Column Subtraction with exchanging (also known as borrowing!) PARENT NOTES

At the beginning of this week we were looking at column addition and what happens when we have too many ones, tens, hundreds etc and have to 'carry' to the next column. The children were all doing really well at this and I was really pleased with progress.

Subtraction with 'exchanging' is a similar thing but the process is reversed, in that the problem is not that we have too much value in a column, but not enough meaning we have to exchange (or borrow). Sounds complicated but that is just the language.

Important: ***Remember to always start with the one column and move to the left each time.***

Let's have a look:

For the example 65 -29 =

1. Write out the column subtraction as below, with the biggest number at the top:

H	T	U
	6	5
-	2	9

2. Starting with the ones column we subtract the bottom number from the top. In this case, 9 is bigger than 5 so we need to exchange a ten into the ones column:

We cross out the tens value to show that we are changing it

H	T	U
	~~6~~	5
-	2	9

And then reduce the value by one (ten)

H	T	U
	^{5}~~6~~	5
-	2	9

We then add the exchanged ten to the ones column

H	T	U
	^{5}~~6~~	^{1}5
-	2	9

We can then subtract the bottom number from the top number (15 – 9 = 6)

H	T	U
	^{5}~~6~~	^{1}5
-	2	9
		6

We can complete calculation in the tens column (50 – 20 = 30 or 5 – 2 = 3)

H	T	U
	^{5}~~6~~	^{1}5
-	2	9
	3	6

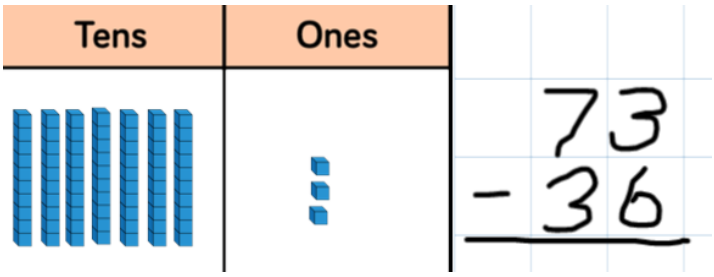
The attached Powerpoint shows this through a series of animations with a couple of extra examples (display the Powerpoint in slide show mode and scroll through to watch this)

There is also an excellent Youtube video by the Khan Academy which also talks through the process alongside expanded form which shows what is happening in each column of the calculation (note: they use slightly different terminology but the principle is exactly the same).

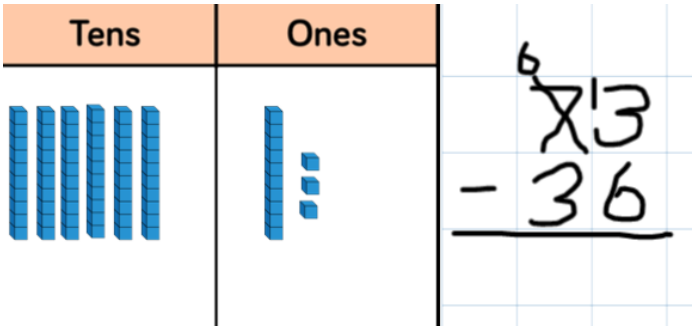
We can have a look at this using the Base 10 as a practical resource with the example 73 – 36 =

1. Starting with the ones column, we know that we need to subtract the bottom number from the top number in the column method which means 3 – 6 =

   Looking at the Base 10 we can see that this is not possible:



2. We need to 'exchange' from the tens column into the ones column to be able to subtract the six. We exchange the ten and then reduce the tens to 6 (or 60) and add a 1 (or 10) to the ones column giving a column total of 13:



3. We can then complete the calculation, starting with the ones column 13 – 6 = 7 and then the tens column 60 – 30 = 30 (or 6 – 3 = 3) showing that 73 – 36 = 37: