

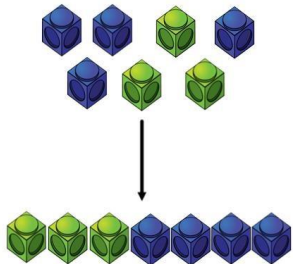
Calculation Policy adapted from White Rose Maths Hub Progression in Calculations – supported with a rich use of vocabulary and discussion throughout using ‘stem sentences’

## Calculation policy: Addition

Key language: sum, total, parts and wholes, plus, add, altogether, more, ‘is equal to’ ‘is the same as’.

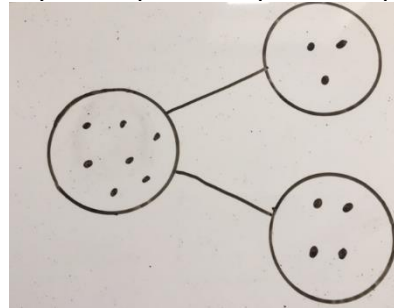
### Concrete/ Build it

Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars).



### Pictorial / Draw it

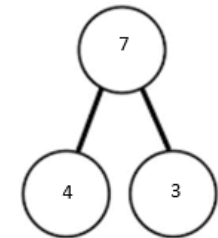
Children to represent the cubes using dots or crosses. They could put each part on a part whole model too.



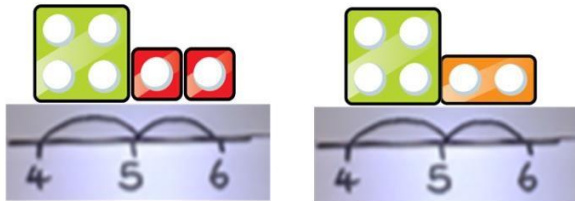
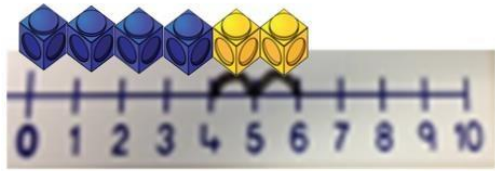
### Abstract/ Write it/ Say it

$$4 + 3 = 7$$

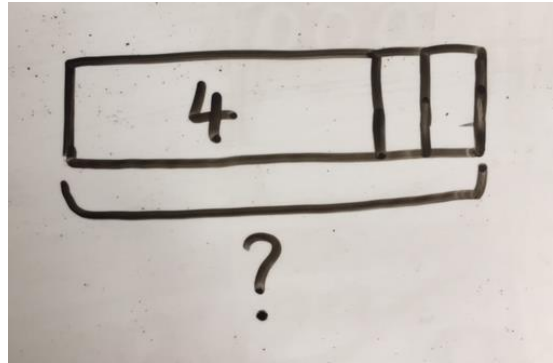
Say it: Four is a part, three is a part and seven is the whole.



Counting on using number lines using cubes or Numicon.



A bar model which encourages the children to count on, rather than count all.



The abstract number line:  $2 + 4 = 6$

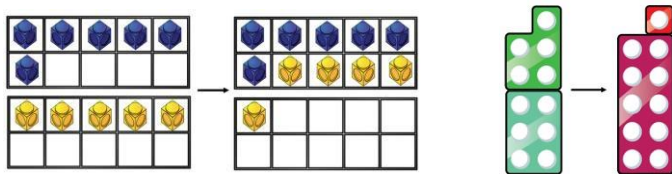
Say it: 2 more than 4 is 6

The sum of 2 and 4 is 6

The total of 4 and 2 is 6

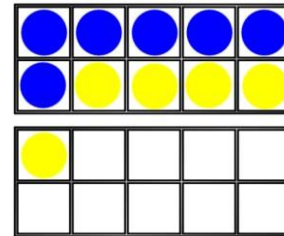


Regrouping to make 10; using ten frames and counters/cubes or using Numicon.



$$6 + 5$$

Children to draw the ten frame and counters/cubes.



Children to develop an understanding of equality e.g.

$$6 + \square = 11$$

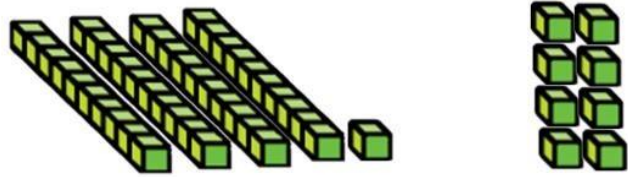
$$6 + 5 = 5 + \square$$

$$6 + 5 = \square + 4$$

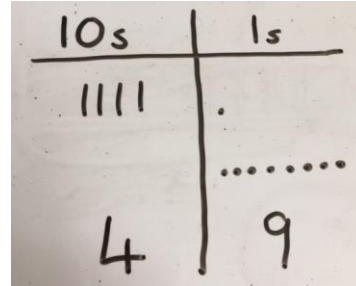
Say it: The equals sign balances the totals on each side.

TO + O using base 10. Continue to develop understanding of partitioning and place value.

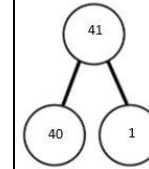
41 + 8



Children to represent the base 10 e.g. lines for tens and dot/crosses for ones.



41 + 8



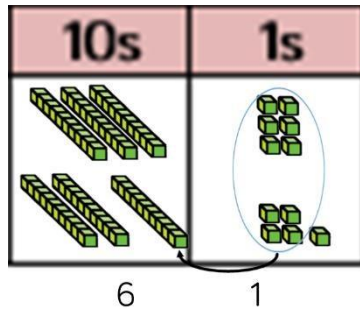
1 + 8 = 9  
40 + 9 = 49

	4	1
+		8
<hr/>		
	4	9

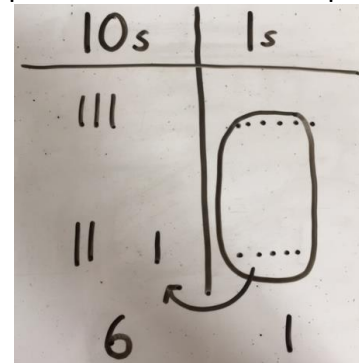
Say it: the ones total nine the tens total forty. I recombine to make forty nine.

TO + TO using base 10. Continue to develop understanding of partitioning and place value.

36 + 25



Children to represent the base 10 in a place value chart.



Looking for ways to make 10.

36 + 25 =

1      5

30 + 20 = 50  
5 + 5 = 10  
50 + 10 + 1 = 61

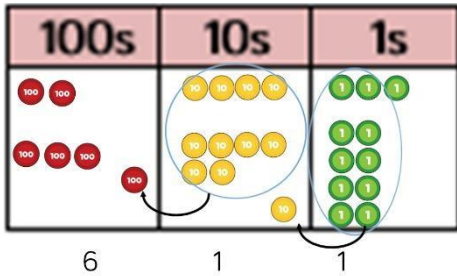
36

Formal method:

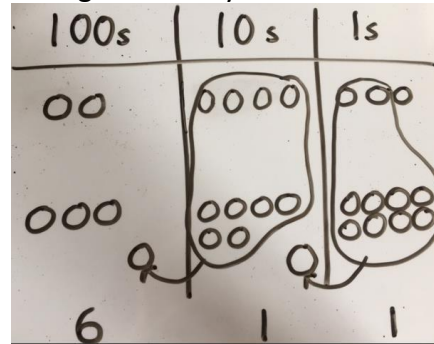
$$\begin{array}{r} +25 \\ 36 \\ \hline 61 \\ 1 \end{array}$$

Say it: I exchange 11 ones for 1 ten and 1 one

Use of place value counters to add HTO + TO, HTO + HTO etc. When there are 10 ones in the ones column we exchange for 10 ones. When there are 10 tens in the tens column we exchange for 1 hundred.



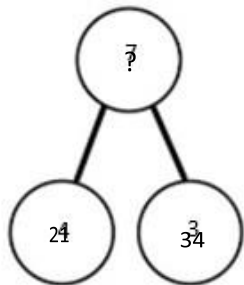
Children to represent the counters in a place value chart, circling when they make an exchange.



$$\begin{array}{r} 243 \\ +368 \\ \hline 611 \\ \hline 11 \end{array}$$

Say it: I exchange 11 ones for 1 ten and 1 one. I exchange 11 tens for 1 hundred and 1 ten.

## Conceptual variation; different ways to ask children to solve 21 + 34



?	
21	34

Word problems:  
In year 3, there are 21 children and in year 4, there are 34 children.  
How many children in total?

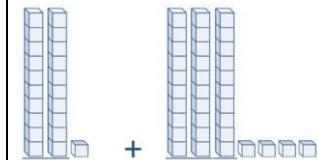
$$21 + 34 = 55. \text{ Prove it}$$

$$\begin{array}{r} 21 \\ +34 \\ \hline \end{array}$$

$$21 + 34 =$$

$$\boxed{\quad} = 21 + 34$$

Calculate the sum of twenty-one and thirty-four.



Missing digit problems:

10s	1s
10 10	1
10 10 10	?
?	5



