



# Knowledge Organiser



## Number

### Year 4

### Addition and Subtraction

In Year 4, we move on to adding and subtracting 4-digit numbers. As the numbers get larger, we must make sure we are using suitable strategies to check our answers. We can then apply these methods to solve 2-step problems (problems where we need to do two calculations).

#### Builds from Year 3:

Column addition and subtraction.  
Use the inverse operation.

#### This year:

Add and subtract numbers with up to 4 digits.  
Estimate and use the inverse to check.  
Two-step problems involving addition and subtraction.

#### Leads to Year 5:

Develop mental addition and subtraction strategies.  
Use column addition and subtraction with decimals  
Multi-step problems involving addition and subtraction.

### 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

$$\begin{array}{r} 5864 \\ +3497 \\ \hline 9361 \\ \hline 111 \end{array}$$

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

$$\begin{array}{r} 61 \\ 5749 \\ -3471 \\ \hline 2278 \end{array}$$

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

$$14 \text{ tens} - 7 \text{ tens} = 7 \text{ tens}$$

Multiple exchanges

$$\begin{array}{r} 6131 \\ 5742 \\ -3476 \\ \hline 2266 \end{array}$$

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

### Estimate Answers

$$9362 - 5729 = 3622$$

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	
2732	744

$$3476 - 744 = 2732 \text{ can be checked using}$$

$$2732 + 744 = 3476$$

#### Adding in a different order

$$420 + 372 + 280 =$$

#### Change to

$$420 + 280 + 372 =$$

$$\text{As } 420 + 280 = 700$$

$$(\text{because } 42 + 28 = 70)$$

$$420 + 280 + 372 = 700 + 372 = 1072$$

### Key Vocabulary

column addition column subtraction add total make plus sum more altogether subtract less minus difference take away inverse operation exchange place value estimate two-step problems