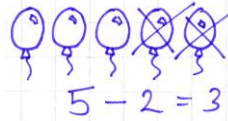


- Subtraction at Firbeck Academy

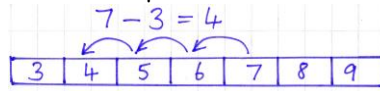
Step 1: 1:1 correspondence, e.g. recognizing that five objects can be represented by the number 5.

Step 2: taking objects away practically.

Step 3: pictorial representation with teacher possibly scribing using conventional labels and symbols, e.g.



Step 4: using a marked number track or hundred square to count back on, e.g.



Step 5: using a hundred square to count back. Don't forget to use two fingers - one to mark the starting place, and the other to count with.

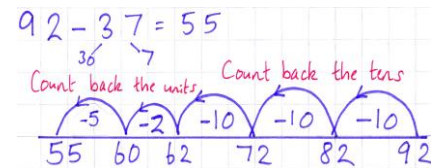
Number bonds to 10 and 20 should also be used to solve subtraction problems, e.g. $10 - 6 = 4$, $20 - 4 = 16$.

This is also helpful when 'finding the difference', e.g. "What is the difference between 10 and 6?"

By this stage you should be able to **partition and subtract** some TU + TU problems mentally without having to write it down, e.g. $78 - 34 = 78 - 30 - 4 = 44$. Don't forget that you only need to partition the number being taken away! You should also be able to quickly solve any number pairs to 100 subtraction problems, e.g. $100 - 63 = 37$. You may make some jottings to help you with these problems but you should not normally need a number line to solve them.

Step 6: subtraction using a **blank number line**. This method works well for TU-TU and HTU - HTU problems where the numbers are tricky to subtract mentally.

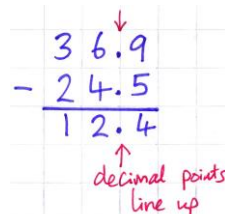
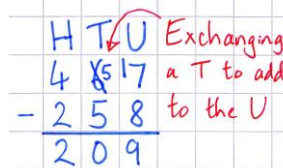
- Place the largest number at the end (right) of the number line.
- Partition the smaller number being taken away into tens and units.
- Count back the tens of the smaller number.
- Now count back the units of the smaller number (in just one or two jumps if possible.)
- The number you have reached is the answer.



Before you move onto **column subtraction**, you must be able to quickly and mentally take away any pair of single-digit numbers, e.g. $13 - 7 = 6$, $15 - 6 = 9$.

Step 7: using the **Column Method** for subtraction. This method is ideal for taking away large numbers.

- Line up the digits in the correct columns, e.g. HTU over HTU. Decimal points must also be lined up. Don't forget that the largest number will be on top!
- Always work from right to left!
- Subtract the bottom digit from the top column. If the bottom number is larger than the top number, you must **exchange** from the next column to the left. Don't forget to change **both** the numbers after you have exchanged! NB: 'Exchanging' is also sometimes referred to as 'borrowing', 'regrouping' or 'trading'.
- If subtracting decimals, remember to bring the decimal point straight down into the answer.



Sometimes you will find that you can't exchange from the next column along. In this case, you may need to exchange from another column to the left and keep exchanging down the line, e.g.

