



# Steps to Success - Addition



## Step 1 - Early Learning

**Understanding of addition** by combining 2 sets and counting on.

$$2+3= \square$$

At a party, I eat 2 cakes and my friend eats 3. How many cakes did we eat altogether?



$$8+4= \square$$

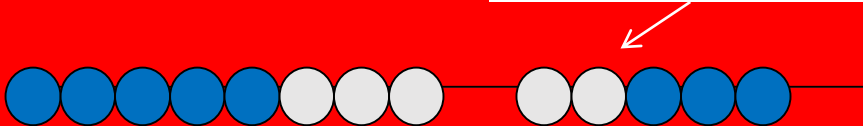
8 people are on the bus. 4 more get on at the next stop. How many people are on the bus now?



or



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



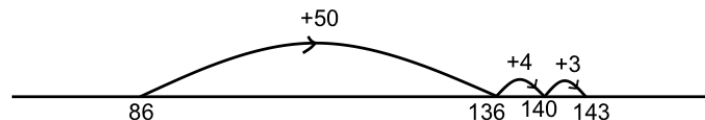
## Step 2 - Informal Written Methods

**Counting on** in multiples of 10 with a number line.

**TO TO**

$$86 + 57$$

Start at 86 (the larger number) on the number line. **Partition** the smaller number into tens and ones. Count on the multiples of 10 first and then the ones.

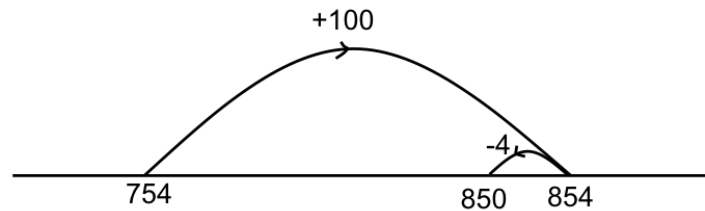


**Compensation** - using a number line to add too much and then subtracting

**HTO TO**

$$754 + 96$$

Start with the larger number 754. Add on 100 and then subtract 4.



# Steps to Success - Addition

## Step 3

### Beginning formal written methods

Expanded method moving on from adding the most significant digits first to adding least significant digits first.

**HTO + HTO**  
625 + 148

Add *most significant digits* first:  
(in this example, **hundreds**)

$$\begin{array}{r} 625 \\ + 148 \\ \hline 700 \\ 60 \\ 13 \\ \hline 773 \end{array}$$

600 + 100  
20 + 40  
5 + 8

Add the least significant digit first – (in this example Ones)

$$\begin{array}{r} 625 \\ + 148 \\ \hline 13 \\ 60 \\ 700 \\ \hline 773 \end{array}$$

5 + 8  
20 + 40  
600 + 100

Mentally add  
700 + 60 + 13 = 773

625 + 148 = 773

### ADDITION

**HTO + T0**  
625 + 148

Why switch to adding the units (*least significant digits*) first?

Expanded method: moving on from adding the *most significant digits* first to adding *least significant digits* first

I know that I can add numbers in any order and the total will be the same. My teacher has told me that I need to practise adding the units first. The next method I will learn works this way. I must remember to line the numbers up in the correct columns.



## Step 4

### Using formal written methods

### Columnar addition

**HTO + HTO**  
587 + 475

$$\begin{array}{r} 587 \\ + 475 \\ \hline 1062 \\ 11 \end{array}$$

7 + 5 = 12  
Place the 2 in the units column and carry the 10 forward to the tens column.

80 + 70 = 150 then + 10 (carried forward) which totals 160.  
Place 60 in the tens column and carry the 100 forward to the hundreds column.

500 + 400 = 900 then + 100 which totals 1000. Place this in the thousands column.

587 + 475 = 1062

### ADDITION

Using a standard method

**HTO + HTO**  
587 + 475

Why do you say 80 + 70 instead of 8 + 7?

I need to remember the value of each digit, so I know the size of the numbers I am adding and whether my answer makes sense.

