

## BREAKING INTO PLACE VALUE (SPLIT)

1

### EXAMPLE

Each part of the number is broken into **expanded-notation** form and similar place-value amounts are combined.

$$\begin{aligned} 116 + 118 \\ (100+10+6) + (100+10+8) \\ 100 + 100 = 200 \\ 10 + 10 = 20 \\ 6 + 8 = 14 \\ 200 + 20 + 14 = 234 \end{aligned}$$

## COMMON STRATEGIES FOR ADDITION

## MAKING LANDMARK OR FRIENDLY NUMBERS

2

### EXAMPLE

Numbers that are easy to use in mental computation such as multiples of 10, 100, 1000 and so on are **Landmark or Friendly Numbers**. Sometimes learners also use 25 and 50 as Landmark Nos.

Learners may adjust one or all parts of the sum to make a friendly number.

$$\begin{aligned} 68 + 14 \\ 68 + 2 \rightarrow 70 \text{ (Landmark)} \\ 70 + 14 = 84 \\ 84 - 2 = 82 \\ \text{(Adjust for the 2 that was added)} \end{aligned}$$

## COMMON STRATEGIES FOR ADDITION

## DOUBLES / NEAR DOUBLES

3

### EXAMPLE

Very early on, children are able to recall answers for many **doubles**. This strategy capitalises on this strength by adjusting one or both numbers to make doubles or a near-doubles combination.

$$\begin{aligned} 25 + 27 \\ 25 + 25 \text{ (double 25)} = 50 \\ \text{Add the 2 from the 27} \\ 50 + 2 = 52 \end{aligned}$$

## COMMON STRATEGIES FOR ADDITION

## MAKING TENS

4

### EXAMPLE

Once learners are fluent with number combinations that make 10, they should be able to **break numbers apart quickly to make 10**. This strategy focuses on the fact that it is easier to add 10s or multiples of 10.

$$\begin{aligned} 26 + 12 + 4 + 18 \\ \begin{array}{cc} \swarrow & \searrow & \swarrow & \searrow \\ 20 + 6 & & 10 + 8 & \end{array} \\ 20 + 6 + 12 + 4 + 10 + 8 \\ \begin{array}{cc} \text{---}10\text{---} & \text{---}20\text{---} \\ 6 + 4 = 10 & 12 + 8 = 20 \end{array} \\ 20 + 10 + 20 + 10 = 50 \end{aligned}$$

## COMMON STRATEGIES FOR ADDITION

## COMPENSATION

5

### EXAMPLE

The goal of compensation is to manipulate the numbers into **easier, friendlier numbers to add**. The difference to other strategies is that you remove a specific amount from one number and give that amount to the other number. This strategy normally revolves around rounding a number to its nearest multiple of 10 or to align one number with a doubles fact.

$$\begin{aligned} 78 + 27 \\ \text{Round 78 to nearest multiple of 10} \rightarrow 80 \\ \text{Subtract 2 from 27} \rightarrow 25 \\ 80 + 25 = 105 \end{aligned}$$

## ADDING UP

**Add up** from the subtrahend (the number being subtracted) to the minuend (whole). If learners understand that subtraction is finding a difference between 2 quantities, they realise they can add up to work out the difference.

Rather than adding up in ones, encourage learners to add up in jumps to get to the nearest friendly number. The larger the jumps the more efficient the strategy



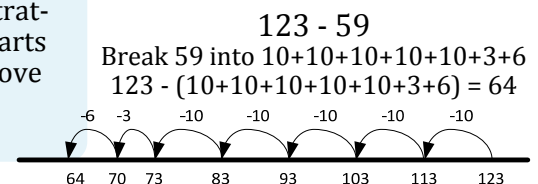
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EXAMPLE  
AN EMPTY NUMBER  
LINE IS A USEFUL TOOL

$$123 - 59$$

## REMOVAL OR COUNTING BACK

If learners understand subtraction as '**taking away**' they may use this strategy. Starting with the whole (minuend), the subtrahend is removed in parts that are easy to navigate. The ability to break numbers into easy to remove parts is key to using this strategy.



2

EXAMPLE  
AN EMPTY NUMBER  
LINE IS A USEFUL TOOL

$$123 - 59$$

Break 59 into  $10+10+10+10+10+3+6$   
 $123 - (10+10+10+10+10+3+6) = 64$

## KEEPING A CONSTANT DIFFERENCE

As learners understand that subtraction is finding a **difference** between 2 quantities, they investigate what happens when both numbers are changed by the **same amount**. Allow learners to investigate this with smaller numbers to build their understanding. Adding and subtracting the same quantity from both the subtrahend and the minuend maintains the same difference between the 2 numbers. Deciding on the amount to + or - is a big decision.

3

EXAMPLE

$$123 - 59$$

Add 1 to each side to make 59 a more friendly number  
 $124 + 60 \rightarrow 64$

## ADJUSTING ONE NUMBER TO MAKE AN EASIER PROBLEM

4

EXAMPLE

$$50 - 24$$

Adjust the 24  $\rightarrow$  25 by adding 1.

$$50 - 25 = 25$$

Now adjust, because have taken away one too many.

$$25 + 1 = 26$$