MENTAL ADDITION CALCULATIONS
The Raglan Junior School

Mental recall of number bonds
Number bonds are missing numbers in problems that all have the same sum

6 + 4 = 10 ☐ + 3 = 10
25 + 75 = 100 19 + ☐ = 20

Use near doubles
6 + 7 = double 6 + 1 = 13

Addition using partitioning and recombining
Partitioning is separating into component parts (e.g. tens and units) and recombining is adding the parts together again
34 + 45 = (30 + 40) + (4 + 5) = 79

Counting on or back in repeated steps of 1, 10, 100, 1000
86 + 57 = 143 (by counting on in tens and then in ones)
460 - 300 = 160 (by counting back in hundreds)

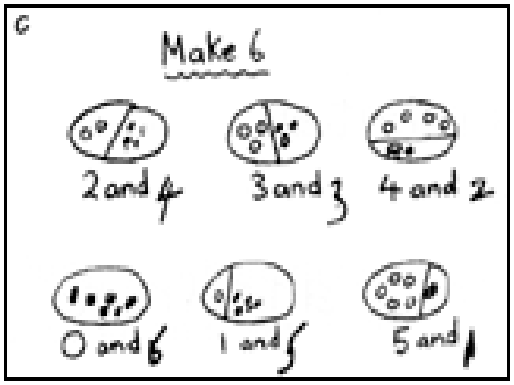
Add the nearest multiple of 10, 100 and 1000 and adjust
24 + 19 = 24 + 20 – 1 = 43
458 + 71 = 458 + 70 + 1 = 529

Use the relationship between addition and subtraction
This is known as the inverse relationship
36 + 19 = 55 19 + 36 = 55
55 – 19 = 36 55 – 36 = 19

At The Raglan Junior School, many mental calculation strategies will be used - they are not replaced by written methods.

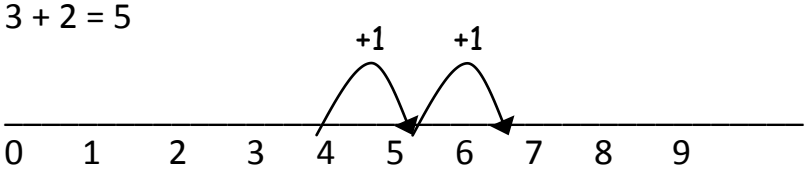
Early Stages - Up to Low Level 2

Children are encouraged to develop a mental picture of the number system in their heads to use for calculation. They develop ways of recording calculations using pictures, etc.



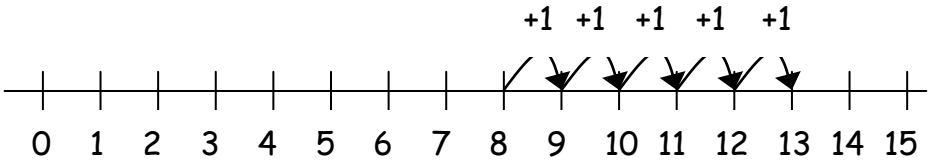
Children will use numberlines and practical resources to support calculation and teachers ***demonstrate*** the use of the numberline.

3 + 2 = 5

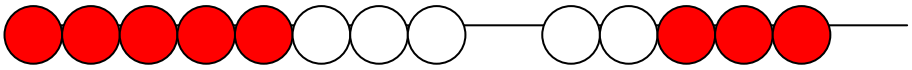


Children then begin to use numbered lines to support their own calculations using a numbered line to count on in ones.

8 + 5 = 13



Bead strings or bead bars can be used to illustrate addition including bridging through ten by counting on 2 then counting on 3.

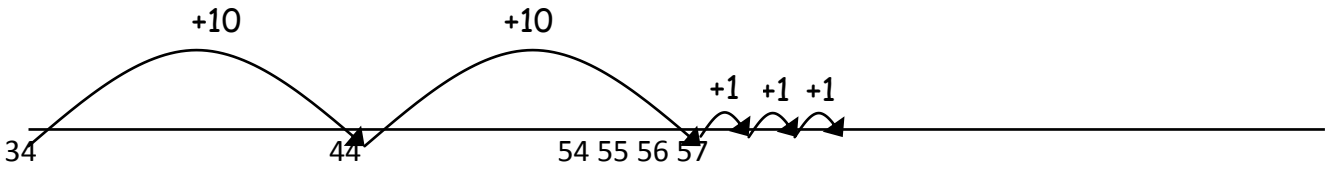


Later Phase - Secure L2 +

Children will begin to use 'empty number lines' themselves starting with the larger number and counting on.

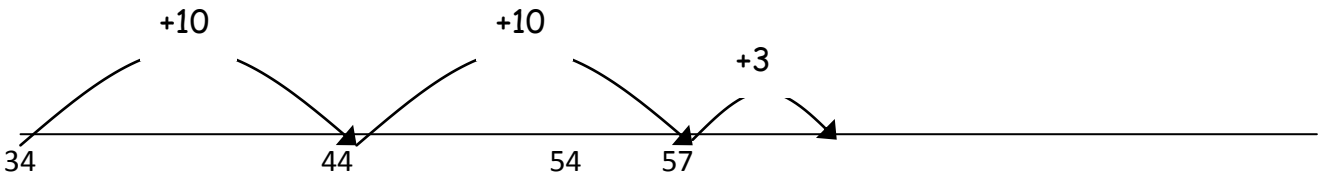
✓ First counting on in tens and ones.

34 + 23 = 57



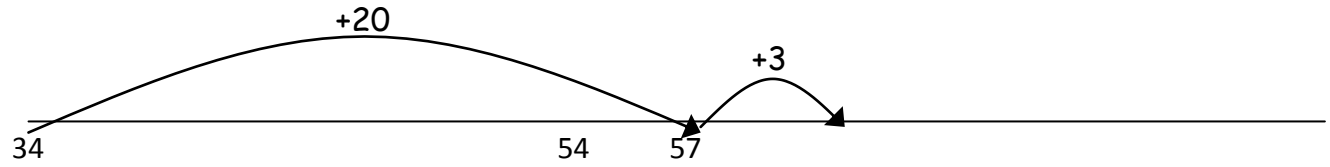
✓ Then helping children to become more efficient by adding the units in one jump (by using the known fact 4 + 3 = 7).

34 + 23 = 57



✓ Followed by adding the tens in one jump and the units in one jump.

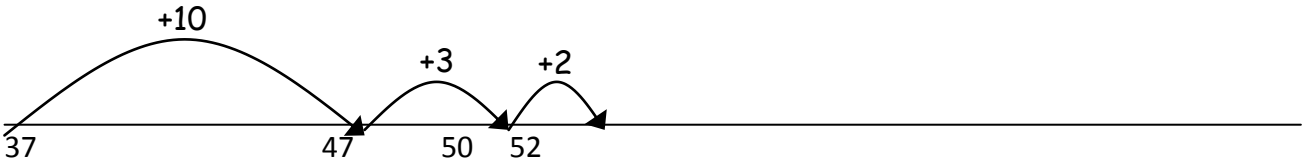
34 + 23 = 57



✓ Bridging through ten can help children become more efficient.

✓ Referring children to the classroom number line (or a ruler for smaller numbers) can help.

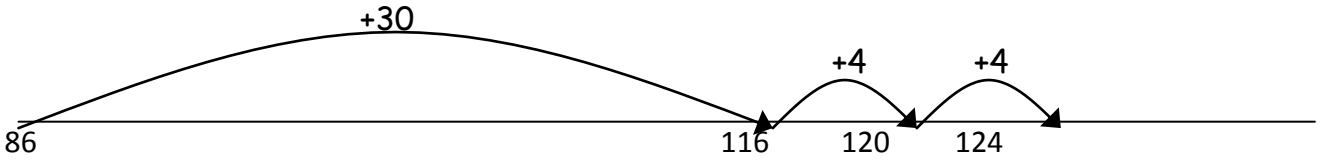
37 + 15 = 52



Children will continue to use empty number lines with increasingly large numbers, including compensation where appropriate.

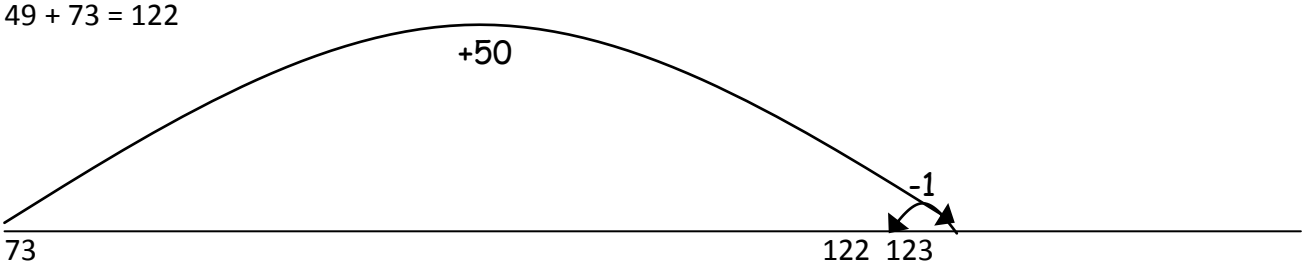
✓ Count on from the largest number irrespective of the order of the calculation.

38 + 86 = 124



✓ Compensation

49 + 73 = 122



Children will begin to use informal pencil and paper methods (jottings) to support, record and explain partial mental methods building on existing mental strategies.