Maths Knowledge Organiser—Year 4

Addition and Subtraction

Key Vocabulary:

Add

Altogether

Subtract

Take away

Equals

Total

Part

Whole

Exchange

Estimate

Inverse operation

Place value

Column method

Key Knowledge:

Addition and Subtraction Methods

Add 4-digit numbers

No exchange

$$\begin{array}{r} 5162 \\ +3427 \\ \hline 8589 \end{array}$$

Starting with the ones, add each column in turn.

One exchange

$$\begin{array}{r} 5162 \\ +3497 \\ \hline 8659 \\ \hline 1 \end{array}$$

Starting with the ones, add each column in turn. When adding 6 tens + 9 tens = 15 tens = 1 hundred + 5 tens

Place 1 hundred under the hundreds answer and 5 tens in the answer.

Multiple exchanges

$$\begin{array}{r} 5864 \\ +3497 \\ \hline 9361 \\ \hline 1\,1\,1 \end{array}$$

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

Subtract 4-digit numbers

No exchange

$$\begin{array}{r} 5789 \\ -\,3421 \\ \hline 2368 \end{array}$$

Starting with the ones, subtract each column in turn.

One exchange

$$\begin{array}{r} {\scriptstyle 6\ 1} \\ 5\not{7}49 \\ -\,3471 \\ \hline 2278 \end{array}$$

Starting with the ones, subtract each column in turn. When subtracting 4 tens -7 tens, exchange 1 hundred to make:

14 tens – 7 tens = 7 tens

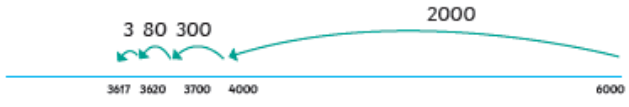
Multiple exchanges

$$\begin{array}{r} {\scriptstyle 6\,13\,1} \\ 5\not{7}\not{4}2 \\ -\,3476 \\ \hline 2266 \end{array}$$

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

Efficient subtraction

Calculate 6000 – 3617 = 2383



Round to Estimate

1635 + 386 = 2021

Round to the nearest ten

1640 + 390 = 2030

Round to the nearest hundred

1600 + 400 = 2000

Both give a reasonable estimate, but rounding the nearest ten is more accurate.

9362 – 5729 = 3622

Round to the nearest hundred

9400 – 5700 = 3700

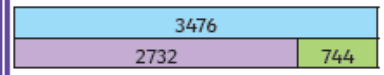
Round to the nearest thousand

9000 – 6000 = 3000

Rounding to the nearest hundred is much more accurate in this case.

Checking Strategies

Using Inverse



3476 – 744 = 2732 can be checked using 2732 + 744 = 3476

This part whole shows the inverse calculations using these three numbers.

1549 + 2688 = 4237	2688 + 1549 = 4237
4237 – 1549 = 2688	4237 – 2688 = 1549

Adding in a different order

420 + 372 + 280 =

Change to

420 + 280 + 372 =

As 420 + 280 = 700

(because 42 + 28 = 70)

420 + 280 + 372 = 700 + 372 = 1072