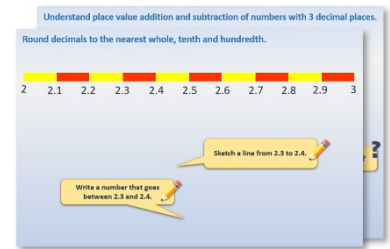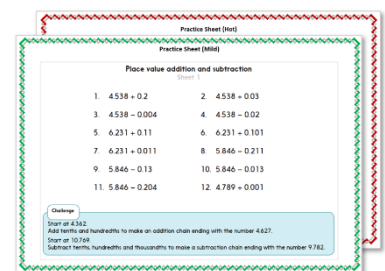# Week 1 Day 5
Finding a difference: decimals and change

Each day covers one maths topic. It should take you about 1 hour or just a little more.
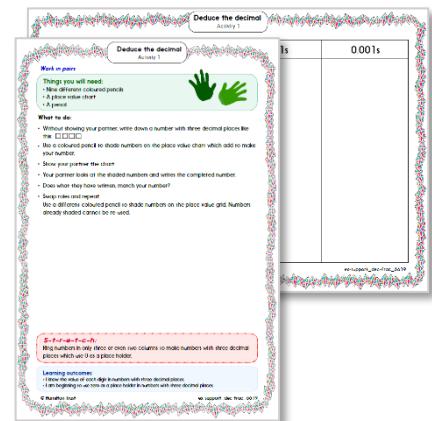
1. Start by reading through the **Learning Reminders**.
   They come from our *PowerPoint* slides.

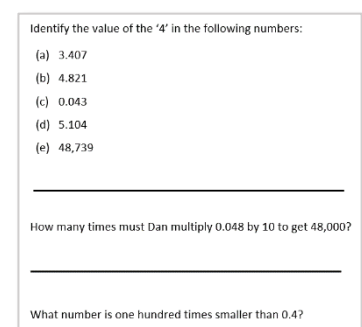2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or Hot (harder)!
   Check the answers.

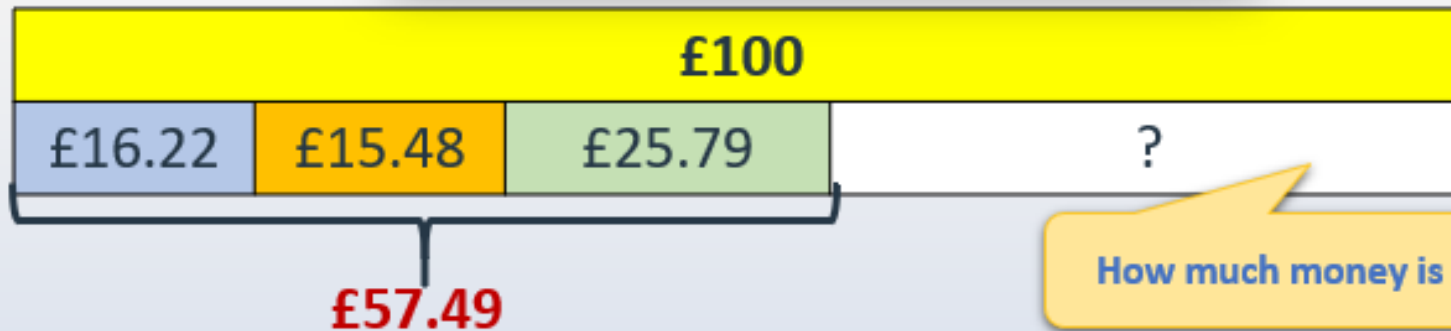3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**

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

Learning Reminders

Finding a difference: decimals and change

Visit to a theme park	£16.22
Paint balling, with set of paint balls	£15.48
Climbing session with instruction	£25.79

£100

£16.22	£15.48	£25.79	?

£57.49

How much money is left?

Frog hops **51p** to **£58**...

... and another **£42** to jump from **£58** to **£100**.

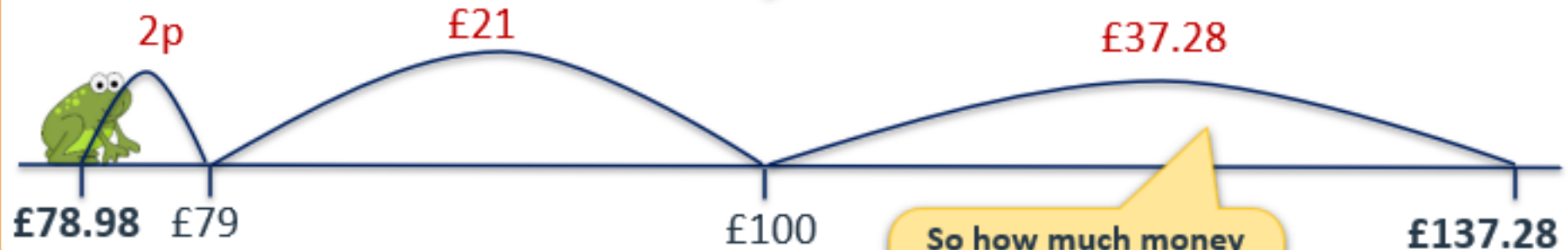So how much is left? Add the hops!

£42

51p

£57.49   £58   £100

Learning Reminders

Practice Sheet Mild
Bargain hunt

After joining the local athletics club, you decide to stock up on some essential kit.

Team kit is only stocked in SportWorld and InLine Events, so you need to shop in one or both of those stores.

Here are their prices for the seven things on your shopping list:

Item	SportWorld	InLine Events	Cost difference
Trainers	£109	£105.55	
Team hoodie	£44.79	£45.20	
Team rucksack	£32.75	£29.79	
Annual track pass	£101.50	£98.75	
Water bottle	£3.75	£2.89	
Energy bars (box of 24)	£31.64	£33.05	
Cross-country shoes	£97.35	£111.29	

1. Find the difference in cost for each item.

2. If you had to go to just one of the shops, which would it be? Why?

3. If you 'shop around' to buy every item as cheaply as possible:
   a) How much will you spend?
   b) What is the maximum saving you will make compared to shopping in either one of the stores?

Challenge

InLine Events decides to try to be more competitive with its prices, reducing all shoes by £3.49 per pair.
Does this make them cheaper than SportWorld for all your kit?
If so, by how much?

Practice Sheet hot
Bank Holiday leisure

Some families are planning activities and treats for the Bank Holiday weekend. The prices are shown below.

Activity	Adult	Child	Family Ticket
Visit to wildlife park	£18.75	£12.50	£59.90
Craft day	£15.99	£10.66	£42.40
Activity adventure	£17.23	£11.79	£53.60
Science museum	£7.62	£3.81	£20.10
Doughnut and drink	£4.79	£4.79	pay per person

Each family has a budget of £100. Work out the answers to the questions.

1. How much does Rob have left after he takes himself and two children to the activity adventure?

2. Suzanne pays for herself and her three grandchildren to visit the wildlife park.
   a. How much money does she have left?
   b. If she had bought a family ticket how much would she have saved?

3. Hugh buys family tickets for the activity adventure and science museum.
   a. How much money does he have left?
   b. Later, he buys a doughnut and drink for 5 people. How much is left now?

4. Four families buy family tickets for two different activities. How much money will each family have left over?
   a. Peterson family: wildlife park and science museum.
   b. McCartney family: craft day and activity adventure.
   c. Singh family: craft day and science museum.
   d. Novak family: activity adventure and science museum.

Challenge

Louise wants to take her two boys on a day out. She says none of the family tickets will save her any money. Is she right? Show your reasoning.

Practice Sheets answers

Bargain hunt (mild)

Item	SportWorld	InLine Events	Cost difference
Trainers	£109	£105.55	£3.45
Team hoodie	£44.79	£45.20	41p
Team rucksack	£32.75	£29.79	£2.96
Annual track pass	£101.50	£98.75	£2.75
Water bottle	£3.75	£2.89	86p
Energy bars (box of 24)	£31.64	£33.05	£1.41
Cross-country shoes	£97.35	£111.29	£13.94

2. Go to SportWorld, because the total cost is less there:
    Total cost of all the items in SportWorld = £420.78
    Total cost of all the items in InLine Events = £426.52
    So you save £5.74 in SportWorld.

3. a) £410.76
    b) Maximum saving is £15.76
    [£426.52 (total in InLine Events) - £410.76 (cheapest total)]

> **Challenge**
>
> Making shoes cheaper reduces the cost of trainers and cross-country shoes, saving £6.98 (2 x £3.49).
> This decreases the total cost at InLine Events to £419.54 (£426.52 - £6.98).
> This means that the total cost at InLine Events is now £1.24 less than SportWorld.

Bank Holiday leisure (hot)

1. £100 - £40.81 = £59.19 left.
2. a. £100 - £56.25 = £43.75 left.
    b. The family ticket would have been an additional £3.65.
3. a. £100 - £73.70 = £26.30 left.
    b. £4.79 x 5 – £23.95. £26.30 - £23.95 = £2.35 left.
4. a. £100 - £80 = £20 left.   b. £100 - £96 = £4 left.
    c. £100 - £62.50 = £37.50 left.   d. £100 - £73.70 = £26.30

> **Challenge**
>
> Wildlife Park   £43.75 versus £59.90
> Craft day   £37.31 versus £42.40
> Activity adventure   £40.81 versus £53.60
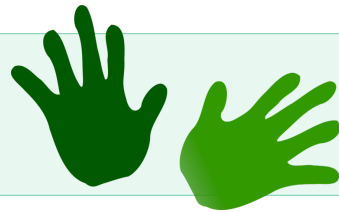> Science museum   £15.24 versus £20.10
> All of the family tickets are more expensive than buying 1 adult and 2 child tickets.

Work in pairs

Things you will need:
• Dream shopping web page

What to do:

• You have £100 but you don't need to spend it all! Choose an item from the dream shopping webpage.

• Work out how much change you would get from £100 if you bought your chosen item.

• Use frog to count up from the cost of the item to £100. Remember this should be a '3-hop frog'. Jump from the pence to the next pound and then to the next multiple of ten pounds and finally to 100.

• Add the hops being careful not to mix up the pounds and the pence. (The first hop should be in pence.)

• Check your partner's work to see if they have the right amount of change from £100. Your partner should check your work too.

• Do this again choosing a different item and so working out the change from £100 using frog/counting up subtraction.

| £62.25 | £45.23 | £25.59 | £82.16 | £39.95 | £71.68 |

S-t-r-e-t-c-h:
Find two items you would like to buy? Add together the cost of the two items using column addition. Remember they need to cost under £99 for both. Now work out how much change you would get from £100 using Frog subtraction. You should check your answer using column addition and adding your change and the total cost of the items together, this will equal £100 if all your calculations are correct!

Learning outcomes:
• I can work out change in pounds and pence from £100.
• I know my bonds to 10 (6+4, 5+5, 1+9, etc.).
• I know my multiple of ten bonds to 100 (20+80, 70+30, 90+10, etc.).
• I know my bonds to 100 (48+52, 95+5, 12+88, etc.).

Dream shopping

Search   **GO**

Technology & Gaming | Home Electrical | Entertainment & Books | Women | Men | Baby & Kids | Toys

Scooter
£89.99
Add to basket

Skateboard
£35.00
Add to basket

Skates
£55.00
Add to basket

Pogo stick
£60.00
Add to basket

Basketball net
£90.00
Add to basket

Doll's house
£70.00
Add to basket

Pirate ship
£29.99
Add to basket

Doll's pram
£25.00
Add to basket

Xbox One Sims4
£44.50
Add to basket

Collector cards
£20.00
Add to basket

Check your understanding
Questions

Drinks are £2.99 each. A bag of crisps is 49p. Burgers are £4.99 each.

Find the total of two drinks, a burger and a bag of crisps.

Find the change from £20.

Frog does three hops: 51p, £2 and £10 to find change from £50.

How much was the item bought?

Write the missing number in this bar model:

£100			
£43.25	£9.65	£14	?

Check your understanding
Answers

Drinks are £2.99 each. A bag of crisps is 49p. Burgers are £4.99 each.

Find the total of two drinks, a burger and a bag of crisps. £11.46

Find the change from £20. £8.54.

Frog does three hops: 51p, £2 and £10 to find change from £50.

How much was the item bought? £37.49.   Best solved by working backward from £50, effectively solving £50 - £10 - £2 - 51p.

Write the missing number in this bar model:

£100			
£43.25	£9.65	£14	£33.10

Add the three given amounts; then use counting up (Frog) to find the missing number.