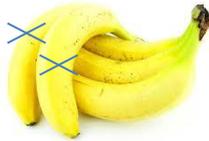


## Subtraction

To begin with, children count backwards by 1

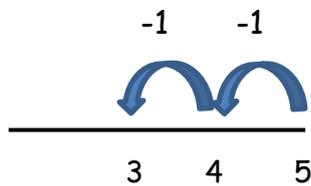
Example

I had 5 bananas but my brother ate 2 bananas. How many bananas are left?



3, 4 5

On a number line it looks like this



This works well until children start to learn bigger numbers and have to solve subtraction problems with bigger numbers

Example

I had 98 cherries but my friends ate 35 of them. How many cherries are left?



To count backwards by 1s is a very inefficient strategy!

So children begin to solve subtraction problems by using their knowledge of:

- place value
- friends of 10
- partitioning
- compensation

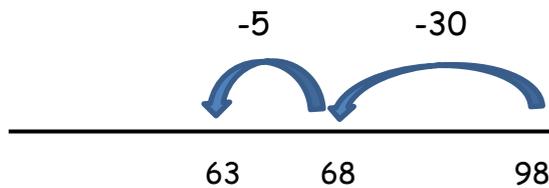
## Place Value and Partitioning

### Example

I had 98 cherries but my friends ate 35 of them. How many cherries are left?



On a number line it looks like this



$$98 - 35 =$$

30+5

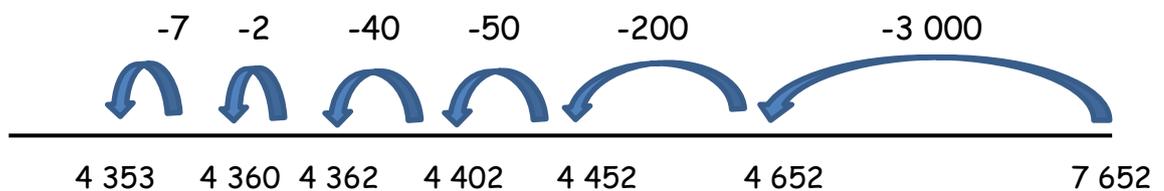
$$98 - 35 = 63$$

### Example

Our school had 7 652 tennis balls but we gave 3 299 to another school. How many tennis balls did we have left?



On a number line it looks like this



$$7\ 652 - 3\ 299 = 4\ 353$$

3 000+200+50+40+7+2

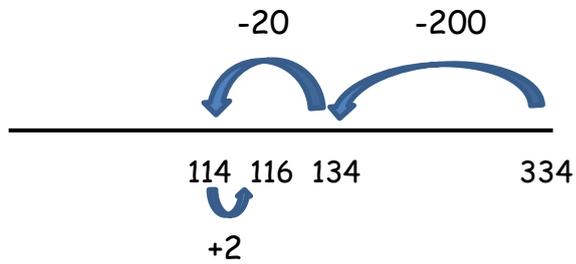


Example (using compensation)

Our school had 334 tennis balls but we gave 218 to another school. How many tennis balls did we have left?



On a number line it looks like this



Using the algorithm (parents know this as the 'borrow & pay back' method)

*What you do to the top number you must do to the bottom number*

Example

65 -        *5 ones minus 9 ones can't be done*

39

Add 10 to 5 to make it 15, so it becomes 15 ones minus 9 ones which is **6 ones**

$$\begin{array}{r} 15 \\ 65 - \\ \underline{39} \\ \underline{6} \end{array}$$

Add 10 to 39 in the tens column so it becomes 49

$$\begin{array}{r} 1 \\ 65 - \\ 4 \\ \underline{39} \\ \underline{6} \end{array}$$

$$\begin{array}{r} 1 \\ 65 - \quad \textit{6 tens minus 4 tens can be done - it is 2 tens} \\ 4 \\ \underline{39} \\ \underline{26} \end{array}$$

The answer is 26

**Using the algorithm (decomposition method)**

Example

722 -        *2 ones minus 7 ones can't be done*

537

Take 10 from the 2 tens to make 12 ones so 12 ones minus 7 ones is **5 ones**

$$\begin{array}{r} 12 \\ 722 - \\ \underline{537} \\ \underline{\phantom{0}5} \end{array}$$

Now you only have 1 ten in the tens column

$$\begin{array}{r} 12 \\ 712 - \qquad \qquad \qquad \textit{1 ten minus 3 tens can't be done} \\ \underline{537} \\ \underline{\phantom{0}5} \end{array}$$

Add 10 tens (1 hundred) to the 1 ten so it becomes 11 tens minus 3 tens which is **8 tens**

$$\begin{array}{r} 11 \\ 712 - \\ \underline{537} \\ \underline{\phantom{0}85} \end{array}$$

Now you only have 6 hundreds

11

612 -

537

85

6 hundreds minus 5 hundreds can be done - and it is **1 hundred**

612 -

*The answer is 185*

537

185