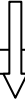
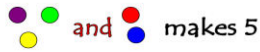


Addition

Stage 1

Understand addition as combining any number of groups. Find one more than a given sets of objects. Develop ways of recording calculations using pictures, etc

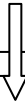
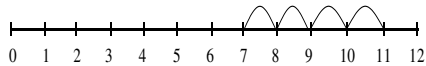
Begin to relate addition to combining two groups of objects



Stage 2

Using number lines to count on ones

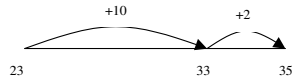
$$7 + 4 = 11$$



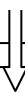
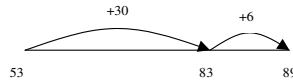
Stage 3

Partition into tens and ones and recombine

$$\begin{aligned} 23 + 12 &= 23 + 10 + 2 \\ &= 33 + 2 \\ &= 35 \end{aligned}$$



$$\begin{aligned} 53 + 36 &= 53 + 30 + 6 \\ &= 83 + 6 \\ &= 89 \end{aligned}$$

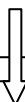


Stage 4

$$\begin{array}{r} 47 \\ +76 \\ \hline 110+13 = 123 \end{array}$$

Progress to:

$$\begin{array}{r} 47 \\ +76 \\ \hline 110 \\ +13 \\ \hline 123 \end{array}$$



Stage 5

Formal method, showing numbers carried underneath

$$\begin{array}{r} 358 \\ + 73 \\ \hline 431 \\ \hline 11 \end{array}$$

Extended to numbers with any number of digits and decimals with 1 and 2 decimal places.

Subtraction

Stage 1

Understand subtraction as 'taking away' from a set and counting back and develop ways of recording calculations using pictures etc

Begin to relate subtraction to 'taking away'

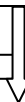


Three teddies take away two teddies leaves one teddy

Begin to use the - and = signs to record mental calculations in a number sentence

Marta had six sweets and she ate four. How many did she have left?

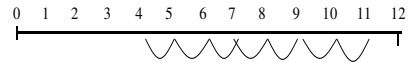
$$6 - 4 = 2$$



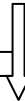
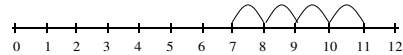
Stage 2

Using number lines to count back in ones.

$$11 - 7 = 4$$



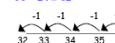
Counting on, using a number line, to find the difference between 7 and 11.



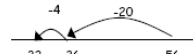
Stage 3

Use the numberline to subtract by using the 'COUNT BACK' method

$$56 - 24 = 32$$

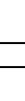
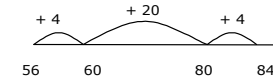


Then subtract tens and units in single jumps



Complementary addition (counting up from the smaller number to the larger number)

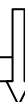
$$84 - 56 = 28$$



Stage 4

Expanded layout, leading to column method

$$\begin{array}{r} 70+4 \\ -20+7 \\ \hline 40+7 \end{array} \quad \begin{array}{r} 60 \quad 14 \\ 70+4 \\ -20+7 \\ \hline 40+7 \end{array} \quad \begin{array}{r} 6 \quad 14 \\ 7 \quad 4 \\ -2 \quad 7 \\ \hline 4 \quad 7 \end{array}$$



Stage 5

Decomposition

$$\begin{array}{r} 46.13 \\ -27.8 \\ \hline 18.33 \end{array}$$

Progress to using decomposition with decimals