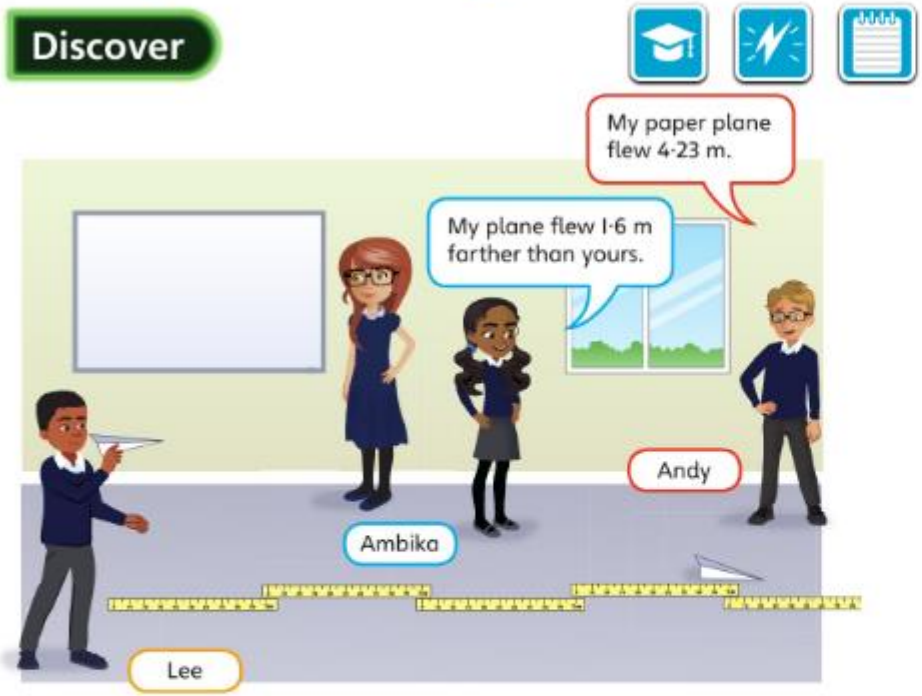
Monday 11/5/2020 Year 5 Modelled Examples Unit 12 Lesson 7

You may also wish to visit https://whiterosemaths.com/homelearning/year-5/
Summer term week 2 **Lesson 3 - Adding decimals with a different number of decimal places**

Adding and subtracting decimals 7

Discover



1 a) How far did Ambika's paper plane fly?

b) Lee throws his paper plane. It flies the shortest distance at 0·42 m less than Andy's plane. How far does Lee's paper plane fly?

Share

a) Andy's plane flew 4·23 m. Ambika's plane flew 1·6 m farther.

We need to add 4·23 and 1·6.

O	•	Tth	Hth
● ● ● ●	•	● ●	● ● ●

O	·	Tth	Hth
4	·	2	3
+ 1	·	6	0
5	·	8	3

4·23 + 1·6 = 5·83

Ambika's paper plane flew 5·83 m.

I used the column method to add. I lined the numbers up at the decimal point. I added an extra 0 in the hundredths column to make the same number of digits after the decimal point.

b) Lee's plane flies 0·42 m less than Andy's plane.

Method 1

O	·	Tth	Hth
~~3~~ 4	·	~~1~~ 2	3
− 0	·	4	2
3	·	8	1

Method 2

4·23 m = 423 cm

0·42 m = 42 cm

423 − 42 = 381 cm = 3·81 m

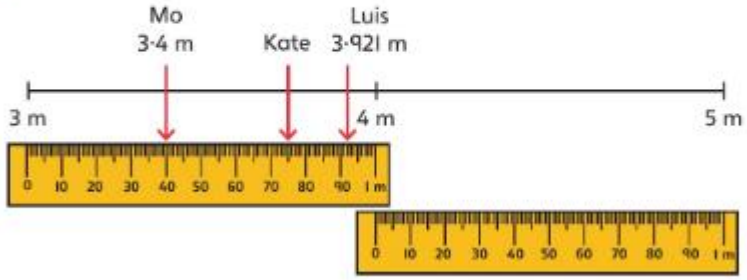
I converted all the measurements into centimetres and then subtracted.

Lee's paper plane flies 3·81 m.

Discuss with your carers then complete the activities in your maths book 5C p24

Think together

1 More of the class took part in the paper plane throwing competition.



a) Mo had a second throw. He threw 0·65 m farther than his first throw. How far did his second throw fly?

O	•	Tth	Hth
●●●	•	○○○○	

	O	·	Tth	Hth
	3	·	4	0
+	0	·	6	5
		·		

3·4 + 0·65 = ☐

Mo's second throw flew ☐ m.

b) How much farther than Kate's plane did Luis's plane fly?

O	•	Tth	Hth	Thth
●●●	•	○○○○○ ○○○○	●●	●

	O	·	Tth	Hth	Thth
	3	·	9	2	1
−	3	·	7	5	0
		·			

☐ − ☐ = ☐

2 Complete this addition pyramid.

		D	
	C		1·48
1·732		0·7	B
1·572	0·16	A	0·24

A = ☐
B = ☐
C = ☐
D = ☐

Remember, in an addition pyramid each pair of numbers adds up to the number above it.

3 **a)** What mistakes have been made in these calculations?

CHALLENGE

4·5 + 1·34

	O	·	Tth	Hth
			4	5
+	1	·	3	4
	1	·	7	9

8·2 − 1·86

	O	·	Tth	Hth
	8	·	2	0
−	1	·	8	6
	7	·	6	6

82·43 − 1·89

	T	O	·	Tth	Hth
	8	2	·	^{1}4	^{1}3
−		1	·	8	9
	8	1	·	6	4

b) What does the correct working out look like?

I think some of these calculations have been lined up incorrectly.

Maybe I could do calculations to check my answers.

Tuesday 12/5/2020 Year 5 Modelled Examples Unit 12 Lesson 8

You may also wish to visit https://whiterosemaths.com/homelearning/year-5/
Summer term week 2 **Lesson 4 - Subtracting decimals with a different number of decimal places**

Adding and subtracting decimals 8

Discover

1 a) How much juice is in the two bottles in total?

b) Jamilla started with a full bag of flour. How much is left in the bag now some flour is on the scales?

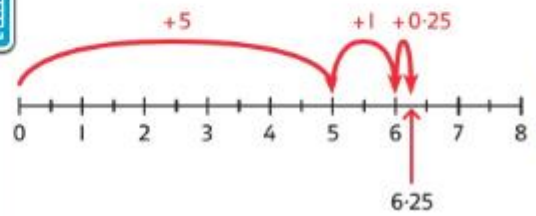
Share

I did a column addition.

a) There is one 5 l bottle and one 1·25 l bottle of juice.

O	•	Tth	Hth
●●●●●	•		
●	•	●●	●●●●

O	•	Tth	Hth
5	·	0	0
+ 1	·	2	5
6	·	2	5



I added the wholes and then added the part.

There are 6·25 l of juice in the two bottles in total.

b) The full bag of flour weighed 2 kg. Jamilla tipped 0·296 kg onto the scales.

The amount of flour left in the bag is 2 – 0·296.

O	•	Tth	Hth	Thth
●●	•	●●●●●	●●●●●	●●●●●
		●●●●●	●●●●●	●●●●●

O	·	Tth	Hth	Thth
1 2	·	9 10	9 10	10
– 0	·	2	9	6
1	·	7	0	4

2 kg – 0·296 kg = 1·704 kg.

There is 1·704 kg of flour left in the bag.

Remember that 2 can be written as 2·000 so that there are the same number of digits after the decimal.

Discuss with your carers then complete the activities in your maths book 5C p27

Think together

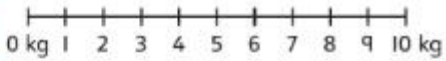
1 **a)** How much pasta is there in total?

O	•	Tth
●●●●●	•	
●●	•	●●●●●●●

O	·	Tth
5	·	0
+ 2	·	8
	·	

There is ☐ kg of pasta in total.

b) What is the total mass of the cereal?



There is ☐ kg of cereal in total.

c) Zac pours some milk from the bottle into a glass.
The glass holds 0·35 l of milk.

O	•	Tth	Hth
●●⊘	•	●●●●● ●●●●⊘	●●●●● ●●●●●

O	·	Tth	Hth
3	·	0	0
− 0	·	3	5
	·		

How much milk is left in the bottle?

☐ l are left in the bottle.

2 Work out which weights are on the weighing scales.

3 Jamilla uses two different methods to work out 2 − 0·296.

CHALLENGE

Method 1

O	·	Tth	Hth	Thth
1	·	9	9	9
− 0	·	2	9	6
1	·	7	0	3

1·703 + 0·001 = 1·704

Method 2

O	·	Tth	Hth	Thth
1	·	9	9	9
− 0	·	2	9	5
1	·	7	0	4

1·999 − 0·295 = 1·704

a) Why do Jamilla's methods work? Which method do you prefer?

This makes the subtraction easier. I wonder why it shows the same answer as 2 − 0·296 though.

I could use a number line to prove that 2 − 0·296 is the same as 1·999 − 0·295.

b) Use your preferred method to work these calculations out.

6 − 3·45 | 3 − 0·914 | 26 − 2·8

Wednesday 13/5/2020 Year 5 Modelled Examples Unit 12 Lesson 9

You may also wish to visit https://whiterosemaths.com/homelearning/year-5/
Summer term week 2

Decimal sequences

Discover

1 a) The rose bush Mo and Olivia are planting is 15·4 cm tall in April. How tall will it be each coming month for the next 6 months?

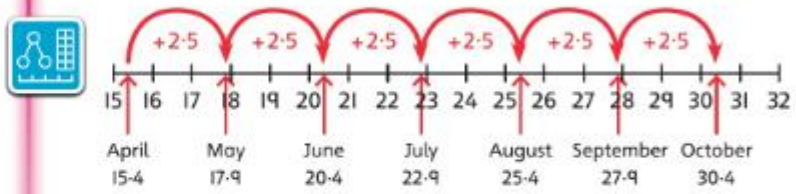
b) The other rose bush is 87·2 cm. For how many months has the rose bush been over 60 cm tall?

Share

I made a table to organise the results. I also showed the same sequence on a number line.

a) The rose bush starts at 15·4 cm and grows 2·5 cm each month. Add on 2·5 cm to its height from the previous month.

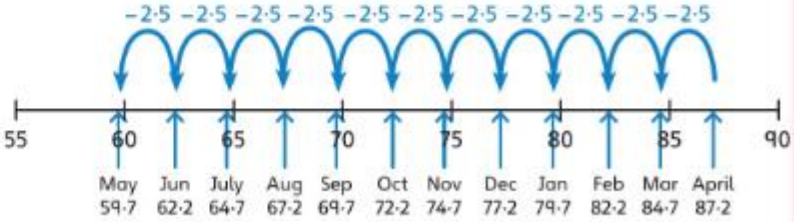
Month	April	May	June	July	Aug	Sept	Oct
Height (cm)	15·4	17·9	20·4	22·9	25·4	27·9	30·4



The rule is to add 2·5 each time.

These numbers are in a sequence. A sequence is when related things happen in an order. This sequence goes up by the same amount each time.

b) Subtract 2·5 each time, until we get less than 60.



11 months ago, the rose bush was shorter than 60 cm. So, the rose bush has been over 60 cm tall for the last 10 months.

Discuss with your carers then complete the activities in your maths book 5C p30

Think together

1 The heights of the roses each month make a sequence.

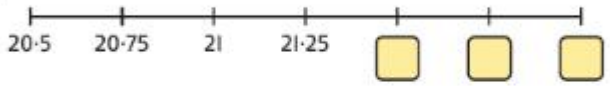
All the heights are in cm.

Find the rules and complete the missing numbers.

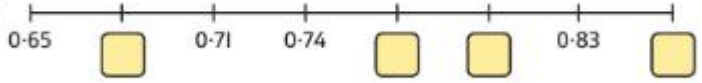
	April	May	June	July	Aug	Sept	Oct
White rose	15·1	15·2	15·3	☐	☐	☐	☐
Climbing rose	10·0	12·6	☐	☐	☐	☐	☐
Wild rose	☐	12·43	12·431	12·432	☐	☐	☐

2 Work out the sequences and complete the missing values.

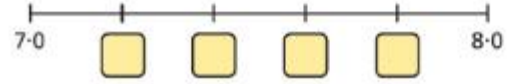
a)



b)



c)

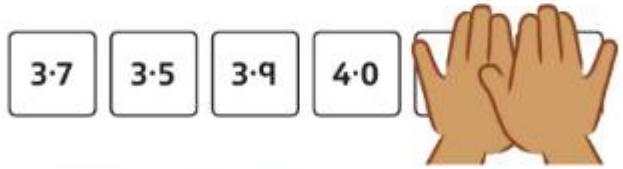


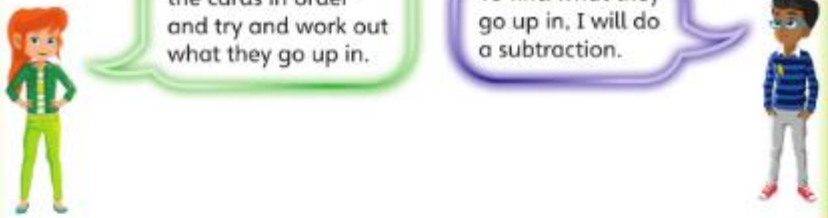
3 These decimal cards form a sequence when arranged in ascending order.

Two of the cards in each sequence are covered up. What could they be?

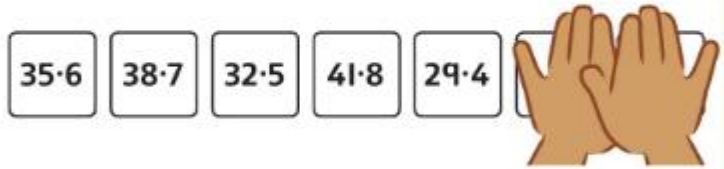
Describe to a partner the pattern that these decimals make.

a)





b)



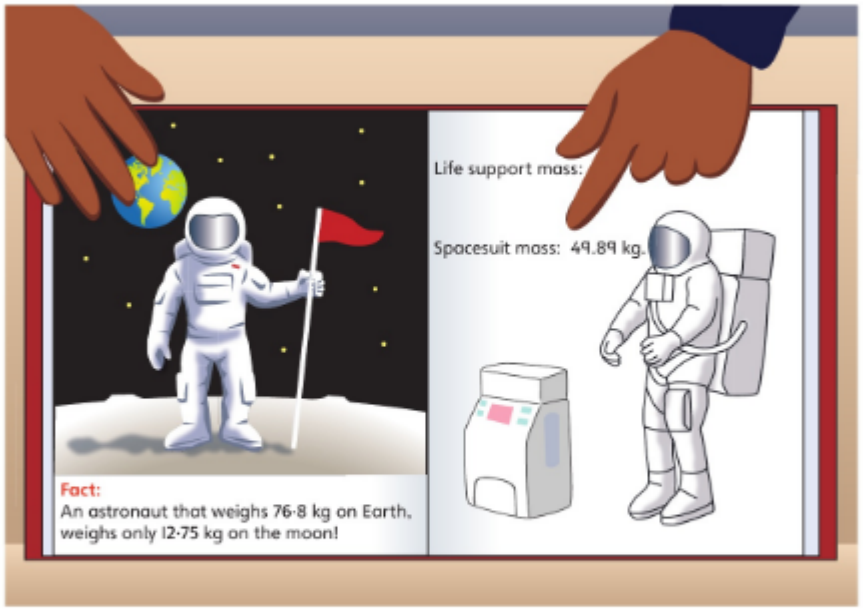
c) What would be the first number above 50 in the second sequence?

Thursday 14/5/2020 Year 5 Modelled Examples Unit 12 Lesson10

You may also wish to visit https://whiterosemaths.com/homelearning/year-5/
Summer term week 2

Problem solving – decimals 1

Discover



1 a) How much more is the weight of the astronaut on Earth than on the moon?

b) The mass of the life support is 90·2 kg heavier than the spacesuit.

What is the total mass of the spacesuit and life support?

Share

a) moon 12·75 kg ?

Earth 76·8 kg

I will use a bar model to help me. I can see that I need to do a subtraction as I am finding a difference.

T	O	·	Tth	Hth
7	6	·	7	10
− 1	2	·	7	5
6	4	·	0	5

76·8 − 12·75 = 64·05

The weight of the astronaut on Earth is 64·05 kg more than on the moon.

b) spacesuit 49.89

life support 90.2 ?

I need to find the mass of the life support first.

The mass of the life support is

49·89 kg + 90·2 kg = 140·09 kg.

The total mass of the spacesuit and the life support is

140·09 kg + 49·89 kg = 189·98 kg.

H	T	O	·	Tth	Hth
	9	0	·	2	0
+	4	9	·	8	9
1	4	0	·	0	9

H	T	O	·	Tth	Hth
1	4	0	·	0	9
+	4	9	·	8	9
1	8	9	·	9	8

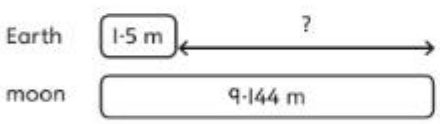
The total mass of the spacesuit and the life support is 189·98 kg.

Discuss with your carers then complete the activities in your maths book 5C p33

Think together

1 Lexi can jump up to 1·5 m on Earth. The same jump would be 9·144 m on the moon because the gravity is different.

How much farther could Lexi jump on the moon?

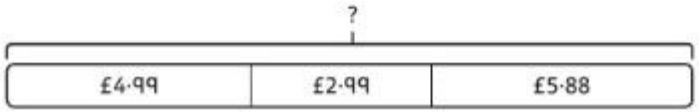


	O	·	Tth	Hth	Thth
	9	·	1	4	4
−	1	·	5		
		·			

Lexi could jump ☐ m farther on the moon.

2 How much do the science magazines cost in total?

Explain your method.



3 Astronauts bring three rocks back from the moon.

CHALLENGE

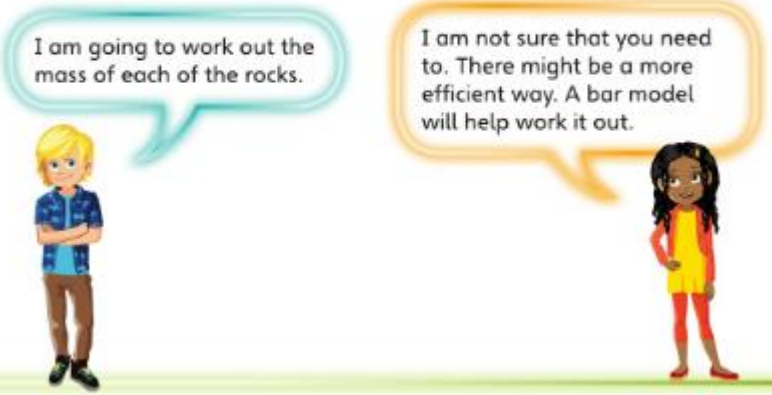
Rock A | Rock B 12 kg | Rock C

The mass of rock A is 3·6 kg less than rock B.

The mass of rock C is 4·75 kg greater than rock B.

a) Work out the total mass of the three rocks.

b) How much more does rock C weigh than rock A?

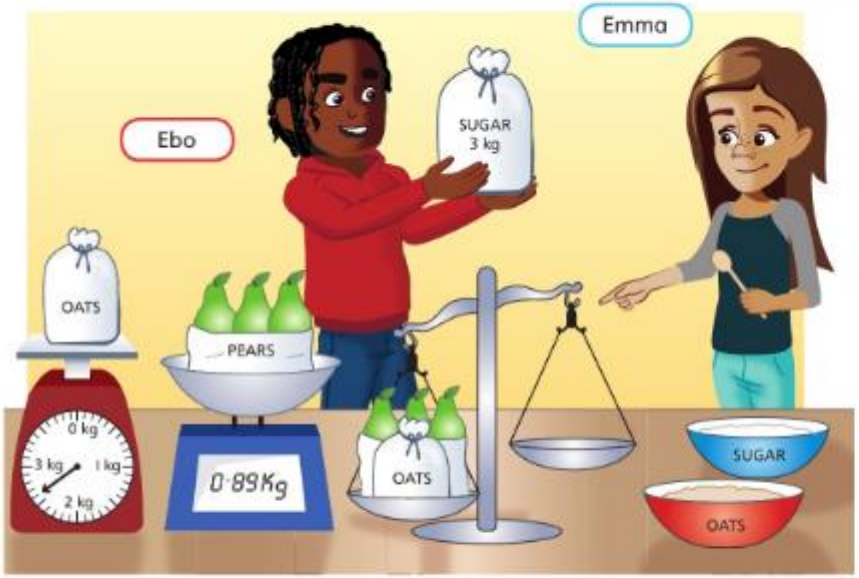


Friday 15/5/2020 Year 5 Modelled Examples Unit 12 Lesson 11

You may also wish to visit https://whiterosemaths.com/homelearning/year-5/
Summer term week 2

Problem solving – decimals 2

Discover

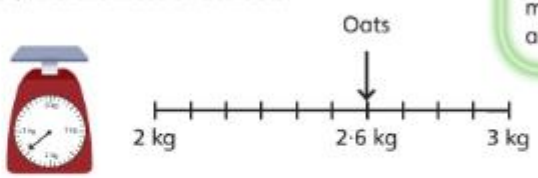


1 a) What will happen to the balance scale when Ebo puts the bag of sugar in the empty balance pan?

b) By adding or removing some sugar or oats to or from the bags, how can Emma and Ebo get the scales to balance?

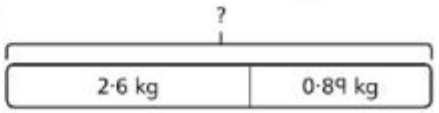
Share

a) First, find the mass of the oats.



I will work out the mass of the pears and oats altogether.

The mass of the oats is 2·6 kg.



O	·	Tth	Hth
2	·	6	0
+ 0	·	8	9
3	·	4	9

2·6 kg + 0·89 kg = 3·49 kg

3·49 kg > 3 kg, so the balance scale will not move. The sugar bag is not heavy enough to tip the balance.

b)

To balance, the scales need to be the same mass either side. So, I need to either reduce the amount of oats or add more sugar.

3·49 – 3 = 0·49

Emma and Ebo can add 0·49 kg of sugar to the bag of sugar.

Or they can remove 0·49 kg of oats from the bag of oats.

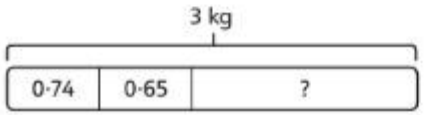
O	·	Tth	Hth
3	·	4	9
– 3	·	0	0
0	·	4	9

Discuss with your carers then complete the activities in your maths book 5C p36

Think together

1 Emma weighs out some sugar from the 3 kg bag.

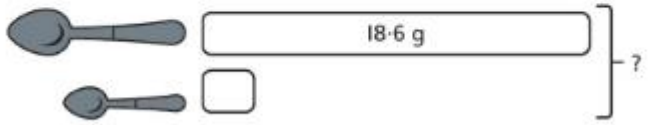
How much sugar is left in the bag?



There is ☐ kg of sugar left in the bag.

2 A tablespoon holds 18·6 g of flour. A teaspoon holds 15·9 g less flour than the tablespoon.

What is the total mass of flour on the two spoons?



The total mass of flour on the two spoons is ☐ g.

3 A street has four lamp posts in a line. Jen measures the distances between some of the lamp posts.

CHALLENGE

The distance between the 1st and 2nd lamp posts is 5·85 m. Between the 2nd and 3rd it is 6·189 m. The distance between the 1st and 4th lamp posts is 3 times the distance between the 1st and 2nd.

What is the distance between the 3rd and 4th lamp posts?