

Key Vocabulary

Addition

Subtraction

Add

Total

Make

Plus

Sum

More

Altogether

Difference

Subtract

Less

Minus

Take away

Column addition

Column subtraction

Estimate

Inverse operation

Number facts

Place value

rename/renaming

Place Value Grid: $3274 + 5601 = 8875$

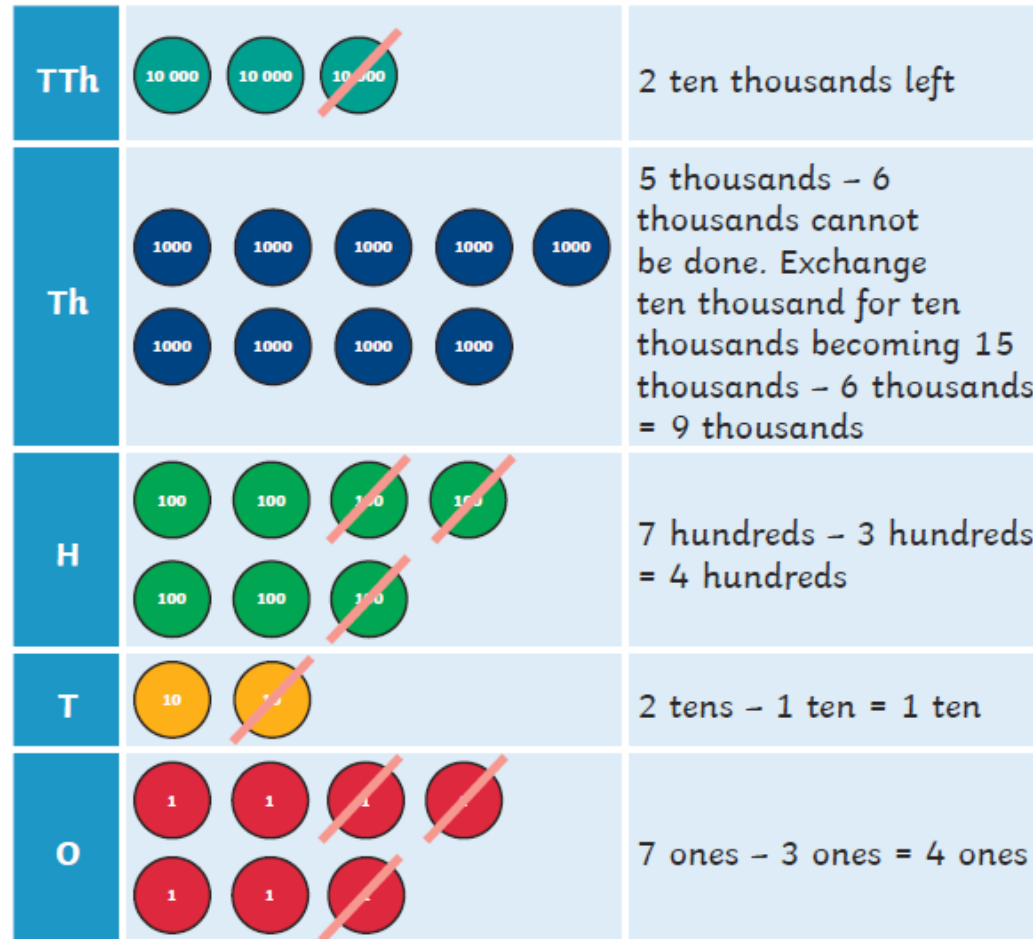


Column Method

Starting with the ones, add each column in turn. Regroup tens, hundreds, thousands, ten thousands and/or as required.

$$\begin{array}{r}
 \overset{1}{4} \overset{1}{5} \overset{1}{8} 6 4 \\
 + 2 3 4 9 7 \\
 \hline
 6 9 3 6 1
 \end{array}$$

Place Value Grid: $35\,727 - 6\,313 = 29\,414$



2 ten thousands left

5 thousands – 6 thousands cannot be done. Exchange ten thousand for ten thousands becoming 15 thousands – 6 thousands = 9 thousands

7 hundreds – 3 hundreds = 4 hundreds

2 tens – 1 ten = 1 ten

7 ones – 3 ones = 4 ones

Column Method

Starting with the ones, subtract each column in turn. Exchange tens, hundreds, thousands and/or ten thousands as required.

$$\begin{array}{r}
 \overset{6}{3} \overset{13}{5} \overset{1}{7} 4 2 \\
 - 6 3 1 3 \\
 \hline
 29 414
 \end{array}$$

Estimate and Approximate

Rounding to Estimate

$$41\ 635 + 7386 = 49\ 021$$

Round to ten:

$$41\ 630 + 7380 = 49\ 010$$

$$41\ 630 + 7390 = 49\ 020$$

$$41\ 640 + 7390 = 49\ 030$$

Rounding is not as accurate when both numbers are rounded up. A better estimate comes from "rounding" one down and one up.

Estimating on a Number Line



The arrow is about $\frac{3}{4}$ of the way across the line so it is 40 000.



Inverse Operations

Use the inverse to check:

53 476

32 732

20 744

To check $53\ 476 - 32\ 732 = 20\ 744$
use $32\ 732 + 20\ 744 = 53\ 476$

Start with a number, subtract 409 and double. I end with 6264. To find the starting number use the inverse: halve, then add 409. Half of 6264 = 3132. $3132 + 409 = 3541$. The starting number was 3541.

Multistep Problems

Using a Bar Model

The sum of two numbers is 25 567.

The difference is 1875.



Subtract 1875 from 25 567 = 23 692.

Halve 23 692 to find smaller number = 11 846.

Add 1875 to find larger number = 13 721.

£20			£20 is used to buy 2 books costing £3.75 and £8.49.
£3.75	£8.49	?	
£12.24		£7.76	How much change is given?

$$£3.75 + £8.49 = £12.24$$

$$£20.00 - £12.24 = £7.76$$