Week 15, Day 3
Use column addition to add decimals and measures
Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.

   OR start by carefully reading through the **Learning Reminders**.
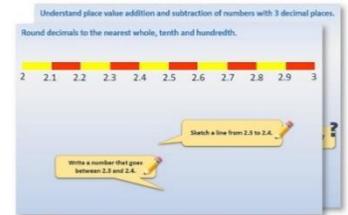
2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or Hot (harder)!
   Check the answers.
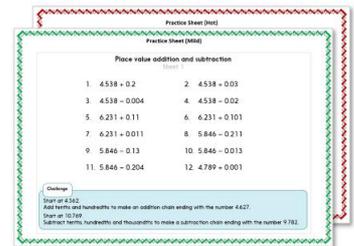
3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**

4. Have I mastered the topic? A few questions to **Check your understanding**.
   Fold the page to hide the answers!
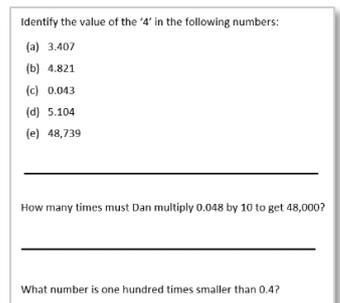
Learning Reminders

Use column addition to add decimals and measures including money.

Solving £24.78 + £52.69 using column addition.

First add the 1ps.
8 + 9 = 17.
The 7 goes in the 1ps place in the answer line.
Put the 1 in the 10ps place above the line.

Remember to set out neatly.
Line up the corresponding digits carefully.
Leave a blank row above the answer line.

Next add the 10ps.
7 + 6 + 1 = 14.
The 4 goes in the 10ps place in the answer line.
Put the 1 in the £1s place above the line.

```
   £ 2 4 . 7 8
 + £ 5 2 . 6 9
       1   1
 ─────────────
   £ 7 7 . 4 7
```

Next add the £1s.
4 + 2 + 1 = 7.
The 7 goes in the £1s place in the answer line.

Finally add the £10s.
2 + 5 = 7.
The 7 goes in the £10s place in the answer line.

Learning Reminders

Use column addition to add decimals and measures including money.

This is an addition of two lengths in metres.

$$45.83m + 23.45m$$

This is very like adding amounts of money in pounds and pence.

```
   4  5 . 8  3 m
+  2  3 . 4  5 m
_____
```

Carefully add the two lengths.

Today there will be a whole mix of calculations to work out using column addition, but - as always - watch out for any that might be more efficiently solved mentally!

Answer
69.28m

Practice Sheet Mild
Adding decimals, measures and money

Solve using column addition. Look out for a question which would be quicker to answer mentally.

1. £24.47 + £18.28

2. £35.83 + £26.72

3. 482.4 + 271.3

4. 345.7 + 228.6

5. £45.67 + £19.99

6. 34.26m + 25.38m

7. 78.85m + 46.47m

8. £56.38 + £5.74

Practice Sheet Hot
Adding decimals, measures and money

Solve using column addition. Look out for a question which would be quicker to answer mentally.

1.   345.7 + 228.6

2.   £78.85 + £46.47

3.   457.8 + 364.5

4.   23.46 + 34.28

5.   £56.75 + £29.98

6.   76.78m + 47.59m

7.   634.5 + 78.6

8.   45.38m + 8.64m

Challenge

Two amounts are added together, totalling £100.50 exactly.
The total of the 10ps is greater than £1.
What could the two amounts be?

£ ◯◯ . ◯◯
+ £ ◯◯ . ◯◯

Practice Sheets Answers

Adding decimals, measures and money (mild)

1. £24.47 + £18.28 = £42.75
2. £35.83 + £26.72 = £62.55
3. 482.4 + 271.3 = 753.7
4. 345.7 + 228.6 = 574.3
5. £45.67 + £19.99 = £65.66 quicker to work out mentally
6. 34.26m + 25.38m = 59.64m
7. 78.85m + 46.47m = 125.32m
8. £56.38 + £5.74 = £62.12

Adding decimals, measures and money (hot)

1. 345.7 + 228.6 = 574.3
2. £78.85 + £46.47 = £125.32
3. 457.8 + 364.5 = 822.3
4. 23.46 + 34.28 = 57.74
5. £56.75 + £29.98 = £86.73 quicker to work out mentally
6. 76.78m + 47.59m = 124.37m
7. 634.5 + 78.6 = 713.1
8. 45.38m + 8.64m = 54.02m

Challenge

Two amounts are added together, totalling £100.50 exactly.
The total of the 10ps is greater than £1.
What could the two amounts be?

e.g. Any pair of amounts, totalling £100.50 where the 10ps total is >£1.

$$£46.63$$
$$+ £53.87$$

Work in pairs

Things you will need:
• A pencil

What to do:

• Use column addition to work out Jimmy's total score.

• Look at the other children's scores.
Who do you think had the highest total score?
Who do you think had the lowest total score?

• Work as a pair to work out all the total scores to see if you are right.

```
  4 2 3 8
+ 2 1 4 6
      1
  6 3 8 4
```
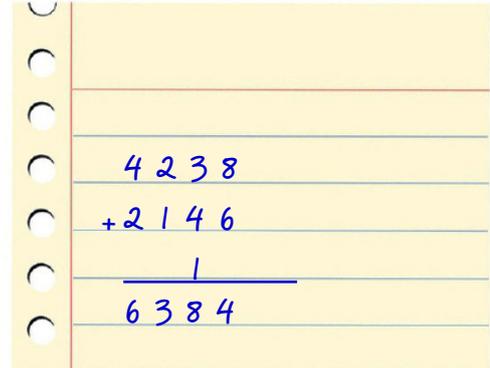
GAME 1
Jimmy 2348
GAME 2
Jimmy 1217

GAME 1
Katya 3821
GAME 2
Katya 2443

GAME 1
Sunny 5372
GAME 2
Sunny 3164

GAME 1
Scott 3427
GAME 2
Scott 3281

GAME 1
Sharon 6239
GAME 2
Sharon 1324

GAME 1
Sandip 3945
GAME 2
Sandip 2832

GAME 1
Abbie 4382
GAME 2
Abbie 2714

S-t-r-e-t-c-h:
Write an addition of a pair of 4-digit numbers where the answer is between 8000 and 9000.
Write an addition where the answer is between 3000 and 4000.

Learning outcomes:
• I can use column addition (expanded or compact) to add pairs of four-digit numbers where the 1s are greater than 10, or the 10s are greater than 100 or the 100s are greater than 100.
• I am beginning to estimate total of 4-digit numbers.

Check your understanding
Questions

Arrange the digits 4, 5 and 6 to create an addition of two 3-digit numbers which add to 1000.
You may use each digit as often as you like.

Explain why it would be sensible to choose different methods to solve (a) and (b) below.   Then solve both.
  (a)   67,493 + 21,561
  (b)   50,005 + 9,998

Complete the addition by finding □, ✜ and △:

```
   1 2 □ 6 2
 +   9 3 8 ✜

   2 △ 2 5 1
```

Use digits 2 to 8 once each to create two amounts of money in the form £□□.□□ + £□.□□. Add these.

Now re-arrange the digits so as to give the largest total possible.

Now re-arrange the digits so as to give the smallest total possible.

Answers on next page

Check your understanding
Answers

Arrange the digits 4, 5 and 6 to create an addition of two 3-digit numbers which add to 1000. You may use each digit as often as you like.

Possible answers:

444 + 556, 445 + 555, 446 + 554, 454 + 546, 455 + 545, 456 + 544.

Explain why it would be sensible to choose different methods to solve (a) and (b) below.   Then solve both.

(a) 67,493 + 21,561   89,054 best solved by column addition as there are lots of different digits in each number and several instances where 'carrying' will be needed.

(b) 50,005 + 9,998   60,003 can be solved mentally with supporting jottings, by adding 10,000 and then subtracting 2.

Complete the addition by finding □, ✤ and △:

```
   1 2 8 6 2
 +   9 3 8 9
   1 1 1 1
   2 2 2 5 1
```

Use digits 2 to 8 once each to create two amounts of money in the form £□□.□□ + £□.□□. Add these.   Various answers.

Now re-arrange the digits so as to give the largest total possible.

Possible largest: £86.42 + £7.53 = £93.95 (digits for the £1s, 10ps or 1ps can be swapped over, e.g. £87.53 + £6.42).

Now re-arrange the digits so as to give the smallest total possible.

Possible smallest: £24.68 + £3.57 = £28.25 (again, digits for the £1s, 10ps or 1ps can be swapped over).