Addition and Subtraction

Knowledge Organiser

Key Vocabulary

Add
Total
Plus
Sum
More
Altogether
Difference
Subtract
Less
Minus
Take away
Mentally, Orally
Column Addition
Column Subtraction
Exchange
Estimate
Inverse operation
Solve problems
Number facts

Addition and Subtraction Methods

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
  11 1
```

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
  5749
- 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
  5742
- 3476
------
  2266
```

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

Efficient subtraction

Calculate 6000 − 3617 = 2383

−2   −80   −300   −2000

3617 3620 3700   4000   6000

Addition and Subtraction — Knowledge Organiser

Add and Subtract 1s, 10s, 100s, 1000s

Here is the number 3124

(1000) (100) (10) (1) (1)
(1000) (1000) (10) (1) (1)
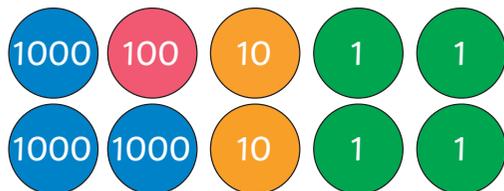
Add 2 thousands = 5124
Add 5 hundreds = 5624
Subtract 2 tens = 5604
Add 5 ones = 5609

Here is the number 6708

Thousands	Hundreds	Tens	Ones
6	7	0	8

Add 3 thousands = 9708
Subtract 4 hundreds = 9308
Add 5 tens = 9358
Subtract 7 ones = 9351

Crossing ones, tens or hundreds

5**3**92 + **4** tens = 5**43**2   crossing tens

51**2**6 − **6**00 = **45**26   crossing hundreds

When crossing ones, tens or hundreds, more than one digit will change.

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.

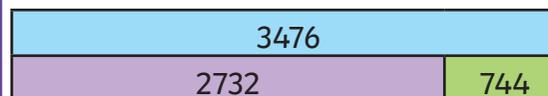9362 − 5729 = 3622
Round to the nearest hundred
9400 − 5700 = 3700
Round to the nearest thousand
9000 − 6000 = 3000

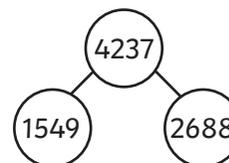Rounding to the nearest hundred is much more accurate in this case.

Checking Strategies

Using Inverse

3476	
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

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