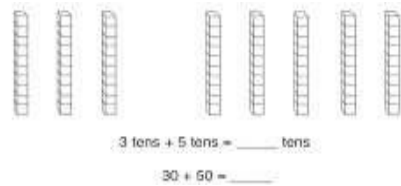


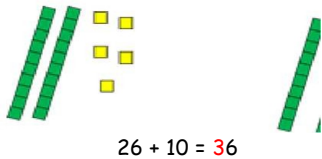
Addition to be taught alongside each other Subtraction

Children will start by adding in multiples of 10 using concrete apparatus, such as base 10, number strings, numicom, cubes and place value counters.

$50 = 10 + 10 + 10 + 10 + 10$

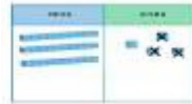


Children will continue to add multiples of 10 to a 2-digit number, noticing the ones stay the same and the tens will change.



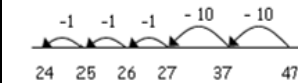
When subtracting, children will be taught to partition the second number. Children will use dienes and pictorial illustrations to demonstrate this.

$34 - 13 =$



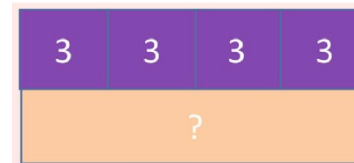
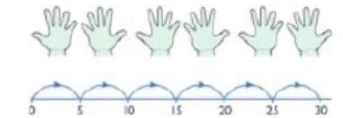
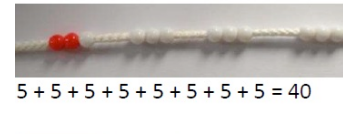
$43 - 21 = 22$

Children will then represent this on a number line.



Multiplication to be taught alongside each other Division

Children will develop their understanding of multiplication starting with repeated addition.

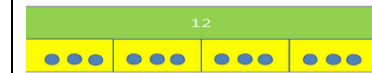
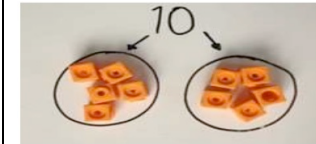


Children will explore this in many concrete and pictorial ways. Children will also recite multiples of 2,3,4, 5 and 10 aloud.

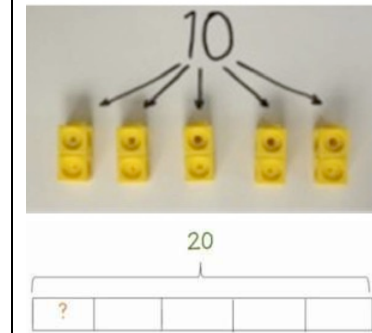
Children will understand that multiplication is commutative, the order of multiplication does not affect the answer, and will explore different methods to represent this, for example using arrays.

Children will start division by sharing concrete objects then move onto grouping objects.

Sharing:



Grouping:

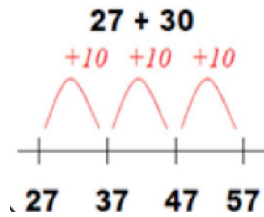


This is where children make equal groups.

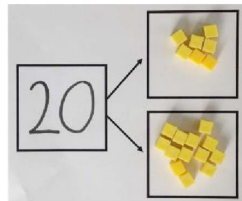
Children will use repeated subtraction, using concrete apparatus and number lines for support.

$15 = 5 - 5 - 5$

Children will represent adding a multiple of 10 to a 2-digit number on a range of number lines. Blank number lines and number lines in steps of one, fives and tens.



Children will explore make different numbers using the part, whole model.

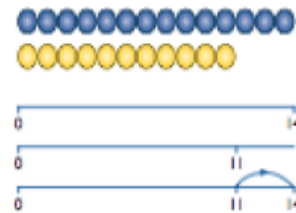


They will use this model to explore the concept of the inverse relationship of addition and subtraction and use this to check calculations.

$$\begin{array}{l} \boxed{20} \begin{cases} \boxed{} \\ \boxed{} \end{cases} \\ \boxed{} + \boxed{} = 20 \quad 20 - \boxed{} = \boxed{} \\ \boxed{} + \boxed{} = 20 \quad 20 - \boxed{} = \boxed{} \end{array}$$

Counting on

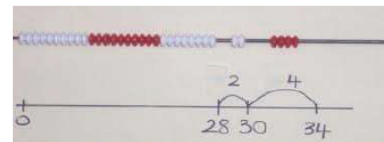
It is important that children experience finding the difference between two numbers by counting on.



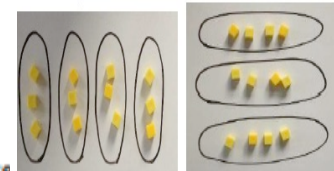
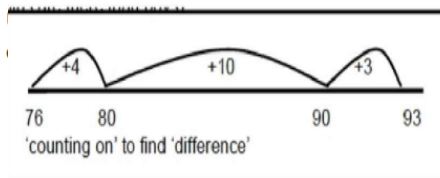
The difference between 11 and 14 is 3.
 $14 - 11 = 3$
 $11 + \square = 14$

It is important that difference is modelled using suitable equipment, such as two bead strings, or two Numicon plates. Children should experience finding the difference in a range of contexts including height e.g. growth of two seedlings.

Children will also explore counting on by using number lines.



$$34 - 28$$

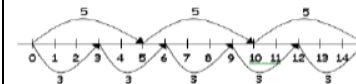


$$4 \times 3 = 12 \quad 3 \times 4 = 12$$



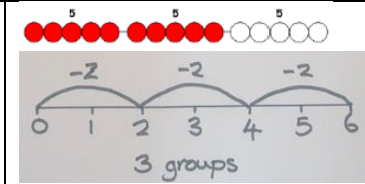
$$\begin{array}{l} 5 + 5 + 5 = 15 \\ 3 + 3 + 3 + 3 + 3 = 15 \\ 5 \times 3 = 15 \\ 3 \times 5 = 15 \end{array}$$

Children will be able to show it on a number line.



$$\begin{array}{l} 3 \times 5 = 15 \\ 5 \times 3 = 15 \end{array}$$

Pupils will explore all related facts families and will be able to write corresponding number sentences.



Children will link division to multiplication by creating arrays and thinking about the number sentences that can be created.

$$\text{Eg } 15 \div 3 = 5 \quad 5 \times 3 = 15$$

$$15 \div 5 = 3 \quad 3 \times 5 = 15$$

Children will be encouraged to use their knowledge of number fact families to build on their fluency.

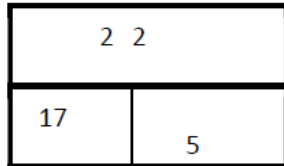
Children will also experience using the bar model to develop the related facts further.

$17 + 5 = 22$

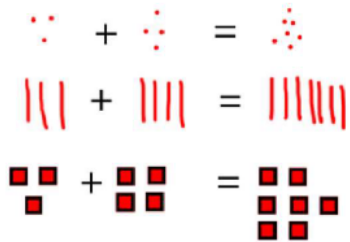
$5 + 17 = 22$

$22 - 17 = 5$

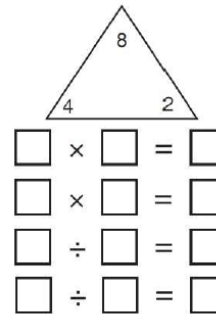
$22 - 5 = 17$



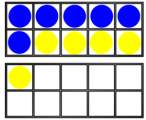
Children will use place value apparatus and draw picture representations of hundreds, tens and ones (H T O) to find the total of two amounts.



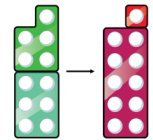
Children will continue to use the apparatus and



number lines to bridge to a multiple of 10 then add the remainder.

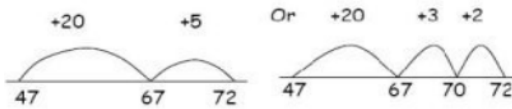


$$6 + 5 = 10 + 1$$



$$6 + 5 = 10 + 1$$

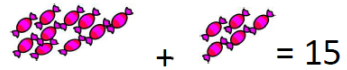
$$47 + 25 =$$



Children will explore adding three 1-digits numbers together by combining to make/bridge to 10 first.



Regroup and draw representation.



$$\begin{aligned} 4 + 7 + 6 &= 10 + 7 \\ 10 & \\ &= 17 \end{aligned}$$

