

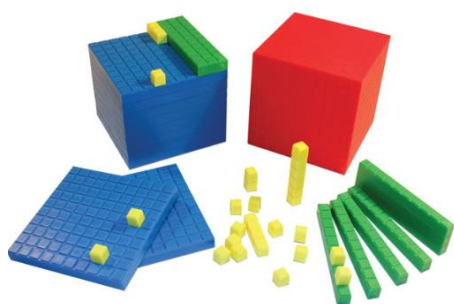
## Year 2 Addition and Subtraction Fact Sheet

Let's take a look at how we teach addition and subtraction in Year 2.

The big focus in Year 2 is about working with 2-digit numbers. Some children may still be working with 1-digit numbers and some will be working with 3-digit numbers, but the majority will be adding and subtracting using 2-digits.

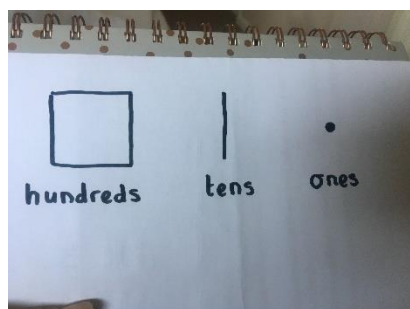
We do lots of work where we group objects into tens and ones (we don't call the ones 'units' anymore). This work on tens and ones is extremely important when we come to adding and taking away.

In school, we use these;



They are called 'Diennes' or are sometimes called 'Base 10' (which I believe is the brand name). They come in little cubes to represent the ones, rods to represent the tens, squares to represent the hundreds and large cubes to represent thousands. In year 2 we mainly work with the little cubes and the rods, as these represent ones and tens.

We teach the children to draw these, like this;



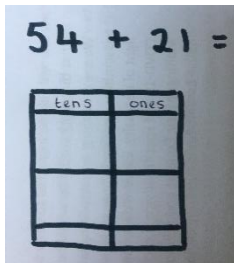
When we add together two 2-digit numbers, we can use our drawing to help us. Alternatively, we can use a column method (children can choose which method they prefer, but we teach both to everybody).

# Addition of two 2-digit numbers (not crossing ten)

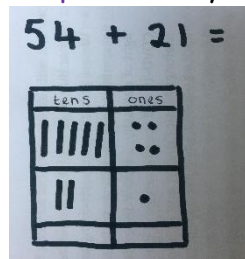
## Drawing Method

$$54 + 21 =$$

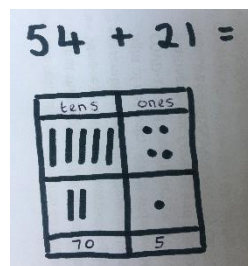
**Step 1** - draw your boxes.



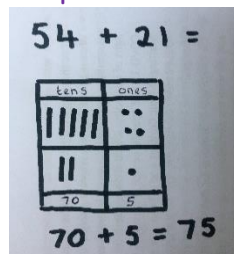
**Step 2** - draw your tens and ones.



**Step 3** - add together the ones (ALWAYS ADD THE ONES FIRST), then the tens.



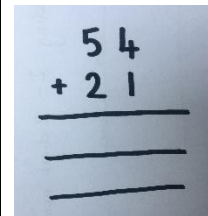
**Step 4** - add the tens and ones together.



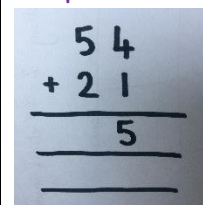
## Column Method

$$54 + 21 =$$

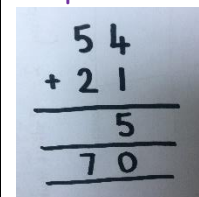
**Step 1** - set out your calculation in columns (it helps to use squared paper).



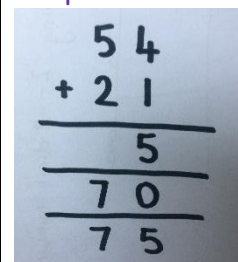
**Step 2** - add together the ones first.



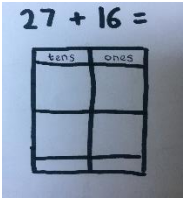
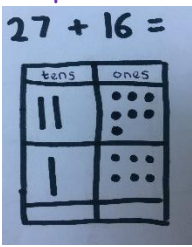
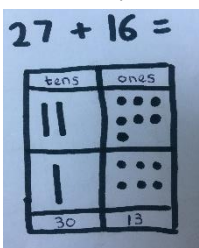
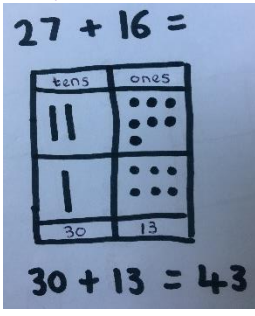
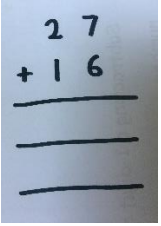
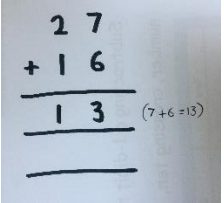
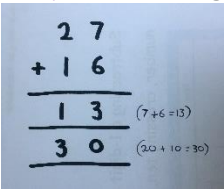
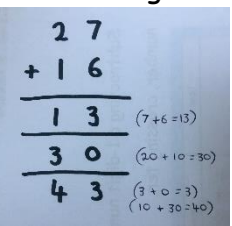
**Step 3** - add together the tens.



**Step 4** - add the tens and ones together.



Sometimes when we add, we will cross the tens boundary. This is not a problem and we can do it in exactly the same way;

| Addition of two 2-digit numbers ( <u>crossing ten</u> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drawing Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Column Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p><math>27 + 16 =</math></p> <p>Step 1 - draw your boxes.</p>  <p>Step 2 - draw your tens and ones.</p>  <p>Step 3 - add together the ones (ALWAYS ADD THE ONES FIRST), then the tens.</p>  <p>Step 4 - add the tens and ones together.</p>  | <p><math>27 + 16 =</math></p> <p>Step 1 - set out your calculation in columns (it helps to use squared paper).</p>  <p>Step 2 - add together the ones first.</p>  <p>Step 3 - add together the tens.</p>  <p>Step 4 - add the ones from your answers together, then add the tens from your answers together.</p>  |

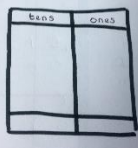
So, what about subtraction? We don't do the column method for subtraction because it gets a bit complicated when we have to exchange tens (we say 'exchange', we no longer say 'borrow'). Instead, we teach children to draw the tens and ones.

## Subtraction of two 2-digit numbers (not crossing ten)

$$67 - 22 =$$

**Step 1** - draw your boxes.

$$67 - 22 =$$



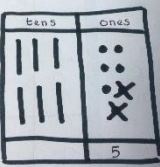
**Step 2** - draw the tens and ones for the first number in the number sentence (the larger number).

$$67 - 22 =$$



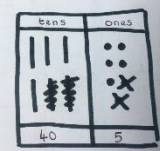
**Step 3** - subtract the ones first by crossing out the number that are being taken away and write how many are left in the box underneath.

$$67 - 22 =$$



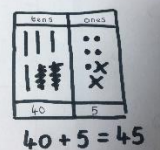
**Step 4** - subtract the tens by crossing out the number that are being taken away and write how many are left in the box underneath.

$$67 - 22 =$$



**Step 5** - add the tens and ones from your answers together.

$$67 - 22 =$$

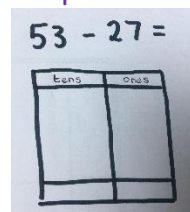


Finally, we have to teach children what to do when crossing the tens. They will need to 'exchange' a ten (we don't say 'borrow' anymore). We teach them to recognise when this will be necessary by getting them to look at the ones in both numbers. If the ones in the second number are greater than in the first number, then they will need to exchange. Here is an example;

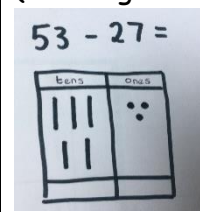
## Subtraction of two 2-digit numbers (crossing ten)

$$53 - 27 =$$

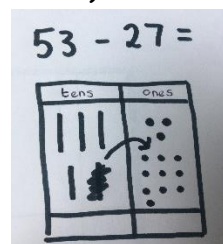
**Step 1** - draw your boxes.



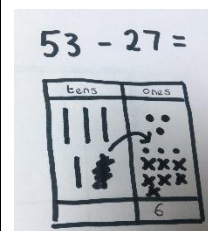
**Step 2** - draw your tens and ones from the first number in the number sentence (the larger number).



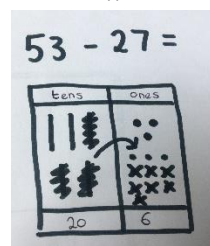
**Step 3** - to exchange a ten, cross out one ten and draw ten dots in the ones column (along with the ones that were already there).



**Step 4** - now proceed with the calculation by subtracting the ones first (cross out the number that are to be taken away).



**Step 5** - now subtract the tens (cross out the number that are to be taken away).



**Step 6** - add the tens and ones from your answers together.

