

KS2 Subtraction

In Key Stage Two, the fundamentals of place value are established by the end of year 2. So by the end of year 3, children practise and become fluent with columnar addition. This method is consolidated throughout KS2 and children become efficient with adding increasingly larger numbers. Pupils are also expected to now become fluent with the recall of single digit addition facts, allowing the individual calculations in each step to be quickly solved. In Year 4 children are introduced to decimals and connect this with their understanding of place value. As they move into upper KS2, they will begin to include decimal points in the columnar addition method in order to add numbers with up to 3 decimal places.

Concrete



Place value counters to represent the value of each digit.



Base 10 for columnar addition.

Ones	Tenths	Hundredths
1 1 1	0.1 0.1 0.1	0.01 0.01 0.01
1 1 1	0.1 0.1 0.1	0.01 0.01 0.01
	0.1 0.1 0.1	0.01 0.01

Place value counters to represent decimals.

H	T	O
+		
		2

Base 10 to support formal subtraction

Pictorial



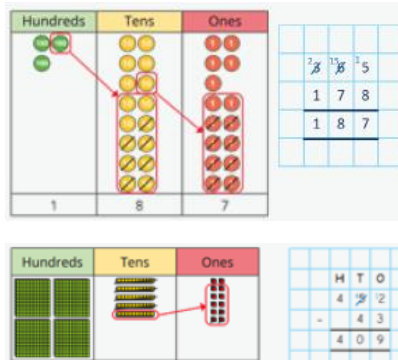
Number lines drawn in books.

4,604
2,354 750 ?

Bar models drawn in books.

$$\begin{array}{r} 47 \\ - 23 \\ \hline \end{array} \quad \begin{array}{r} 40 + 7 \\ - 20 + 3 \\ \hline 20 + 4 = 24 \end{array}$$

Subtraction as the expanded method.



Subtraction with dienes and counters drawn in books.

Abstract

$$\begin{array}{r} 3 \text{ } 1 \\ 45 \\ - 17 \\ \hline 28 \end{array}$$

Subtracting increasingly larger numbers using efficient methods. Exchange is noted by striking through. Carry digits below the equals.

$$\begin{array}{l} 235 - 3 = \\ 235 - 30 = \\ 235 - 300 = \end{array} \quad \begin{array}{l} 118 - \square = 111 \\ 181 - \square = 111 \\ 811 - \square = 111 \end{array}$$

Recognise known facts and apply this knowledge to solve other calculations

	8	1		8	5
+			0	6	
	9	9	5		8

Solve missing number calculations

Key language

I notice that, I can see that...

4 ones and 7 ones is equal to 11 ones. I need to exchange with for one ten and one one.

Fifteen more than two hundred is two hundred and fifteen.

I know that $3 \times 5 = 15$. So $30 \times 5 = 150$. And $300 \times 5 = 1500$.

To begin with, emphasise the place value of digits, particularly when adding using columnar addition.

When children are confident with this, allow children to use just the digit names only.