Year 5: Week 5, Day 3
Subtract pairs of numbers with one decimal place

Each day covers one maths topic. It should take you about 1 hour or just a little more.

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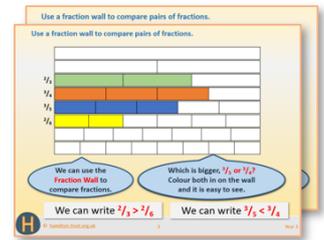
2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or Hot (harder)!
   Check the answers.
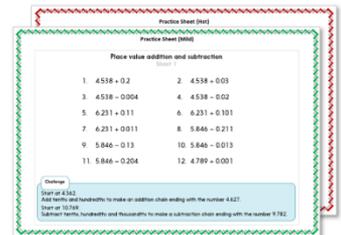
3. Finding it tricky? That's OK... have a go with a grown-up at **A Bit Stuck?**

4. Think you've cracked it? Whizzed through the Practice Sheets? Have a go at the **Investigation**...

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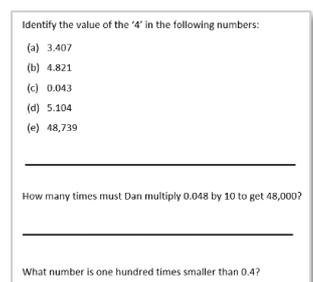
Learning Reminders

Subtract pairs of 2-digit numbers with one decimal place.

We can use our strategies for subtracting whole numbers for subtracting decimals.

98 - 21   e.g. Subtract 20, then 1.

So how could you solve 9.8 - 2.1?

Subtract 2, then 0.1.

46 - 19   e.g. Count back to subtract 20, then adjust by adding 1.

So how could you solve 4.6 - 1.9?

Count back to subtract 2, then adjust by adding 0.1.

58 - 32   e.g. Count back to subtract 30, then another 2.

So how could you solve 5.8 - 3.2?

Count back to subtract 3, then another 0.2.

Learning Reminders

Subtract pairs of 2-digit numbers with one decimal place.

74 - 6

e.g. Count back to subtract 4, then another 2 to 'bridge' 70.

So how could you solve 7.4 - 0.6? **?**
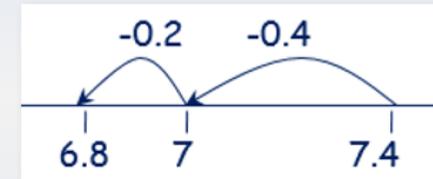
Count back to subtract 0.4, then another 0.2 to 'bridge' 7.

63 - 57

e.g. Count up using *Frog* from 57 to 60, then to 63.

So how could you solve 6.3 - 5.7? **?**
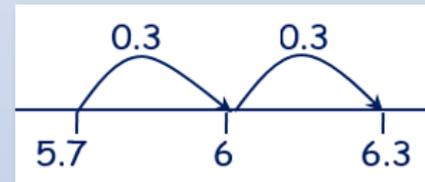
Count up using *Frog* from 5.7 to 6, then to 6.3.

Learning Reminders

Subtract pairs of 2-digit numbers with one decimal place.

- So the strategies we learned to subtract pairs of **2-digit whole numbers** can be used to subtract **2-digit numbers with one decimal place** too.
- Look at the previous examples and think how you would solve each of these calculations:

   8.2 - 6.7   **6.5 - 2.2**   **9.2 - 0.8**

- **Now check our suggested strategies below...**

Suggested strategies:
8.2 – 6.7 count up using 'Frog' (= 1.5)   **6.5 – 2.2 count back** 2, then another 0.2 (= 4.3)   **9.2 – 0.8 count back** 1, then add 0.2 to **adjust** (= 8.4)

Explore more Hamilton Trust Learning Materials at https://wrht.org.uk/hamilton

Practice Sheet Mild
Decimal subtractions

Choose whether to count back or count up (Frog) to work out the answers to these subtractions.

1. 8.2 – 5.6

2. 7.5 – 0.7

3. 9.4 – 2.1

4. 6.3 – 5.5

5. 5.4 – 1.9

6. 7.3 – 6.8

7. 9.2 – 0.5

8. 4.2 – 3.9

9. 6.5 – 2.3

10. 8.3 – 0.7

11. 10 – 4.9

12. 8.5 – 5.7

Challenge

Now write two decimal subtractions where you would **count back** to find the answers.

Write two decimal subtractions where you would **count up** (Frog) to work out the answers.

Muddle them up and share with a partner. Can they say which subtractions you would work out using counting back and which you would work out using counting up?

Practice Sheet Hot
Decimal subtractions

Choose whether to count back or count up (Frog) to work out the answers to these subtractions.

1. 9.2 – 0.5

2. 4.2 – 3.9

3. 6.5 – 2.3

4. 8.3 – 0.7

5. 10 – 4.9

6. 8.5 – 5.7

7. 12.6 - 8.3

8. 14.3 - 11.6

9. 10.4 - 0.5

10. 17.6 - 1.9

11. 20 - 12.4

12. 23.8 - 17.2

Challenge

Now write two decimal subtractions where you would **count back** to find the answers.
Write two decimal subtractions where you would **count up** (Frog) to work out the answers.
Muddle them up and share with a partner. Can they say which subtractions you would work out using counting back and which you would work out using counting up?

Practice Sheet Answers

Decimal subtractions (mild)

1. 8.2 – 5.6 = 2.6
2. 7.5 – 0.7 = 6.8
3. 9.4 – 2.1 = 7.3
4. 6.3 – 5.5 = 0.8
5. 5.4 – 1.9 = 3.5
6. 7.3 – 6.8 = 0.5
7. 9.2 – 0.5 = 8.7
8. 4.2 – 3.9 = 0.3
9. 6.5 – 2.3 = 4.2
10. 8.3 – 0.7 = 7.6
11. 10 – 4.9 = 5.1
12. 8.5 – 5.7 = 2.8

Decimal subtractions (hot)

1. 9.2 – 0.5 = 8.7
2. 4.2 – 3.9 = 0.3
3. 6.5 – 2.3 = 4.2
4. 8.3 – 0.7 = 7.6
5. 10 – 4.9 = 5.1
6. 8.5 – 5.7 = 2.8
7. 12.6 - 8.3 = 4.3
8. 14.3 - 11.6 = 2.7
9. 10.4 - 0.5 = 9.9
10. 17.6 - 1.9 = 15.7
11. 20 - 12.4 = 7.6
12. 23.8 - 17.2 = 6.6

Things you will need:

• Two large pieces of card
• Scissors
• Subtraction cards

What to do:

• Write the headings 'Count back' and 'Frog' at the top of two large pieces of paper; one heading on each piece of paper.

• Cut out the eight Subtraction cards.

• Sort the subtractions according to which strategy you think would be the most efficient to use to find the answer. If unsure, try both strategies then discuss which you found most efficient.

• Solve all of the subtractions. Remember that there is no 'right' or 'wrong' strategy to solve a given calculation, just that we might find it is more efficiently solved using one method than another.

S-t-r-e-t-c-h:
Use the blank cards to write at least one more question for each heading.

Learning outcomes:

• I can reason about my choice of strategy to solve subtractions.

5.7 - 1.2	5.7 - 0.9
5.7 - 2.1	4.5 - 2.2
4.5 - 1.9	4.5 - 3.8
4.5 - 3.1	5.2 - 4.9

Investigation
Pence and pounds reversed

1. Write a two-digit amount of money with two-decimal places.

2. Reverse the pounds and the pence to create a new amount.

3. Find the difference between the two amounts.

4. Check the answer to see if it is a multiple of 9.

   HINT: To see if a number is a multiple of 9, add its digits to see if they total a number in the 9x table.

5. Write a new amount and repeat this process.

6. Do this at least ten times. Do you get some identical answers?

What patterns do you notice?
Can you explain them?
What happens if you try a palindromic amount?

£67.39
£39.67

   £67.39
 - £39.67

Check your understanding
Questions

Amit had a plank to make a shelf. It needed to be 4.6 metres long. However, it measures 5.25m at the moment. How much must he cut off?

_____

Which of Anjeli's calculations is correct?

(a) 4.35 + 0.03 = 4.65

(b) 2.3 − 1.95 = 0.35

(c) 6.3 + [____] = 9.8   missing number = 3.3

(d) 7.72 + 12.3 = 8.95

_____

Write the missing number in each of the bar models:

6.4	
2.7	?

9.2	
?	3.5

_____

Check your understanding
Answers

Amit had a plank to make a shelf. It needed to be 4.6 metres.
However, it is 5.25m at the moment. How much must he cut off?

5.25 – 4.6 = 0.65   So he must cut off 0.65 of a metre.

Which of Anjeli's calculations is correct?
   (a) 4.35 + 0.03 = 4.65. wrong as 4.35 + 0.03 = 4.38
   (b) 2.3 – 1.95 = 0.35. ✓
   (c) 6.3 + [____] = 9.8   missing number = 3.3   wrong. It's 3.5
   (d) 7.72 + 12.3 = 8.95 wrong 7.72 + 12.3 = 20.02

Write the missing number in each of the bar models:

6.4	
2.7	3.7

9.2	
5.7	3.5