Key Terms and questions

Addition add   total   plus   sum   more   altogether   increase   double   near double

Subtraction difference   subtract   less   minus   take away

How many more to make..?   How much more?   How many more?   How many fewer?

addend + addend= sum   **minuend- subtrahend = difference**

Formal Methods

Column addition and subtraction

Add 4-digit numbers

No exchange

```
  5162
+ 3427
------
  8589
```

Starting with the ones, add each column in turn.

One exchange

```
  5162
+ 3497
------
  8659
  1
```

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

```
  5864
+ 3497
------
  9361
  111
```

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

Subtract 4-digit numbers

No exchange

```
  5789
- 3421
------
  2368
```

Starting with the ones, subtract each column in turn.

One exchange

```
   6 1
  5̶7̶49
- 3471
------
  2278
```

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

```
  6 13 1
  5̶7̶4̶2
- 3476
------
  2266
```

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

Vocabulary

Term	Definition
addition +	Bringing two or more numbers (or things) together to make a new total/ sum.
subtraction -	Taking one number away from another.
mental/ mentally	Calculating in your head.
column method	Addition and subtraction by writing one number below the other and then adding/ subtracting one column at a time
estimate	To find a value that is close enough to the right answer, usually with some thought or calculation involved.
inverse	Inverse means the opposite in effect. The reverse of. The Inverse of Adding is Subtracting
commutative	Numbers can be added in any order.
addend	A number that is added to a number.
minuend	A number from which a another is subtracted.
subtrahend	A number subtracted from another.

Adding and subtracting with decimals

$$
\begin{array}{r}
£\ 2\ 3\ .\ 5\ 9 \\
+\ £\ \ \ \ 7\ .\ 5\ 5 \\
\hline
£\ 3\ 1\ .\ 1\ 4 \\
\ \ \ \ \ \ 1\ \ \ 1\ \ \ \ \ 1
\end{array}
$$

$$
\begin{array}{r}
31.80 \\
+\ 00.45 \\
\hline
32 \cdot 25
\end{array}
$$

$$
\begin{array}{r}
76.3 \\
-\ 34.1 \\
\hline
42.2
\end{array}
$$

£10	£1	.	10p	1p
^{5}6	^{1}4	.	^{7}8	^{1}1
− 2	5	.	6	2
£ 3	9	.	1	9

Using rounding 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.
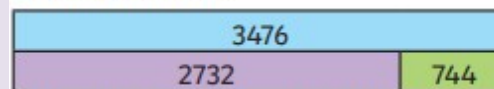
9362 − 5729 = 3622

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.

Use the inverse to check your answer

3476	
2732	744

3476 − 744 = 2732 can be checked using

2732 + 744 = 3476

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

4237
1549 2688

1549 + 2688 = 4237	2688 + 1549 = 4237
4237 − 1549 = 2688	4237 − 2688 = 1549

Commutative and Associative

Commutative
342 + 187 is equal to 187 + 342

Associative
Addition can be done in any order
46 + 39 + 14 = 46 + 14 + 39

Addition

8 + 9 = 17

addend + addend = sum

Subtraction

17 − 9 = 8

minuend – subtrahend = difference