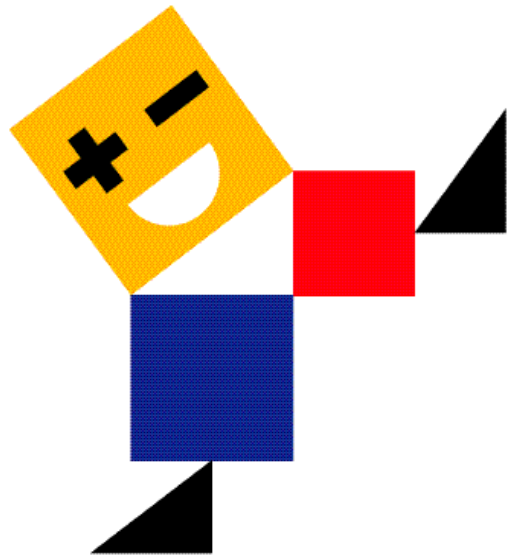




Milton Primary School

*Guidance on
calculation
approaches for
parents*



Subtraction

Milton Primary School – Guidance on calculation approaches for parents.

This booklet has been written in order to help you understand how the four operations of addition, subtraction, multiplication and division are taught in our school and to give you some ideas of how to help your child with their work.

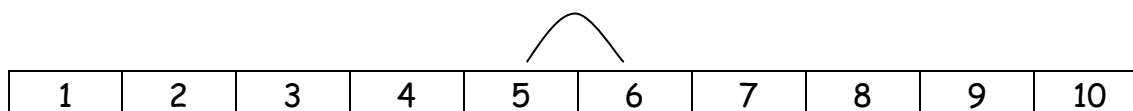
One of the most valuable things you can do with your child is talk to them about mathematics, when out shopping, playing games involving numbers, cooking etc. Talk, particularly linked to everyday situations, is central to encouraging good mathematical understanding. Above all, listen to your child explaining the approach that he or she selects. Avoid leading your child to an approach you remember from school, however tempting this may be, and instead try to keep in mind the progression that is set out in this document.

It is also worth mentioning that the different stages in the progression are developmental, so children move through the stages based on their individual progress. Moving a child too rapidly to the final compact approach, before the child is ready, can impede progress rather than be supportive.

Progression in written subtraction

Subtraction is shown as taking one from a group of objects, and then replacing to 'put it back'.

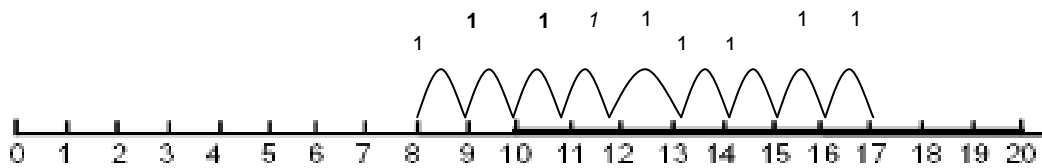
The first step is finding 1 less - by jumping back on a number track. For example this example shows 1 less than 6 is 5.



Through Key stages 1 and 2, children develop their understanding of subtracting using a number line.

In Year 1 and 2 a marked number line is initially used. First with the numbers in place, and later with the numbers removed. The children learn to subtract by counting back in 1s and 10s.

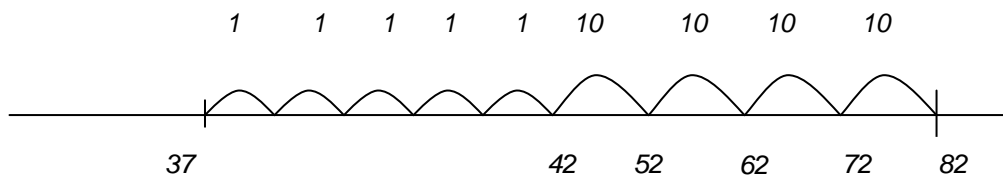
$$17 - 9 = 8$$



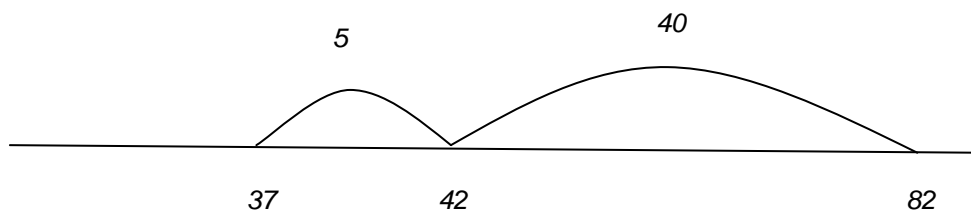
The next step is to extend to subtracting any two-digit numbers by partitioning.

$$82 - 45 = 37$$

Either by partitioning into steps of 10s and 1s



or as one jump of a multiple of 10s and a multiple of 1s.

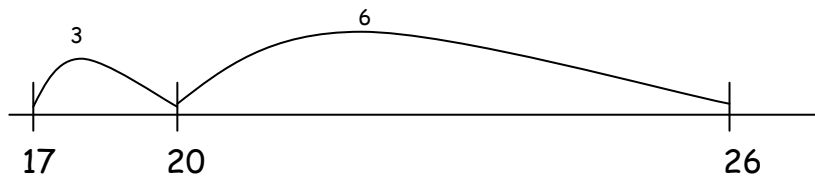


Attention is also given throughout Key Stage 1 and 2 to developing the understanding of finding the difference between two numbers, measures or amounts. Questions that prompt comparison such as 'How much more?' or 'How much shorter?' are used alongside real-life examples. In these cases, counting up from the lower number may be preferable.

To demonstrate difference, objects are used. For example, two multilink towers of different heights, side by side - show they are different. What is the bit of the tower that is different? The higher bit!

Two children of different heights - the difference between their heights is how much the one is taller than the other or how much the one is shorter than the other.

By the end of year 3, subtraction is shown as counting on along the number line. Children identify the 'friendly' or 'landmark' numbers between 17 and 26.



$$26 - 17 = 9$$

The difference between 17 and 26 is 9.

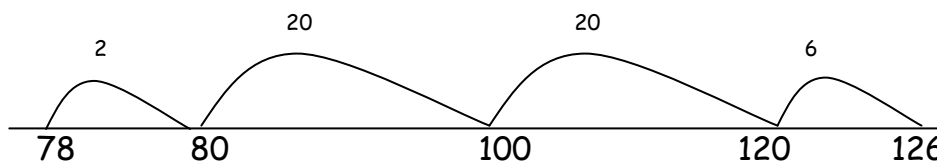
The difference between 26 and 17 is 9.

17 is 9 less than 26

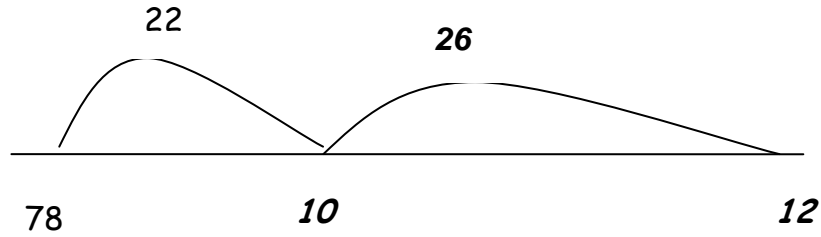
26 is 9 more than 17

This counting on method is then used with larger numbers further through Key Stage 2.

$$126 - 78 = 48$$

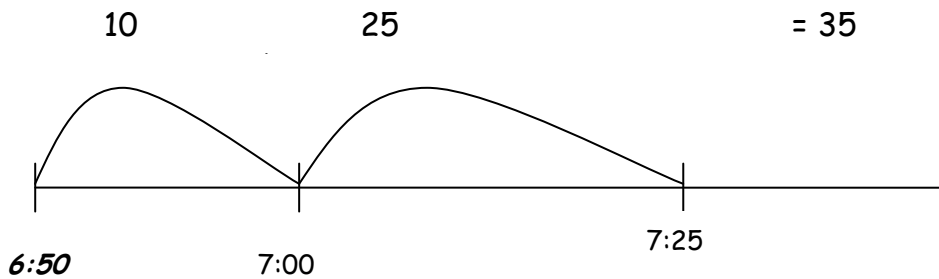


As a final step in solving the calculation, the child adds up all the jumps. It depends on a child being secure in their knowledge of pairs of numbers that total 10 or 100. Fewer steps can be taken once the child is secure with their recall of these facts.



This same approach can be used with decimals, and when solving problems that involve measures, eg time.

A TV programme starts at 6:50 and finishes at 7:25. How long is the programme?



It is important for children to be secure with the use of the number line for subtraction as it builds upon their understanding of place value and mental calculation strategies. Children will generally be taught the subtraction with decomposition towards the end of Year 6.

This begins as an expanded written approach:

$$245 - 127 = 118$$

200	40	5	-	
100	20	7		
100	10	8		

