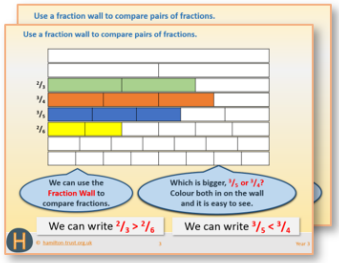
Week 10, Day 1

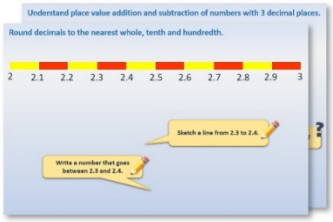
Revise using counting up (Frog) to subtract pairs of numbers with two decimal places

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**.



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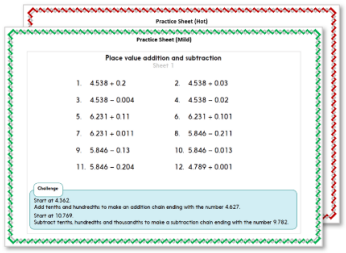
2. Tackle the questions on the **Practice Sheet**.
There might be a choice of either Mild (easier) or Hot (harder)!
Check the answers.



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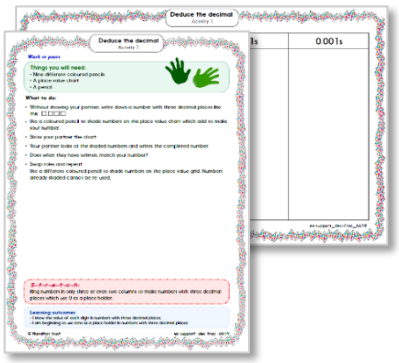
3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**



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

Learning Reminders

Revise using counting up (Frog) to subtract pairs of numbers with two decimal places.

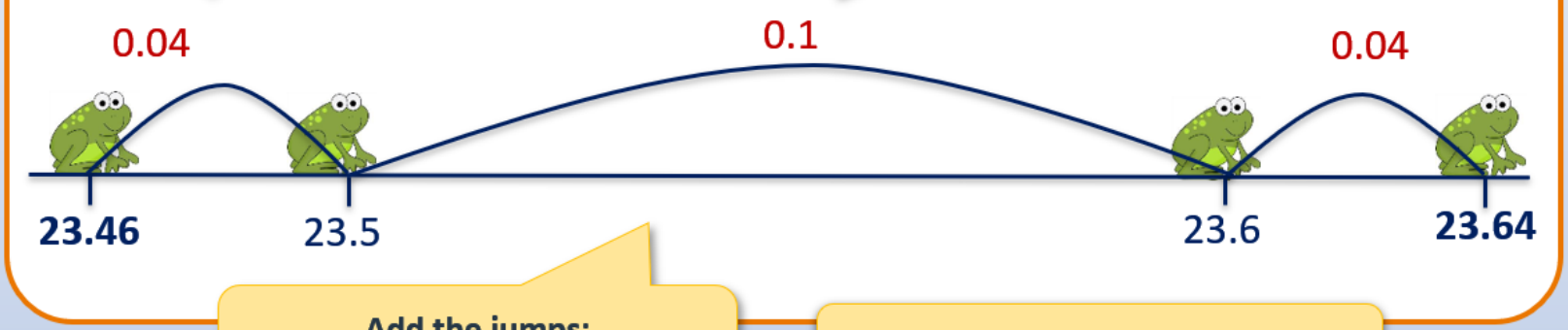
23.46 and 23.64

We can find the difference between the two numbers using Frog. Look at the jumps Frog makes.

Frog first hops 0.04 to 23.5, the next tenth ...

...then another 0.1 to jump from 23.5 to 23.6...

... finally 0.04 to hop from 23.6 to 23.64.



Add the jumps:
0.1 + 0.04 + 0.04 = 0.18.

So 23.64 - 23.46 = 0.18

Learning Reminders

Revise using counting up (Frog) to subtract pairs of numbers with two decimal places.

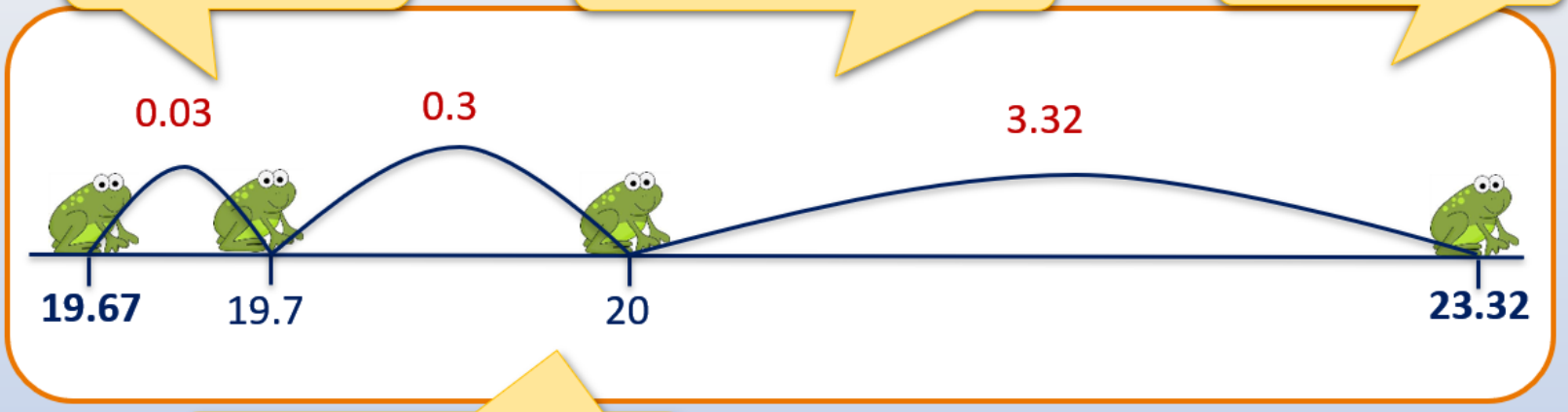
Now Frog is finding the difference between 23.32 and 19.67.

Frog always starts with the smaller number.

Frog hops 0.03 to 19.7, the next tenth

... and another 0.3 to jump from 19.7 to 20...

... then 3.32 more to 23.32.



Now add the jumps:
3.32 + 0.3 + 0.03 = 3.65

So 23.32 - 19.67 = 3.65

Practice Sheet Mild

Subtracting decimals

Use Frog to help you calculate the answers to these subtractions.

1. 14 – 13.78
2. 14.25 – 13.78
3. 23 – 19.67
4. 23.34 – 19.67
5. 42.12 – 41.89
6. 34.21 – 32.73
7. 8.46 – 7.82
8. 11.37 – 9.45

Practice Sheet Hot

Subtracting decimals

Use Frog to help you calculate the answers to these subtractions.

1. 30.24 – 29.87
2. 42.32 – 38.69
3. 26.43 – 22.74
4. 52.38 – 51.56
5. 9.46 – 7.39
6. 15.28 – 11.45
7. 64.72 – 57.45
8. 30.57 – 24.36

Challenge

Find 3 different pairs of decimal numbers whose difference is 3.43.
Explain your strategy for doing this.

Practice Sheets Answers

Subtracting decimals (mild)

1. 14 - 13.78 = 0.22
2. 14.25 - 13.78 = 0.47
3. 23 - 19.67 = 3.33
4. 23.34 - 19.67 = 3.67
5. 42.12 - 41.89 = 0.23
6. 34.21 - 32. 73 = 1.48
7. 8.46 - 7.82 = 0.64
8. 11.37 - 9.45 = 1.92

Subtracting decimals (hot)

1. 30.24 – 29.87 = 0.37
2. 42.32 – 38.69 = 3.63
3. 26.43 – 22.74 = 3.69
4. 52.38 – 51.56 = 0.82
5. 9.46 – 7.39 = 2.07
6. 15.28 – 11.45 = 3.83
7. 64.72 – 57.45 = 7.27
8. 30.57 – 24.36 = 6.21

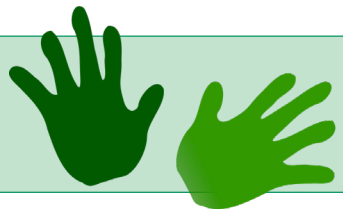
Challenge

Find 3 different pairs of decimal numbers whose difference is 3.43.
e.g. 5.57 - 2.14 = 3.43
7.67 - 4.24 = 3.43
8.32 - 4.89 = 3.43

A Bit Stuck?
Mini minuses

Work in pairs, but do record on your own sheet!

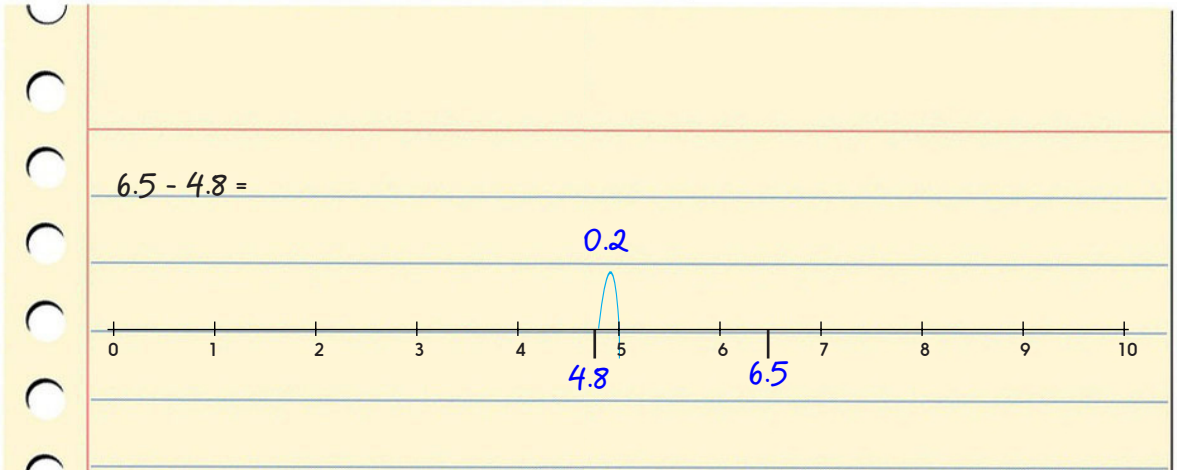
Things you will need:
- 0 to 10 number lines
- A pencil



What to do:

- Choose a subtraction. Mark both numbers on a 0 to 10 number line. Use Frog to calculate the answer. Remember to use pairs to 10 to calculate the size of Frog's first hop!
- Repeat with at least four other subtractions.
- You score 10 points for each correct answer, and a bonus 5 points for any answers bigger than 2.

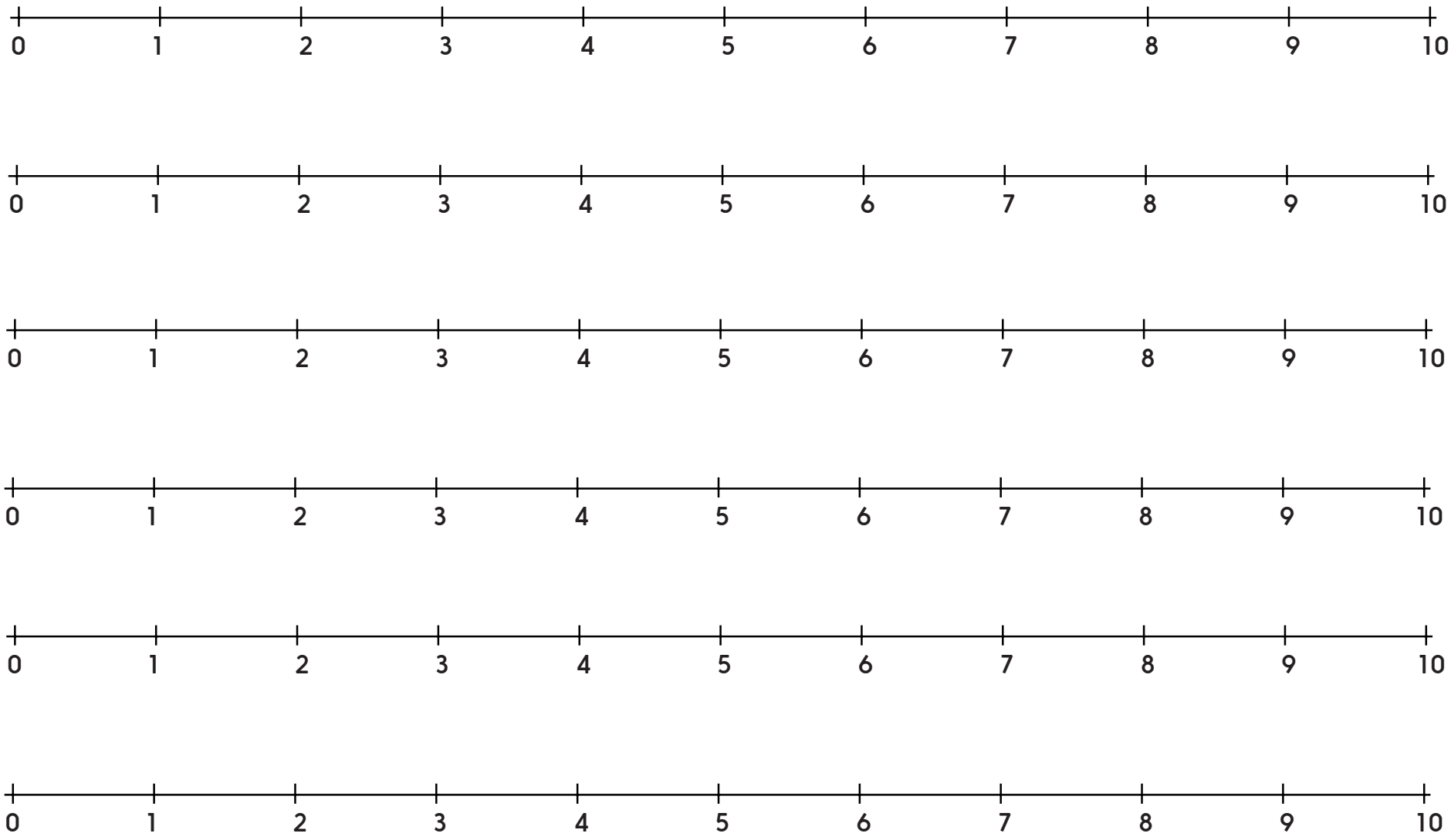
6.5 – 4.8	9.2 – 5.6	7.4 – 5.9
8.3 – 4.7	6.2 – 3.5	8.6 – 6.8
9.5 – 7.9	7.3 – 4.6	6.4 – 2.5



S-t-r-e-t-c-h:
Use addition to check two of your answers. You can draw a number line jotting to help if you wish.

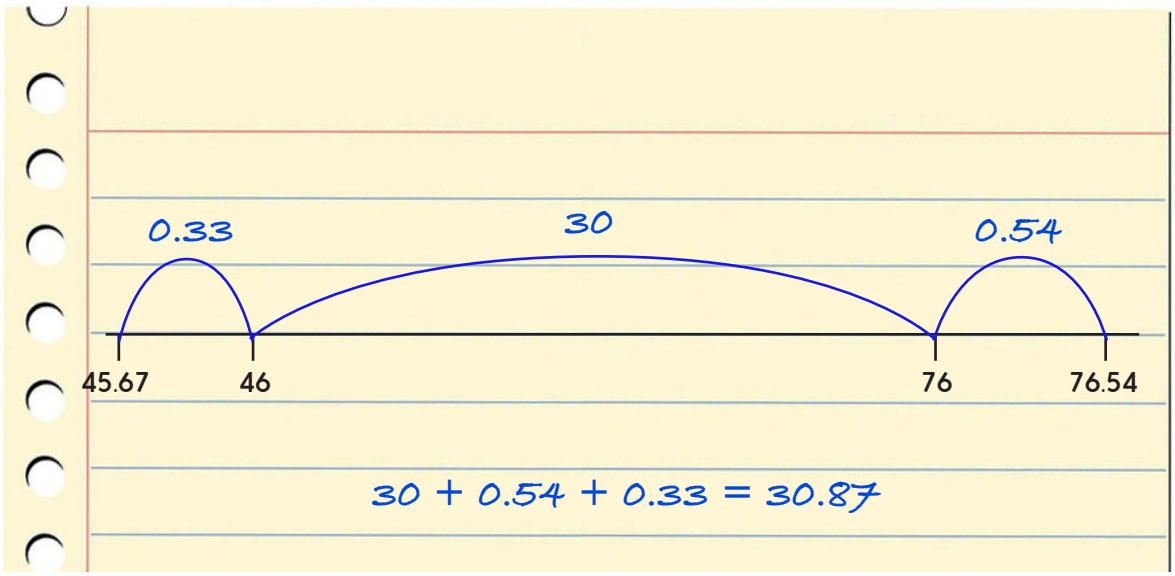
Learning outcomes:
- I can use Frog (counting up) to subtract numbers with one decimal place.
- I am beginning to check decimal subtractions with addition.

A Bit Stuck?
Mini minuses



Investigation
Reversed digit subtractions

- Write a number using four consecutive digits to make a number with two decimal places, e.g. 45.67.
- Reverse it and find the difference between the two numbers.
  Sketch an empty number line jotting to help.



- Try other sets of 4 consecutive digits and note any patterns/observations.
- How can you explain this? Have a think before looking at the hint below!

Challenge

Try this with 5-digit numbers with 2 decimal places. e.g. 876.54 and 456.78.
What happens this time?

HINT

Look at the difference between 'pairs' of numbers of like-place value in each calculation...
e.g. 12.34 ⟵ 43.21
Difference between 10 and 40 is +30; Difference between 2 and 3 is +1;
Difference between 0.3 and 0.2 is −0.1; Difference between 0.04 and 0.01 is −0.03.
Adding these differences gives 30 + 1 − 0.1 − 0.03 = 30.87!