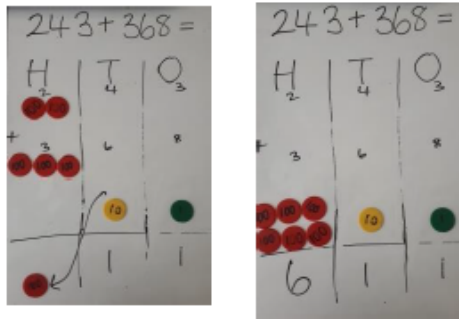
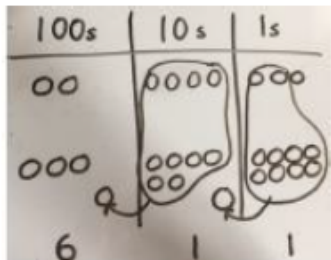


Children then add up the rest of the columns, exchanging the 10 counters from one column for the next place value column (if needed) until every column has been added.



Children can draw a pictorial representation of the place value counters to further support their learning and understanding.

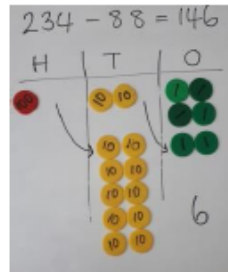


Once knowledge is secured, children move towards a formal written method.

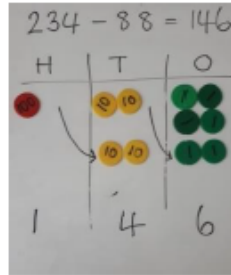
$$243 + 368 = 611$$

	H	T	O
	2	4	3
+	3	6	8
	6	1	1
	±	±	

They then repeat the process for the tens column and then the hundreds, exchanging if need be.

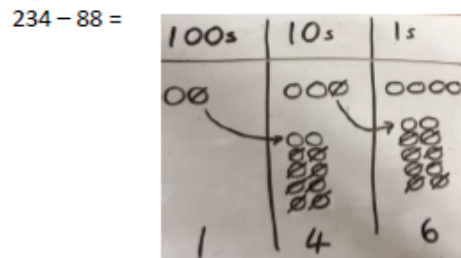


Children ask "Can I take away 8 tens easily?" I need to exchange one hundred for ten tens.



Now take away eight tens and complete the subtraction.

Once knowledge is secure, children move to drawing pictorial representations



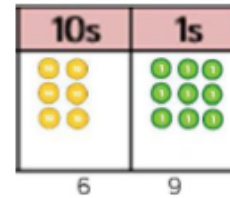
When children are ready, the written method is completed alongside the concrete and pictorial to ensure understanding is secure.

	1	2	3	4
-		8	8	
	1	4	6	

Formal column method

Children use place value counters to help them to solve the calculation.

$$23 \times 3 = 69$$

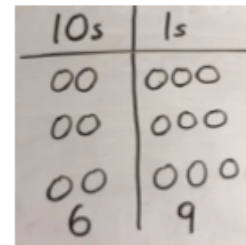


They make the number to be multiplied (23 in this example) with the place value counters.

They then repeat that number according to the multiplier (3 in this question).

Children then multiply each column individually to give an answer of 69.

Children may begin to use pictorial drawing to represent the counters.



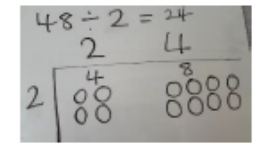
Children begin to record what it is they are doing to show understanding.

		23
x		3
		9
+		60
		69

This may lead to a compact method.

		23
x		3
		69

Children may start to represent the counters pictorially.

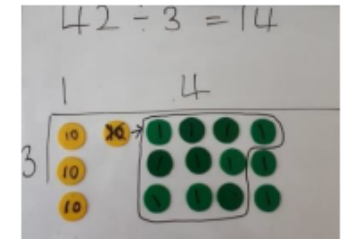


Once secure, children can write the calculation without the need for the pictorial representations.

		2	3
2		4	6

Short division with exchanging

As above, children set out the calculation using the place value counters.

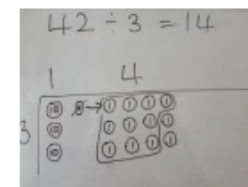


Children ask "How many groups of 3 can we make with 4 tens counters?" 1 group of 3 with 1 left over. As that 1 ten doesn't have a group of 3, they exchange it for 10 ones.

Now they have 12 ones. The original number hasn't changed because 30 and 12 make 42.

How many groups of 3 can we make with 12 ones counters? 4 groups of 3. The answer is 14. There are 14 groups of 3 in 42.

As children's knowledge becomes secure, they may start to represent the calculation pictorially, and then using a written method.



		14
3		42