Be fluent - estimate, round and adjust then check

Look at the value of the numbers – *Can I calculate mentally or do I need a written method?*

3689 + 4998   3689 + 5000

3682 – 2996   3686 – 3000
Adjust both numbers to simplify the calculation

Estimate   25,034 – 7,185
is approx.   25,000 – 7,000

Check answers in different ways
check 8.3 + 1.9   by adding in a different order
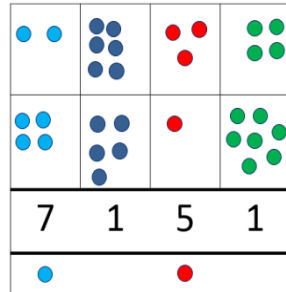8.3 + 2 – 0.1
or
8.3 + 0.7 + 1.2

Written methods for addition
Once pupils are secure with using the expanded method to add numbers, they will focus on the compact method using larger numbers and decimal numbers also.

2634
+4517
7151

```
  2 5, 0 6 3
+    7, 4 5 9
  3 2, 5 2 2
    1     1 1
```

```
  £ 1 7 2 . 8 3
+ £    5 4 . 6 8
  £ 2 2 7 . 5 1
     1    1 1
```

Multi-step problems
I am thinking of a number. I double it and then subtract 6. My answer is 8. What was my number?

Year 5 Addition and Subtraction

Real life Problems
Katie was given this calculation 47326 – 1900 = How can she solve it mentally?

Understand the inverse relationship between addition and subtraction.

Addition is *commutative* (order doesn't matter) but subtraction is not commutative (order affects the calculation)

Continue to use knowledge of addition facts and place value to derive related facts with numbers to one decimal place
1.2 plus 0.7   0.3 more than 1.7

Know complements to 1
0.78 + □ = 1   1 - 0.52 = □

Recall pairs of three-digit numbers with a total of 1000
456 + □ = 1000   1000 = □ + 825

and derive associated subtraction facts
1000 - 453 = □   1000 - 239 = □
1000 – 712 = □

Continue to solve missing number problems
6.5 + □ = 10.7   □ = 8.4 + 3.7
7.3 + 2.9 = 9.9 + □   5.2 < □ - 0.9

Written methods for subtraction
Once pupils are secure with using the expanded method to subtract, they will focus on the compact method using larger numbers and decimal numbers also.

Th   H   T   O

```
1000  200 300  1 60   7        1 3 1 6 7
-         100  80    5        -   1 8 5
1000   100   80      2 = 1182   1 1 8 2
```

```
      £10  £1  .  10p  1p
       5 6  1 4  .  7 8  1 1
    -   2   5  .   6   2
      £  3   9  .   1   9
```

Use the correct vocabulary
partition, recombine, calculate, plus, add, total, increase, sum, altogether, how much /many more?   decrease, minus, subtract, take away, less, fewer, difference, partition, exchange, adjust

Solving problems

Abdul says "If I add any two 4 digit numbers together is will make a 5 digit number." Do you agree? Explain why.

Investigate
What do you notice about the differences between consecutive square numbers?

Always, sometimes, never true
The difference between a number and its reverse will be a multiple of 9.