways:

$346 = 300 + 46$
$300 + 40 + 6$
$300 + 30 + 16$
$200 + 120 + 26 \ldots$

- Learners draw their own empty number lines (lines without all the digits marked in); they 'bridge' through multiples of 10:



"I'll count on 2 to reach 70. Then I can jump 20 to reach 90. I need to add just 2 more after that. The answer is 92."

- Children begin to record formally using a vertical format and partitioning (splitting numbers up) (see Year 4, below).

Year 4

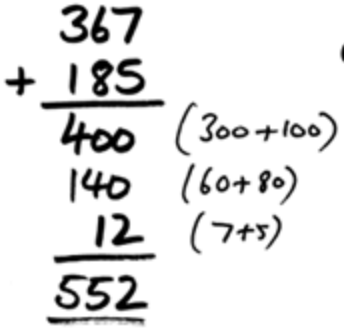
- 2- and 3-digit numbers are decomposed (broken into parts):

$$\begin{array}{rcl} 367 & = & 300 + 60 + 7 \\ + \ 185 & = & 100 + 80 + 5 \\ \hline & & 400 + 140 + 12 \end{array} = 552$$

Some children may need additional steps, e.g.:

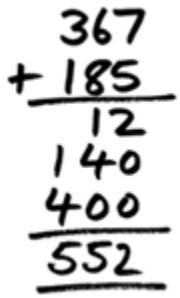
$400 + 140 + 12$
$500 + 40 + 12$
$500 + 50 + 2$
552

- Partitioning is recorded vertically:



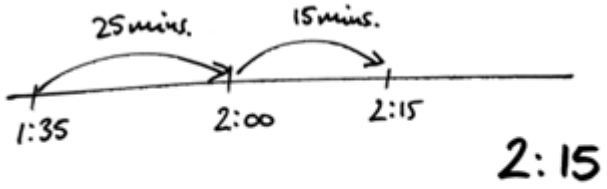
"In my head I usually start with the hundreds so I'll do that here. I take each column one at a time and write down what the total is. I'm careful to keep the columns lined up accurately or I'll get very muddled!"

The 'in-between steps' are used for as long as they are helpful:



"Starting with the units will help when I use traditional recording. I'm confident that I won't muddle things so I won't label the separate totals any more."

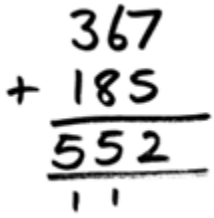
- Problems are still solved using a number line (e.g. 'A cake went in the oven at 1:35. It cooked for 40 minutes. What time did it come out?')



"I'll split the extra 40 minutes into 2 bits: 25 minutes to get to the next o'clock and then 15 minutes more to reach 2:15."

Year 5

- Partitioning and decomposition is now recorded in the traditional vertical format with tens, hundreds etc. 'carried' forwards and noted below the answer:



The 'carried' number is referred to as 'one ten', 'one hundred' etc. not just 'one'.

Year 6

- Children use a secure, reliable method of written calculation, where this is appropriate
- They still use quick mental methods in preference where these are feasible

- Existing methods are extended to larger values and modified slightly to handle decimal numbers (ensure columns are lined up either side of the decimal point)
- When adding decimal values pupils estimate answers by rounding: