

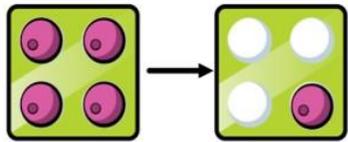
Fierte Multi-Academy Trust Calculation policy - Subtraction

Key language- subtract, take away, minus, decrease, leave, how many are left/left over?
 Difference between, how many fewer is.. than...?, how much less is...?

Concrete

Physically taking away and removing objects from a whole (ten frames, Numicon, cubes and other items such as beanbags could be used).

$$4 - 3 = 1$$



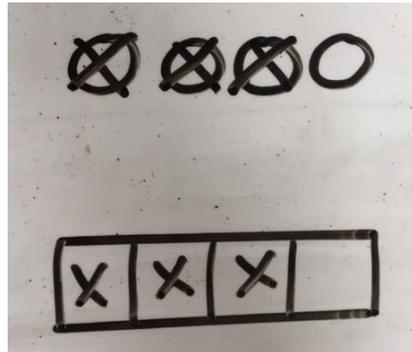
$$5 - 1$$



$$= 4$$

Pictorial

Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used.



Abstract

$$4 - 3 =$$

$$\square = 4 - 3$$

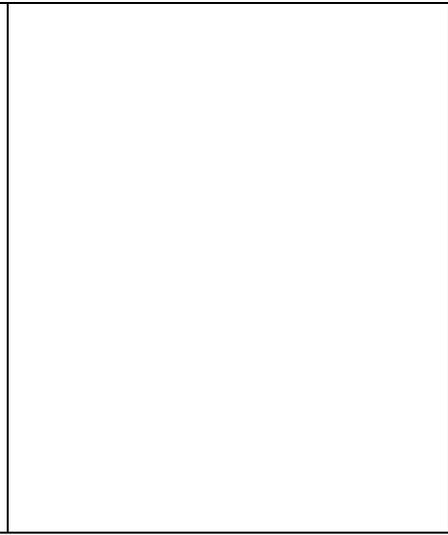
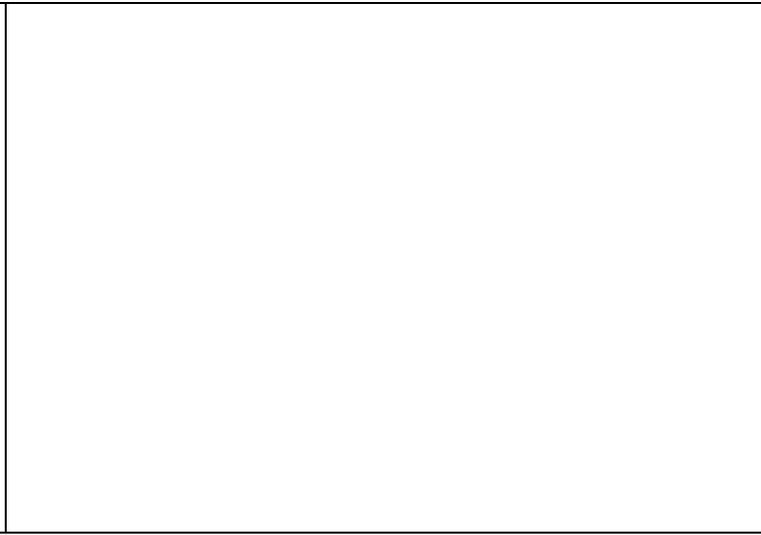


$$7 - 3 = 4$$

What do I get if I take 3 away from 7? Answer: 4

Including for finding the difference between.

Real life links will also be made e.g. taking biscuits off a plate.



Counting back (using number lines or number tracks) children start with 6 and count back 2.

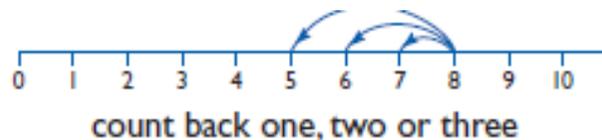
$$6 - 2 = 4$$



Children will count backwards along a number line using finger.



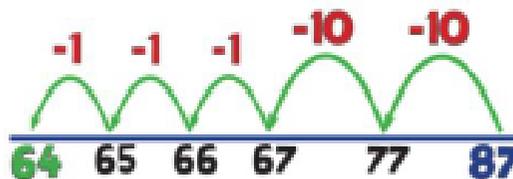
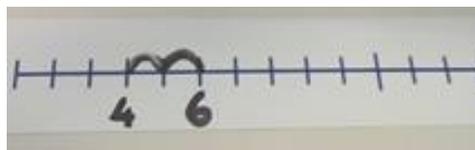
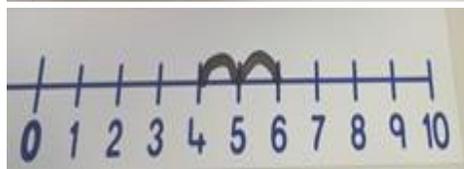
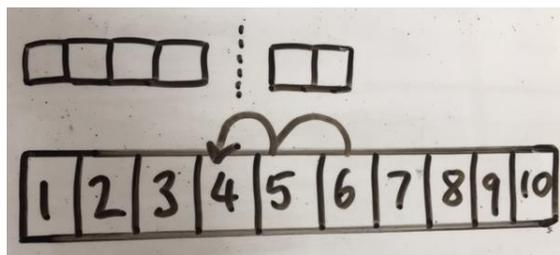
Progressing to:



Which line has most money?
How much more?

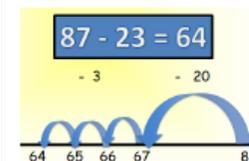
Children to represent what they see pictorially on a number line or number track and show their jumps. Encourage children to use an empty number line

e.g.



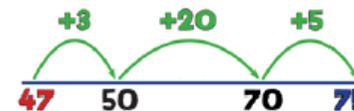
$$87 - 23 = 64$$

Progressing to:



For numbers that bridge the tens boundary, children will use number bonds knowledge to bridge the gap.

This may be by counting on to find the difference:

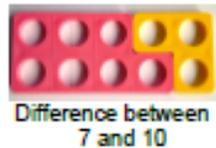


$$75 - 47 = 28$$

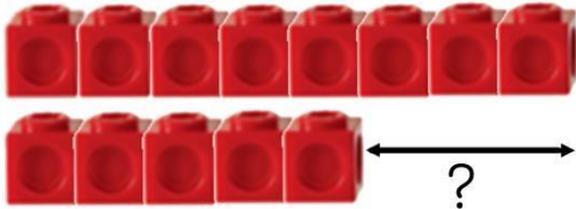
Finding the difference (using cubes, Numicon or Cuisenaire rods, other objects can also be used). Calculate the difference between 8 and 5.

Children will understand subtraction as finding the difference between 2 numbers, **either by**

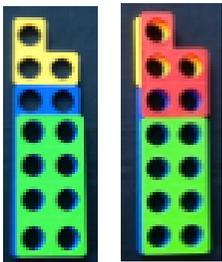
counting back or counting on.



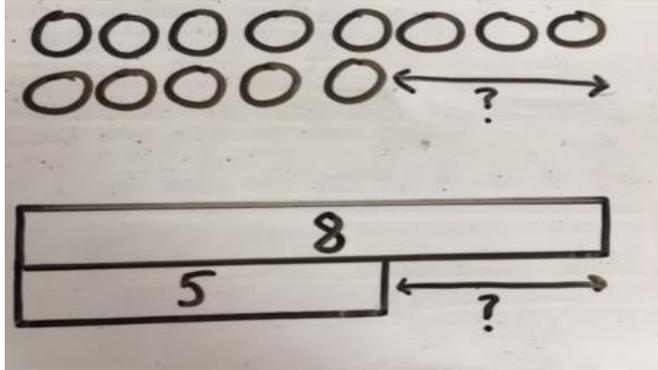
The difference is?



Difference between
13 and 8
 $13 - 8 =$
 $8 + _ = 13$



Children to draw the cubes/other concrete objects which they have used or use the bar model to illustrate what they need to calculate.

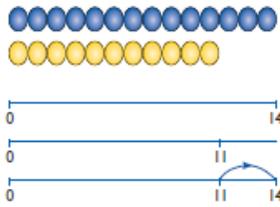


Find the difference between 8 and 5.

8 - 5, the difference is

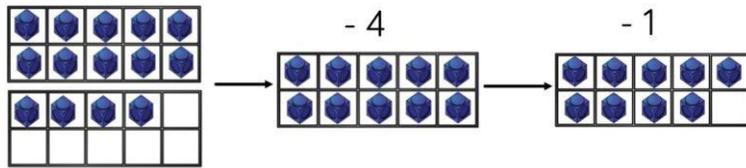
Children to explore why

$9 - 6 = 8 - 5 = 7 - 4$ have the same difference.



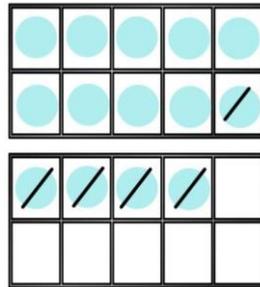
The difference between 11 and 14 is 3.
 $14 - 11 = 3$
 $11 + \square = 14$

Making 10 using ten frames.

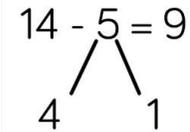


$14 - 5$

Children to present the ten frame pictorially and discuss what they did to make 10.



Children to show how they can make 10 by partitioning the subtrahend.



$14 - 4 = 10$

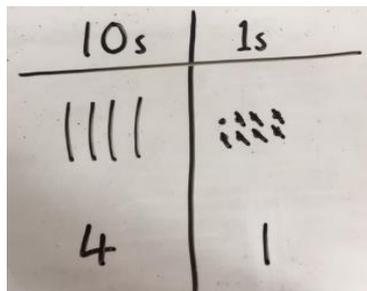
$10 - 1 = 9$

Column method using base 10.

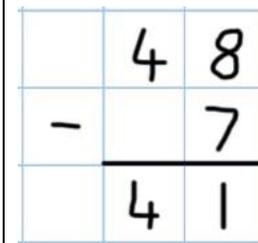


Visual support for formal written methods

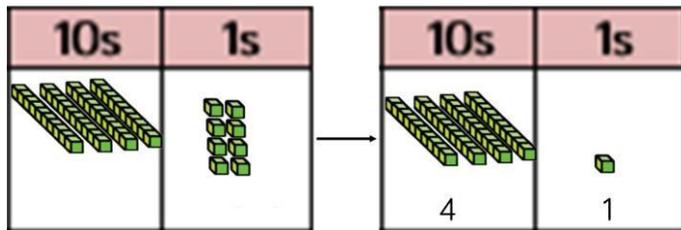
Children to represent the base 10 pictorially.



Column method or children could count back 7.

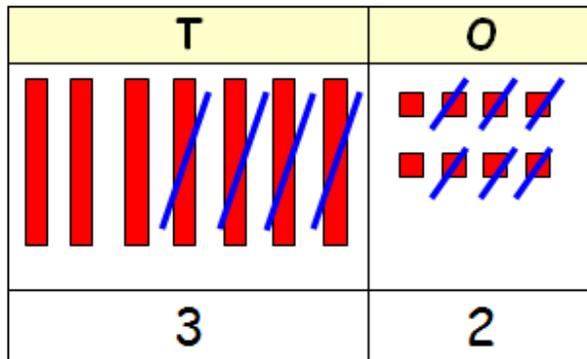


$48 - 7 =$



This will be supported by equipment, starting from the biggest number and removing the tens and ones to show what is left.

$78 - 46 = 32$

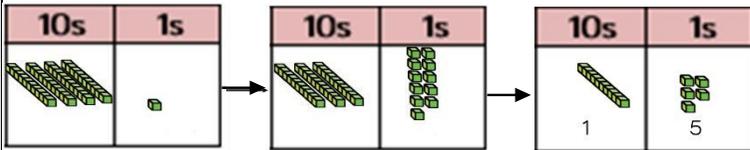


Simple column method

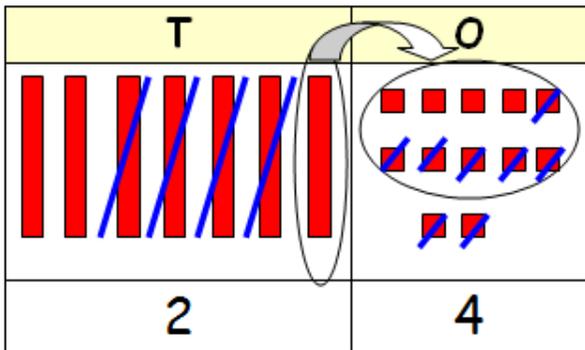
$$\begin{array}{r} \text{T O} \\ 78 \\ - 46 \\ \hline 32 \end{array} \quad \begin{array}{r} \text{H T O} \\ 598 \\ - 362 \\ \hline 236 \end{array}$$

Column method using base 10 and having to exchange.

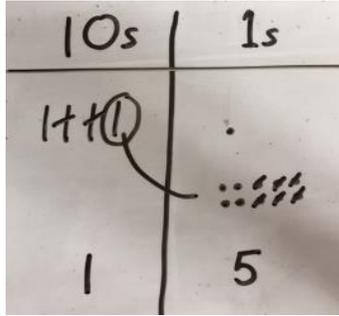
Using visual methods will help to secure key concepts and also enable children to use equipment. Pictures can later be replaced with numbers once the children have gained a secure understanding $41 - 26$



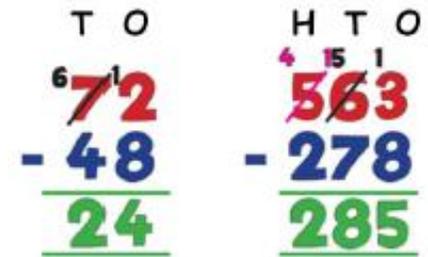
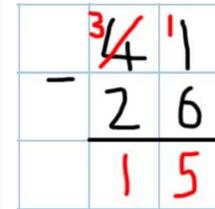
$72 - 48 = 24$



Represent the base 10 pictorially, remembering to show the exchange.



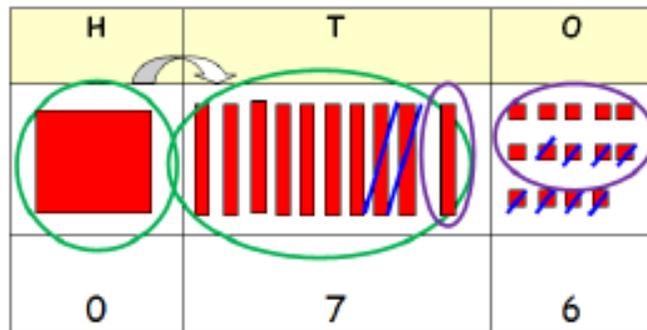
Formal column method. Children must understand that when they have exchanged the 10 they still have 41 because $41 = 30 + 11$.



Using visual methods will help to secure key concepts and also enable children to use equipment. Pictures can later be replaced with numbers once the children have gained a secure understanding.

Children will also be taught how to subtract across 0 and why.

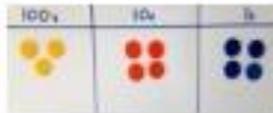
$$104 - 28 = 76$$



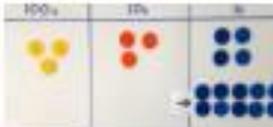
Using place value counters to subtract

Taking away and exchanging, $344 - 187$
Place value counters

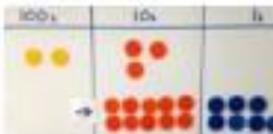
Where's the one hundred and eighty and seven?



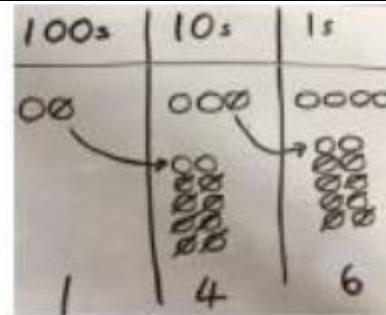
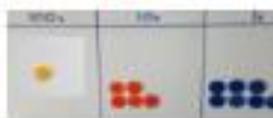
Exchange to create three hundred and thirty and fourteen. Now take away the 'seven'



Exchange to create two hundred, thirteen tens and seven. Now take away the 'eighty'



Now take away the 'one hundred'



Represent the place value counters pictorially remembering to show what has been exchanged.

100	120	
200	20	¹ 4
	30	
	80	8
100	40	6

$$\begin{array}{r} 234 \\ - 88 \\ \hline 6 \end{array}$$

Formal column method. Children must understand what has happened when they cross out digits.