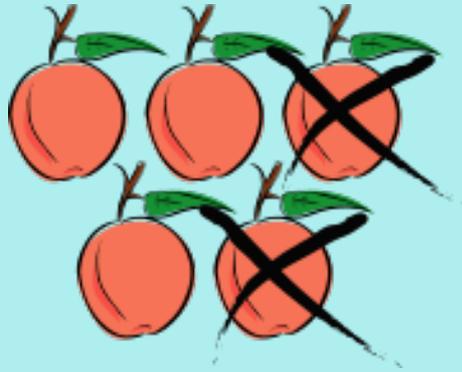


Subtraction



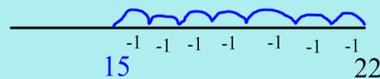
Nov 15 - 11:52

Early subtraction

Practical activities

Developing knowledge of number bonds

Moving to recording on number lines e.g 22-7



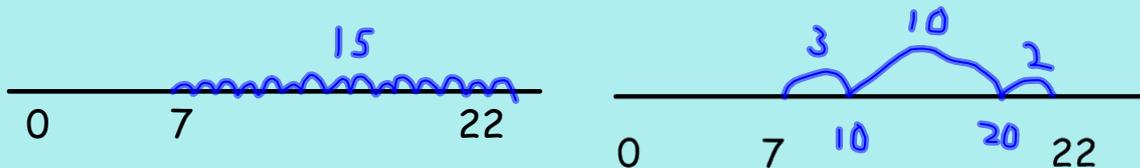
More sophisticated use of number lines

More sophisticated use of number lines

Jan 30-04:46

The number line can also be used to subtract by counting up from the smaller number to the larger.

$$22 - 7 =$$



1st step: counting on in ones

2nd step: using knowledge of number bonds

This method of counting up from the smaller to the larger number is also used when finding the difference between two numbers which are close together.

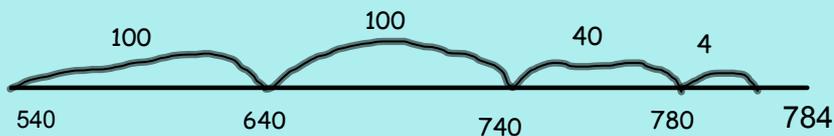
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A year 3 example:

$$784 - 35 = 749$$



$$784 - 540 = 244$$



Counting back is easier in the first one. But if the numbers were closer together, it would be easier to count on, like in the second example.

Nov 15 - 11:53

The first steps towards a formal written methods involve partitioning.

$$784 - 35 =$$

Each number is partitioned into hundreds, tens and ones and set out in this way:

$$\begin{array}{r} 784 \\ - 35 \\ \hline \end{array} = \begin{array}{r} 700 \\ - \\ \hline \end{array} \begin{array}{r} 80 \\ - 30 \\ \hline \end{array} \begin{array}{r} 4 \\ - 5 \\ \hline \end{array}$$

Starting with the ones, take 5 away from 4. There isn't enough, we need to exchange one ten for ten ones.

The tens column becomes ten less and the ones column becomes ten more:

$$\begin{array}{r} 700 & 70 & 14 \\ - & 30 & 5 \\ \hline \end{array}$$

We can now take 5 away from 14:

$$\begin{array}{r} 700 & 70 & 14 \\ - & 30 & 5 \\ \hline 700 & 40 & 9 \end{array} = 749$$

Nov 15 - 12:22

This expanded method then leads to a more compact method.

$$754 - 286 =$$

$$\begin{array}{r} 754 \\ - 286 \\ \hline \end{array}$$

$$\begin{array}{r} 74^14 \\ - 286 \\ \hline \end{array} \begin{array}{l} \text{exchange one ten} \\ \text{'borrow'} \end{array}$$

$$\begin{array}{r} 6^14^14 \\ - 286 \\ \hline 468 \end{array} \begin{array}{l} \text{exchange one} \\ \text{hundred} \end{array}$$

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Using negative numbers for subtraction - If you have a child who is good at negative numbers but cannot do exchange.

$$\begin{array}{r} 2347 \\ - 259 \\ \hline -2 \\ -10 \\ 100 \\ 2000 \end{array}$$

Jan 22-05:34

Nov 12-14:41