GOVERNMENT OF WESTERN AUSTRALIA

MATHEMATICS

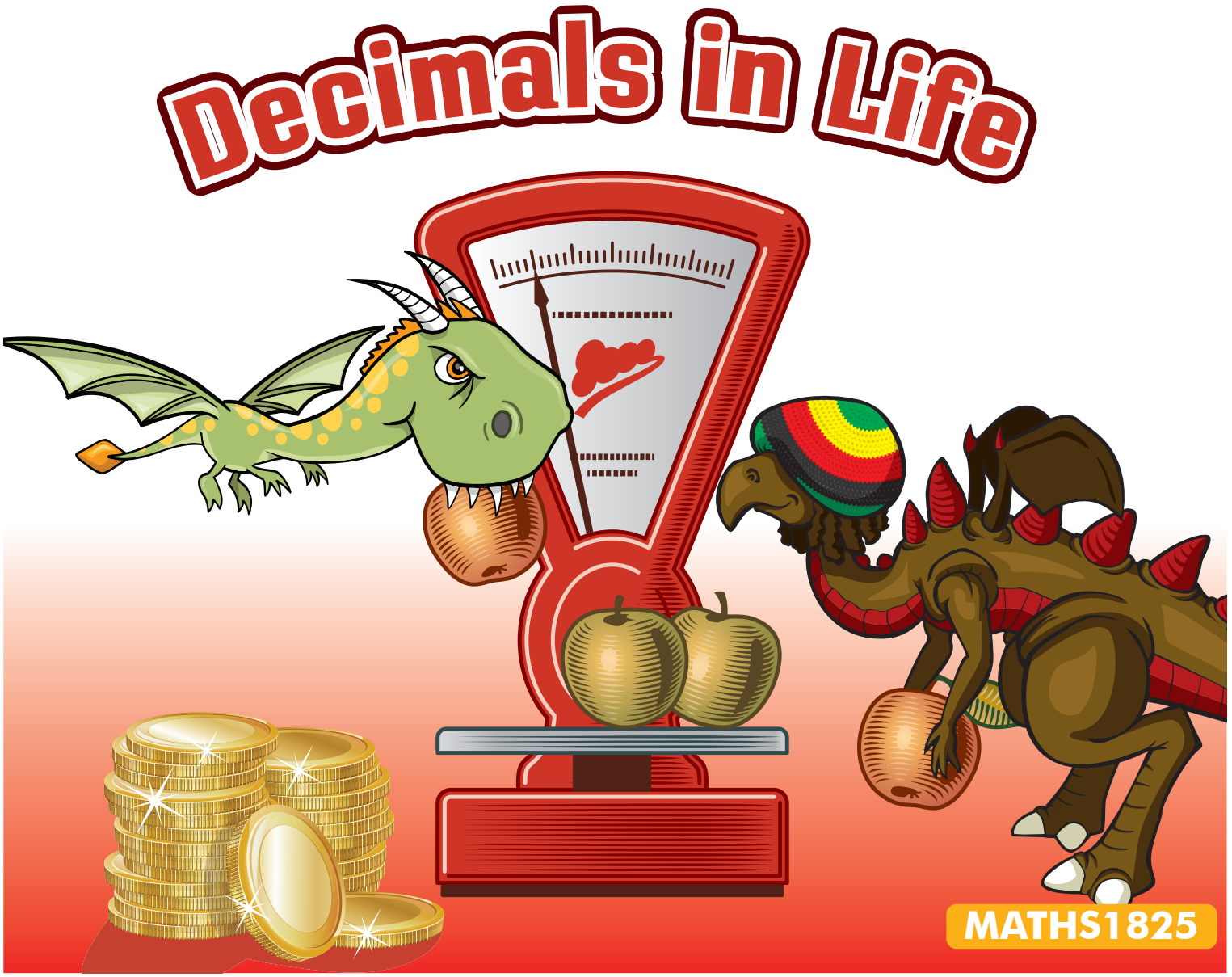
Book 2

Decimals in Life

Middle Childhood Year 5

Learning Resource

MATHEMATICS



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Manager Intellectual Property and Copyright
Department of Education
51 Royal Street
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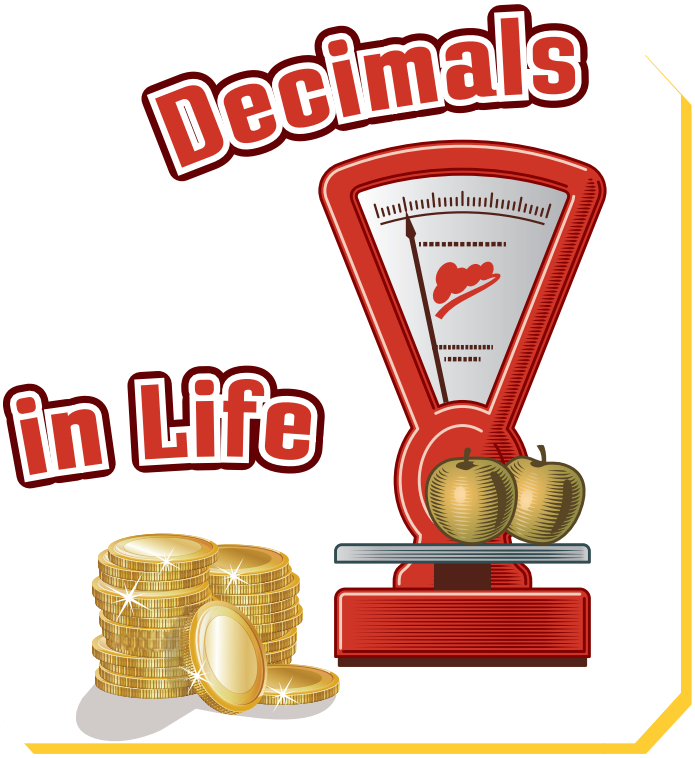


Maths book explanation

In Week one you will:

- demonstrate what you know about the decimal system and decimals numbers
- read, write and say decimal numbers
- examine the place value and total value of digits to the right of the decimal point
- explore decimal numbers and their connection with fractions and mixed numerals
- compare, order and locate fractions, mixed numerals and decimal numbers on number lines, grids and charts
- describe, continue and create patterns with decimal numbers, fractions and mixed numerals
- explore equivalencies between fractions and decimal fractions
- partition decimal fractions using standard partitioning.

Decimals in Life

In Week two you will:

- explore the relationships between three systems – the decimal system, the decimal currency system and the metric system
- read, write, count and compare fractions, decimal currency and decimal numbers using diagrams, number lines and pictures
- partition decimals, fractions, decimal currency and measurements using standard partitioning
- examine the place value and total value of decimal numbers, fractions and decimal currency
- compare, locate and order mixed numerals, decimal numbers, decimal currency and measurements on number lines, tables and within word problems
- solve word problems involving fractions, decimal numbers and money.

Hi! I'm Deke and I am a bit of a decimal king if I do say so myself!

Welcome to the world of 'Decimals in Life', where we will investigate concepts involving decimals. We will also explore the relationships between money, measurement, decimals and fractions.

I'm Mezz and I am measurement mad!

Tune in activities should take you about 15 minutes. These activities include practise of basic number facts and revision of measurement, chance and data, space and working mathematically skills.

The *Switch on* section consists of place value and fraction activities. These should take you approximately 45 minutes to complete.

Power up activities are designed to make you think! They will extend your skills and knowledge of the topic.

If you complete a set of activities in less time, move on to the next day's work.

Work plan

Day	Title/description
1	Getting to know decimals
2	How about hundredths?
3	Thrilling thousandths
4	Wholes and parts
5	**Review**
6	Decimals in money
7	Mixing decimals with fractions and money
8	Decimals in food
9	Lengthy decimals
10	**Review**

DAY 1

Getting to know decimals

TUNE IN

1 Place value

Shade the bubbles to show the answers that make 5 763 802.

- ○ 5 millions + 763 thousands + 8 hundreds + 2 ones
- ○ five million, seven hundred and sixty-three thousand, eight hundred and two
- ○ 5 000 + 763 + 800 + 2
- ○ 7 hundred thousands + 3 thousands + 80 tens + 2 ones + 6 ten thousands + 5 millions

2 Number patterns

a) Shade the bubble to show the next number in this pattern.

350 777, 360 777, 370 777, 380 777, 390 777, _____

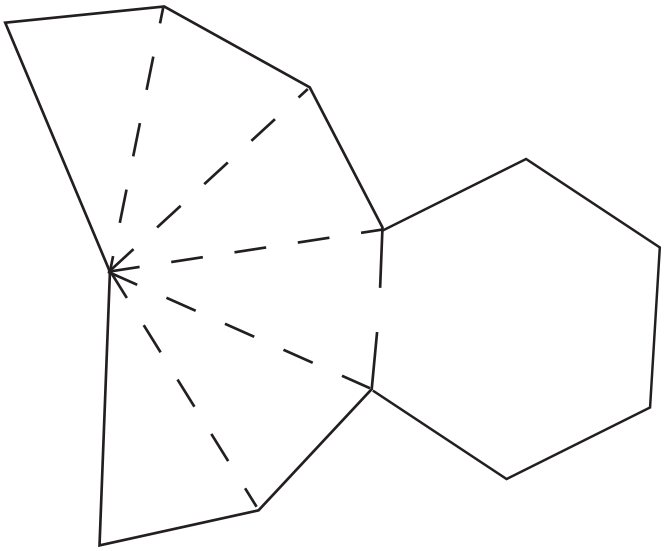
- ○ 401 777
- ○ 400 777
- ○ 410 777
- ○ 500 777

b) What is the rule? _____

_____

3 Making models

Andy made this net. What 3D object will it make?



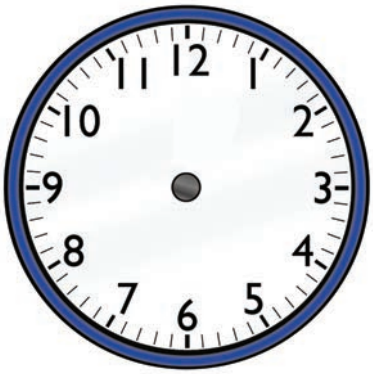
- ○ hexagonal prism
- ○ pentagonal pyramid
- ○ octagonal prism
- ○ hexagonal pyramid

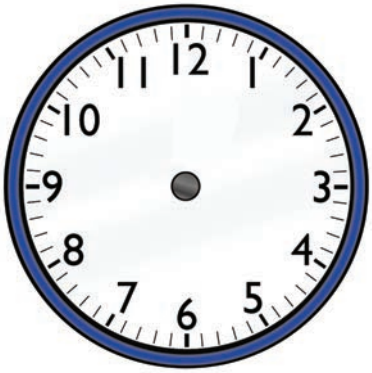
How do you know? _____

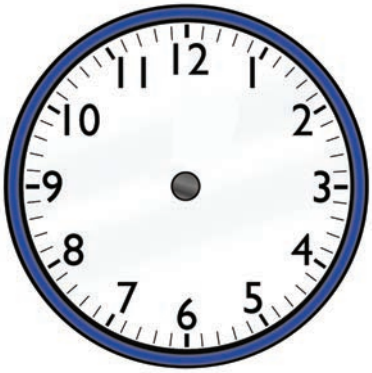
4 What's the time?

What is the time now?

What will the time be in 25 minutes? Show it on the clock and write it in numbers.







5 Stock take

James needs to buy more stock for his store. He completed a stock take of all the items and this sheet shows what he counted.

The 'Total' column shows the number of each item that he needs.

	Number counted	Top up needed	Total
nails	12 350		13 000
screws	9 700		10 000
tacks	5 300		6 000
Total			

a) Work out how many of each item James needs to buy to get the totals he needs. Write the number in the 'Top up needed' column in the table.

b) Complete the 'Total' row for each column.

c) Nails are $1 for 50 and tacks are $2 for 100. Which item will James spend the most on when he buys his top up amount?

_____

SWITCH ON

Let's start by exploring your understanding of the decimal system.

They are based on the **decimal system**. Sometimes students get a bit flustered when they think about the decimal system, so we want to remind you that it's part of your everyday life.

Money and measurement – what do these have in common?

You are possibly successfully working with the decimal system every day and have not even stopped to think about it!

Activity 1

1.1

In the space below, write any knowledge you have about the decimal system. Think about a definition, examples or diagrams that will help to show what you know.

Did you have any of these facts?

- The decimal system is our counting system.
- The prefix ‘deci’ means 10.
- The decimal system is a number system based on the number 10.
- The decimal system is also known as the base 10 system.
- The decimal system is based on the Hindu-Arabic numbering system.
- The decimal system uses place value, eg hundreds, tens and ones.
- The decimal system uses a decimal point, eg 23.9, to separate whole numbers and decimal fractions.
- The decimal system uses the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.

1.2

Decimals numbers are part of the decimal system. Decimal numbers are the numbers we use to count.

What do you know about decimal numbers?

Think about a definition, examples or diagrams that will help to show what you know.

Did you have any of these facts?

- Decimals numbers use a decimal point, eg 12.46.
- The decimal point is used to separate the whole numbers from the parts of a whole.
- Decimal numbers represent parts of a whole, eg 0.5 or half.
- Decimal numbers can be used to write mass, eg 23.7 kg.
- Decimal numbers can be used to write linear (length) measurements, eg 9.25 cm.
- Decimal numbers can be used to write capacity, eg 1.5 L.
- Decimal numbers can be used to write amounts of money, eg $56.10.
- Decimal numbers are based on the Hindu-Arabic numbering system.
- A fraction can be written as a decimal, eg $\frac{1}{4}$ = 0.25.
- A decimal can be written as a fraction, eg 0.75 = $\frac{3}{4}$.

Can you recognise decimal numbers?

1.3

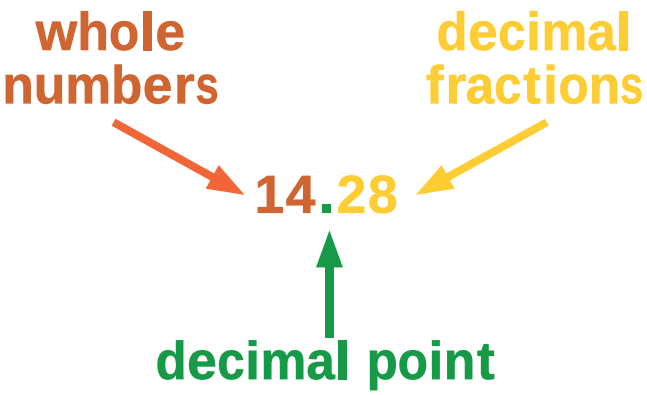
a) Identify the numbers that include decimal fractions. Colour their bubbles.

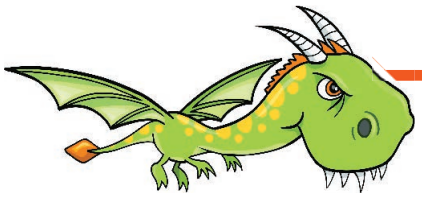
- ○ 78
- ○ 1 234.7 L
- ○ one hundred and eighty-four thousand, two hundred and ten
- ○ $186.25
- ○ 0.000678

b) How did you know which numbers included decimal fractions?

Activity 2

A decimal number has two parts that are divided by the **decimal point**. This diagram shows you the different parts.

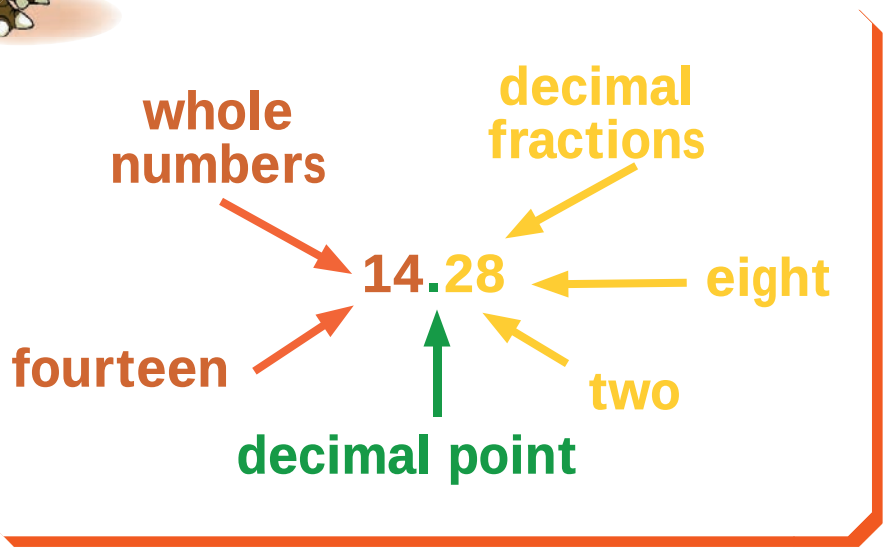




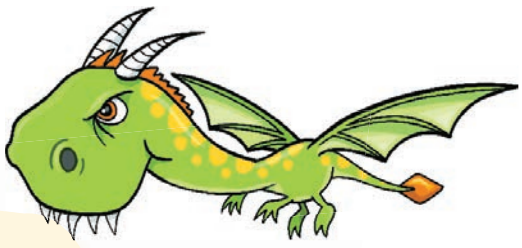
So the numbers to the right of the decimal point are called **decimal fractions**. We use words such as half, quarter and third when we talk about fractions.

Is there special terminology when we talk about decimal fractions?

Well spotted Mezz!
We don't have special words but we do read, write and say the decimal fraction part in a special way.
Take a look at this diagram.



So 14.28 is read and written as **fourteen point two eight**?



That's correct! This helps us see and hear the difference between the **whole number** and decimal fraction.

2.1

Practise reading, writing and saying decimal numbers in this activity.

a) Read each number to an adult and tick the check column if you were correct.

b) Write each number in words.

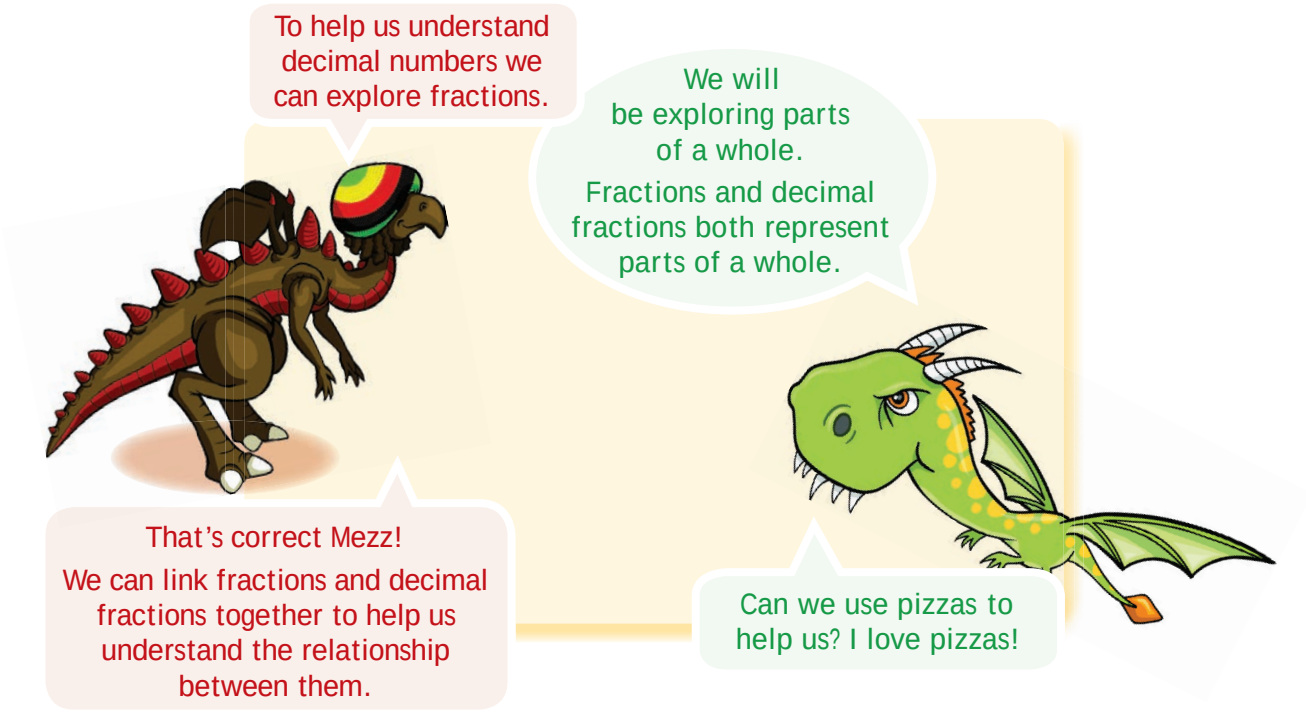
Decimal number	Decimal number in words	Check
8.04	eight point zero four	✓
679.52		
12.5		
68.06		
27.463		

2.2

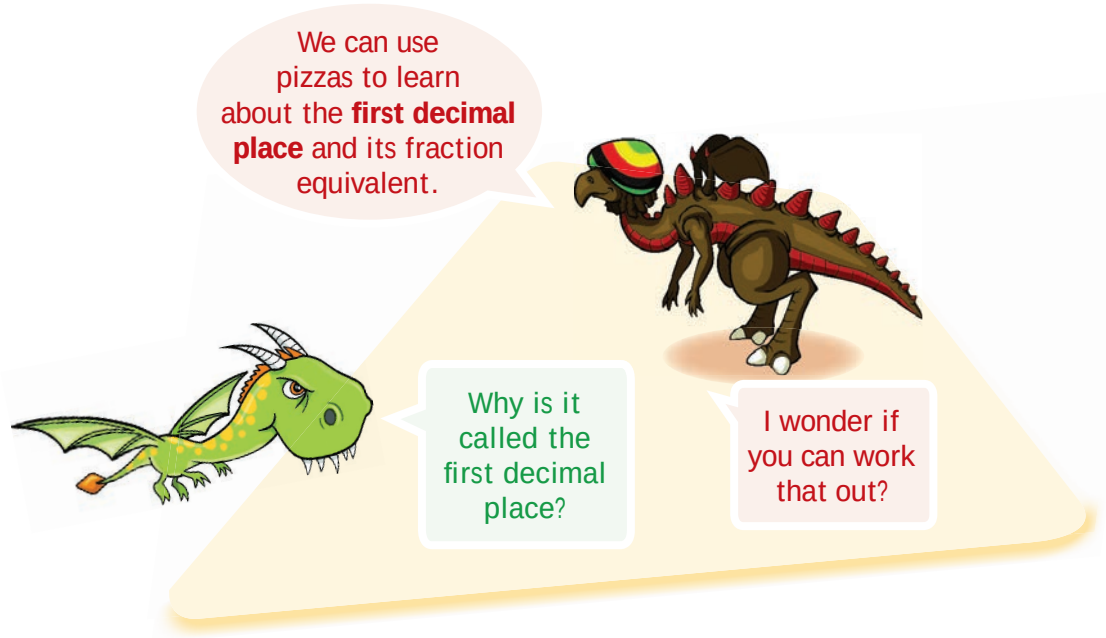
Read these decimal numbers and write them using digits.

Decimal numbe r in words	Decimal number in digits
three thousand, two hundred and seventy point eight four	3 270.84
twenty-five thousand, nine hundred and thirteen point two two	
forty-seven point zero six	
one hundred and fifty-eight point nine	
thirty three thousand and nineteen point six five eight	

Activity 3



3.1



Fill in any information about the pizza that you know or can work out.

- This is one whole pizza cut into _____ pieces.
- 1 whole can also be written as $\frac{10}{10}$
- The pizza has been cut into (in words) _____
- One piece of the pizza is called (in words) _____
- Circle a part of the pizza that shows this fraction.
- One piece of the pizza can be written as the fraction $\frac{\quad}{\quad}$

3.2

Now that we understand about tenths, we need to move to a place value chart.

Take out your place value chart from your kit.

Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
				•			

a) Place the correct MAB in the ones, tens, hundreds and thousands columns.

b) Identify the MAB that is divided into 1 000 parts.

When we are working with tenths, hundredths and thousandths, we use the MAB 1 000 cube to represent a whole.

Place the cube into the ones column on your place value chart. Imagine that it is an MAB one that has been enlarged!

c) If the cube represents the one, identify the MAB that represents one tenth of the whole and place it on your chart in the **first decimal place** or **tenths position**.

Which block did you choose? _____

Why did you select that MAB? _____

_____

3.3

a) On this chart, draw the MAB you used to show tenths, in the first decimal place.

b) In the row below, write a 1 to represent one tenth.

c) There are no ones so write zero into the ones column.

Whole numbers				•	Decimal fractions		
Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
					first decimal place		
				•			
				•			

We now know that the fraction $\frac{1}{10}$ can also be written as a decimal fraction of 0.1.

d) Why did Deke call the tenths position the first decimal place?

3.4

Write the equivalent fraction or decimal fraction into these rows to complete each counting sequence.

$\frac{1}{10}$		$\frac{3}{10}$		$\frac{5}{10}$		$\frac{7}{10}$		$\frac{9}{10}$	$\frac{10}{10}$
0.1	0.2		0.4		0.6		0.8		

Look at the fractions and decimal fractions in the activity you have just completed. Did you notice that all the fractions have one zero under the fraction bar and that all the decimal fractions have one digit after the decimal point?

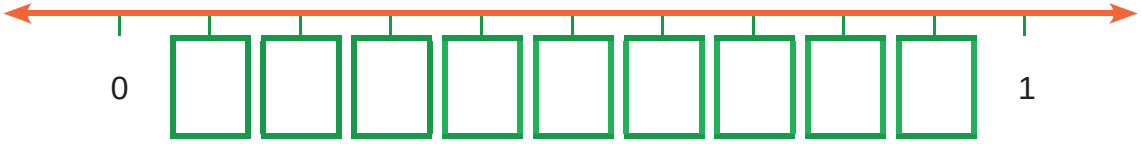
Activity 4

We would not usually see a number line with both factions and decimal fractions marked on it however let's see if you can make one!

4.1

Place these fractions and decimal fractions onto the number line in the correct sequential order.

0.1	0.2	0.5	0.6	0.8	$\frac{3}{10}$	$\frac{4}{10}$	$\frac{7}{10}$	$\frac{9}{10}$



4.2

Use the number line from 4.1 to help you with these activities.

a) Write T (true) or F (false) to show whether these number sentences are correct.

$0.5 = \frac{5}{10}$

$\frac{7}{10} = 0.6$

$0.3 = \frac{3}{10}$

$\frac{4}{10} = 0.7$

$1 = \frac{10}{10}$

b) Write T (true) or F (false) to show whether these number sentences are correct.

$0.1 < \frac{4}{10}$

$\frac{7}{10} > 0.5$

$0.2 < \frac{9}{10}$

$\frac{3}{10} < 0.8$

$\frac{4}{10} > 0.6$

Remember, the crocodile mouth always opens towards the largest number so

24 > 16

means that 24 is greater than 16.

And this

16 < 24

means that 16 is less than 24.

Activity 5

This activity will consolidate knowledge about the first decimal place, fraction equivalents and how to read decimals.

5.1

Five pizzas have been divided into 10 equal pieces.

Mezz has been eating the pizzas. How much pizza has he left for Deke?

	Fraction left	Decimal fraction left	Decimal fraction in words
	$\frac{7}{10}$	0.7	zero point seven
			
			
			
			

5.2

Four chocolate bars have been divided into 10 equal pieces.

Deke has been eating the chocolates. The pictures in the table show how much chocolate he has left for Mezz.

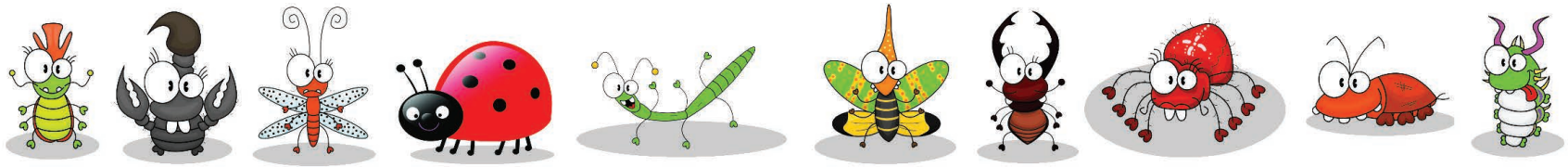
How much has Deke eaten?

Amount of chocolate left	Fraction eaten	Decimal fraction eaten	Decimal fraction in words
			
			
			
			

POWER UP

This table will really test your knowledge. Good luck!

Leisha has an insect collection that she keeps in a glass tank with a plastic lid. She has 10 insects in her whole collection. On Monday her brother took the lid off the tank.



What happened?	What fraction of the collection is missing?	What decimal fraction of the collection is missing?	Write a fraction subtraction sentence to show what happened.	Write a decimal fraction subtraction sentence to show what happened.	Leisha found her insects and put them back into the tank.
2 insects flew away	$\frac{2}{10}$	0.2	$1 - \frac{2}{10} =$	1 – 0.2 =	0.8 + 0.2 = 1
On Tuesday 7 insects crawled out the air holes					
On Friday the cat took 9 insects out to play					
On Saturday Leisha took 4 insects to show her friend					
On Sunday Leisha set half her collection free					

DAY 2

How about hundredths?

TUNE IN

1 Fraction match

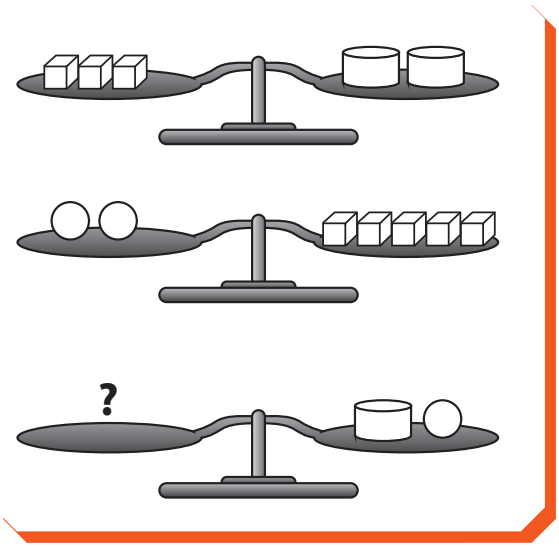
Connect each improper fraction with its matching mixed numeral.

Use coloured lines or shading to show the pairs.

$\frac{17}{3}$	$\frac{67}{10}$	$\frac{84}{9}$	$\frac{62}{3}$	$\frac{101}{10}$	$\frac{92}{9}$

$20\frac{2}{3}$	$10\frac{2}{9}$	$10\frac{1}{10}$	$6\frac{7}{10}$	$5\frac{2}{3}$	$9\frac{3}{9}$ or $9\frac{1}{3}$

2 In the balance



a) How many cubes will balance this scale?

- ○ 4
- ○ 5
- ○ 6
- ○ 7

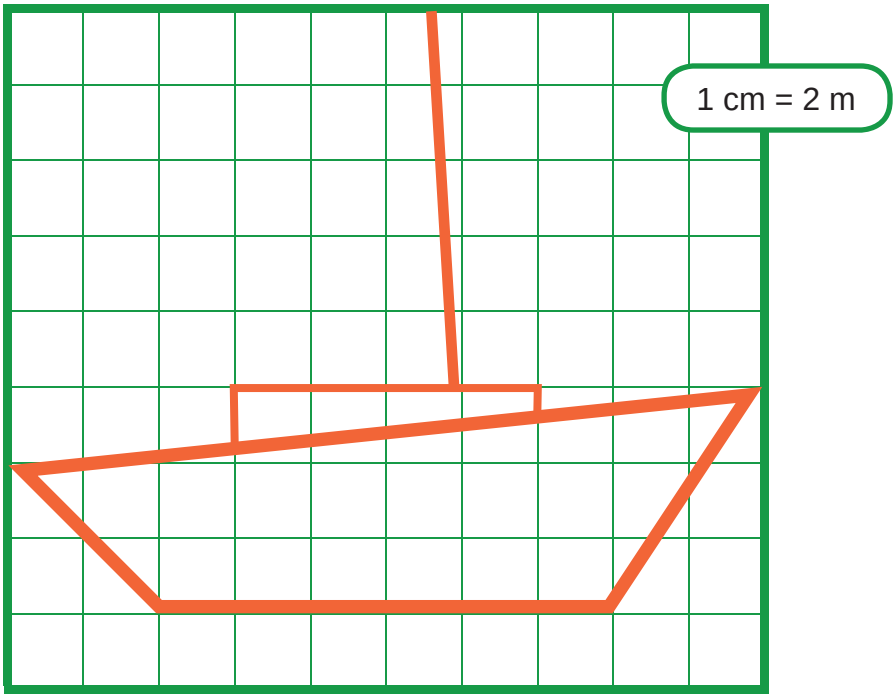
b) Show how you know _____

_____

c) If the mass of a cube is 10 kg, what is the mass of a cube and an octagonal prism? _____

3 Real size

Susan drew a picture of the boat her family had bought using 1 cm graph paper. Her picture looked like this.



Answer these questions about the real measurements of Susan's boat.

a) How long is the bottom of Susan's boat? _____ m

b) How high is Susan's boat not including the radio antenna? _____ m

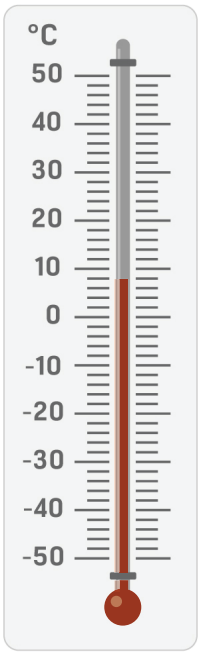
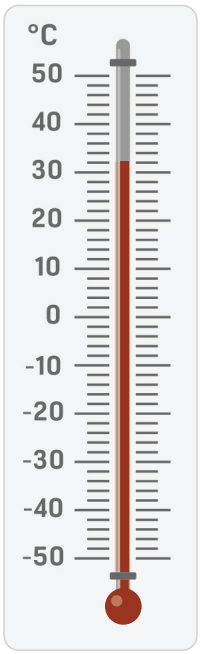
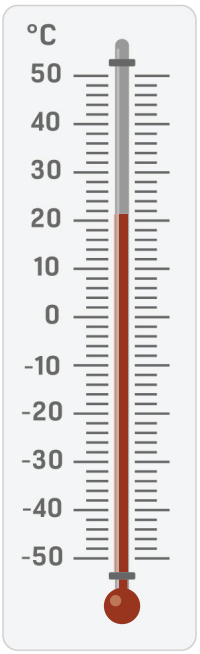
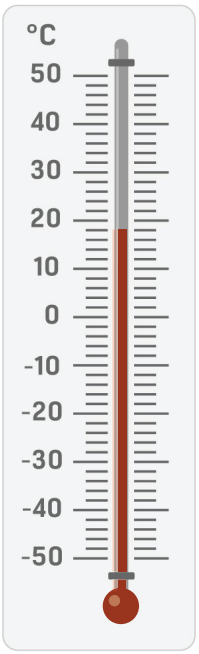
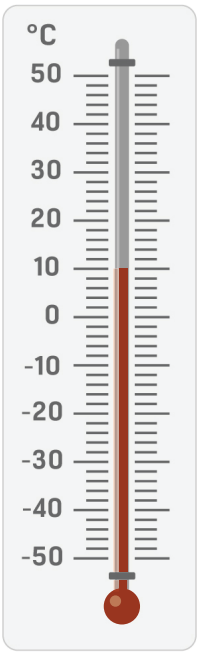
c) Would Susan's boat fit inside a shed that is 20 m high? _____

How do you know?

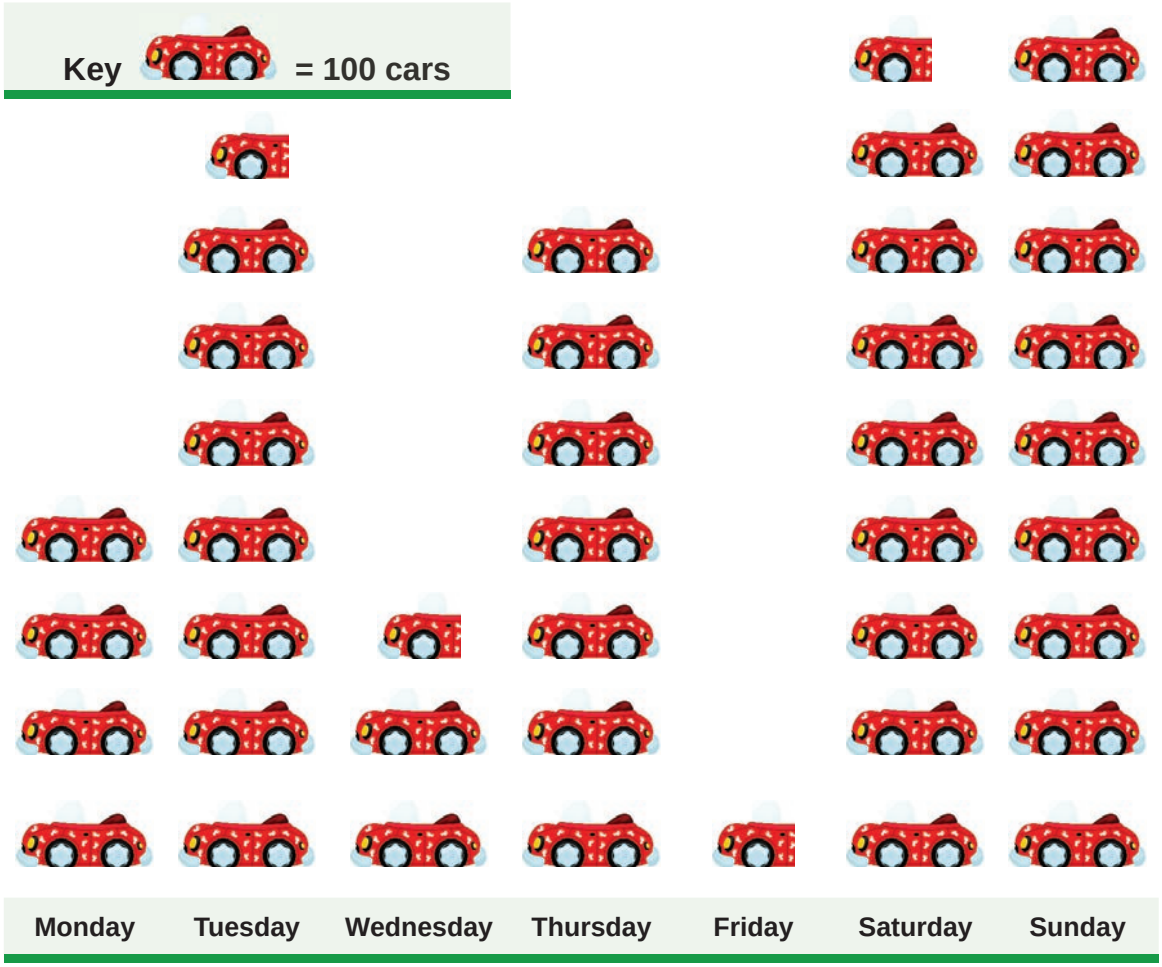
4 Hot and cold

Judie read her outdoor thermometer five times during the day. These are the temperatures that she saw.

Write each temperature under each thermometer.

7.00 am	12.00 pm	4.00 pm	7.00 pm	11.00 pm
				

5 Parking at the grounds



The managers at the Wassex sporting arena recorded the number of cars that used their car park in one week and graphed the results using a pictograph.

a) What is the total number of cars that used the car park on Saturday and Sunday? _____

b) How many more cars were in the car park on Tuesday in comparison to Monday? _____

c) If the car park managers decided to close the car park for one day each week, which day would they choose? _____

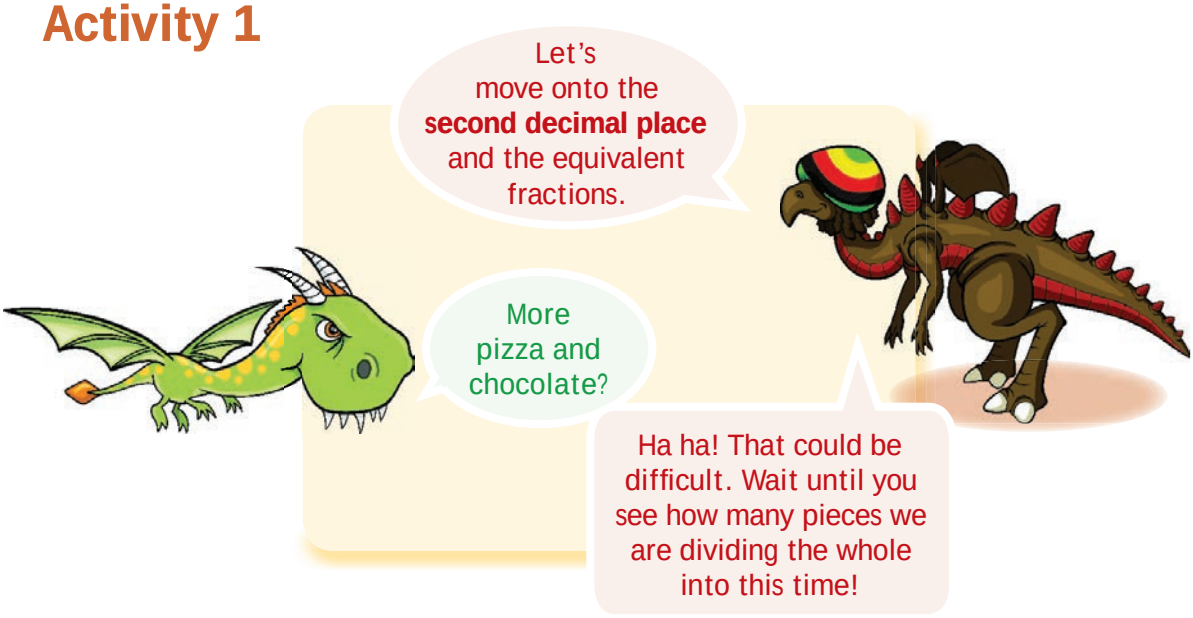
Why? _____

_____

d) What does this symbol  mean? _____

SWITCH ON

Activity 1



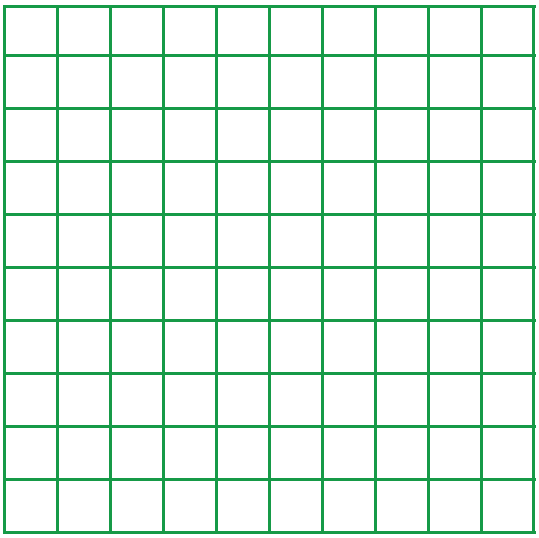
1.1

a) How many squares in this grid? _____

b) Explain how you worked out the answer to a). _____

_____

_____



c) Fill in any information about the grid that you know or can work out.

This grid cut into _____ squares.

1 whole can also be written as $\frac{\quad}{100}$

The grid has been cut into (in words) _____

One piece of the grid is called (in words) _____

Colour one piece of the grid to show this fraction.

One piece of the grid can be written as the fraction $\frac{\quad}{\quad}$

What can you think of in every day life that is divided into 100 equal pieces?

_____

_____

1.2

And now – onto the equivalent decimal fraction!

You need:

- your place value chart from the kit
- MABs.

Remember! The 1 000 cube is an MAB one that has been enlarged!

a) Identify the MAB that is divided into 1 000 parts. This is your whole. Place it into the ones column on your place value chart.

b) Identify the MAB that represents one tenth of the whole.

c) Which block did you choose? _____

d) Place the block into the tenths column.

e) Identify the MAB that represents one hundredth of the whole.

f) Which block did you choose? _____

g) Why did you select that MAB? _____

_____

_____

h) Place the MAB into your chart in the second decimal place or hundredths column.

Use this information to help you complete the next activity.

Activity 2

2.1

a) In the chart below, draw the MAB you used to show hundredths, in the second decimal position.

b) In the next row, write in a 1 to represent one hundredth.

c) There are no ones or tenths however both columns need a digit to show this. Fill in the ones and tenths column with the correct digit.

Whole numbers				•	Decimal fractions		
Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
				•	first decimal place	second decimal place	
				•			
				•			

From our work using the grid and this chart we know that the fraction $\frac{1}{100}$ can also be written as a decimal fraction of 0.01.

We use zero as a place holder in the ones and tenths column when we are writing hundredths.

d) Why does Deke call the hundredths position the **second decimal place**?

Activity 3

We can use our understanding that $\frac{1}{100} = 0.01$ to write other decimal fractions.

3.1

Write the equivalent fraction or decimal fraction into these rows to complete each counting sequence.

$\frac{1}{100}$	$\frac{2}{100}$		$\frac{4}{100}$		$\frac{6}{100}$		$\frac{8}{10}$	
0.01		0.03		0.05		0.07		0.09

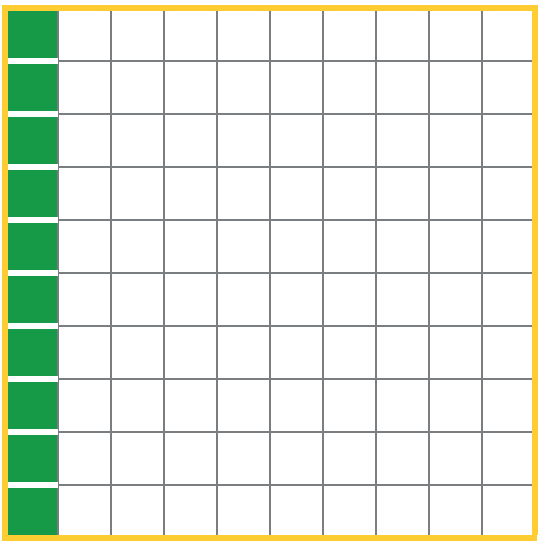
Look at the fractions and decimal fractions in the activity you have just completed.

Did you notice that all the fractions have two zeros under the fraction bar and that all the decimal fractions have two digits after the decimal point?

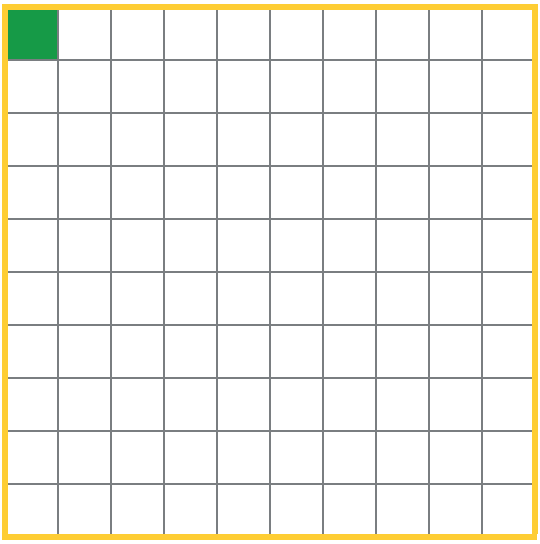
Activity 4

Let's compare tenths and hundredths.

This grid shows one tenth or $\frac{1}{10}$ or 0.1.



This grid shows one hundredth or $\frac{1}{100}$ or 0.01.



I am sure that you noticed that one hundredth is smaller than one tenth. Use this knowledge to help you answer the next questions.

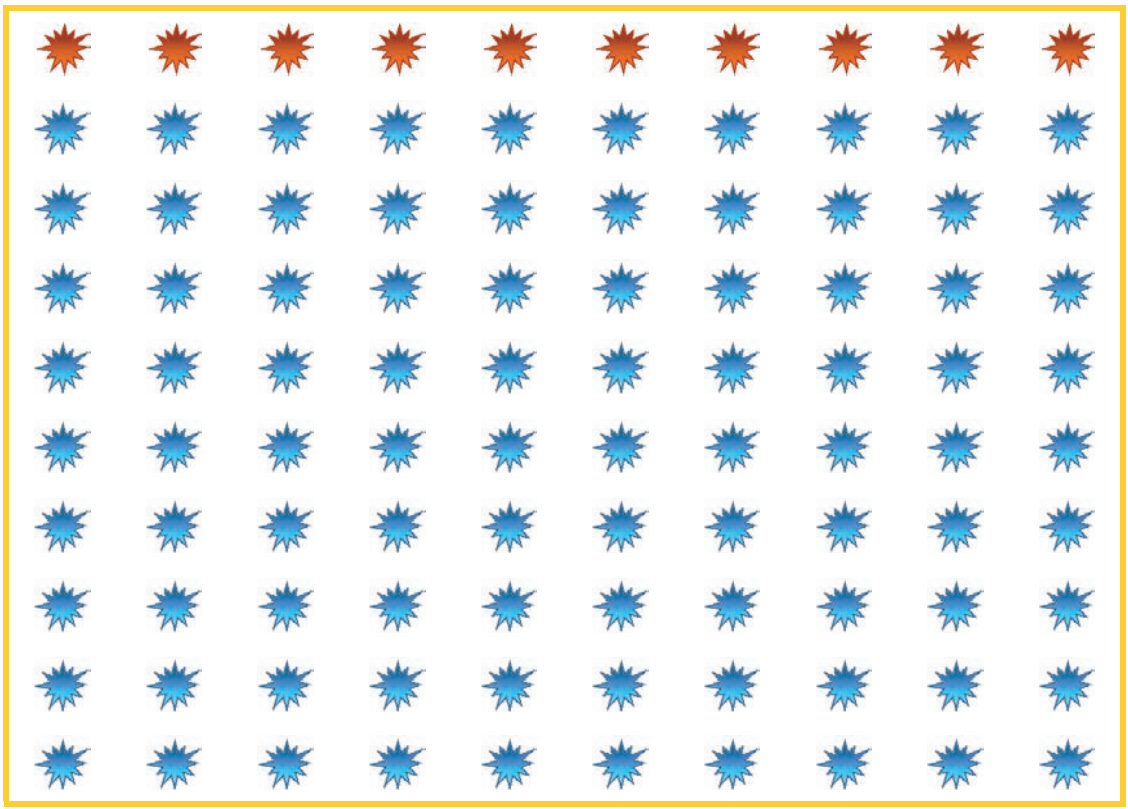
So $\frac{1}{100}$ is smaller than $\frac{1}{10}$.

And 0.01 is smaller than 0.1. Use this knowledge to help you answer the next questions.

4.1

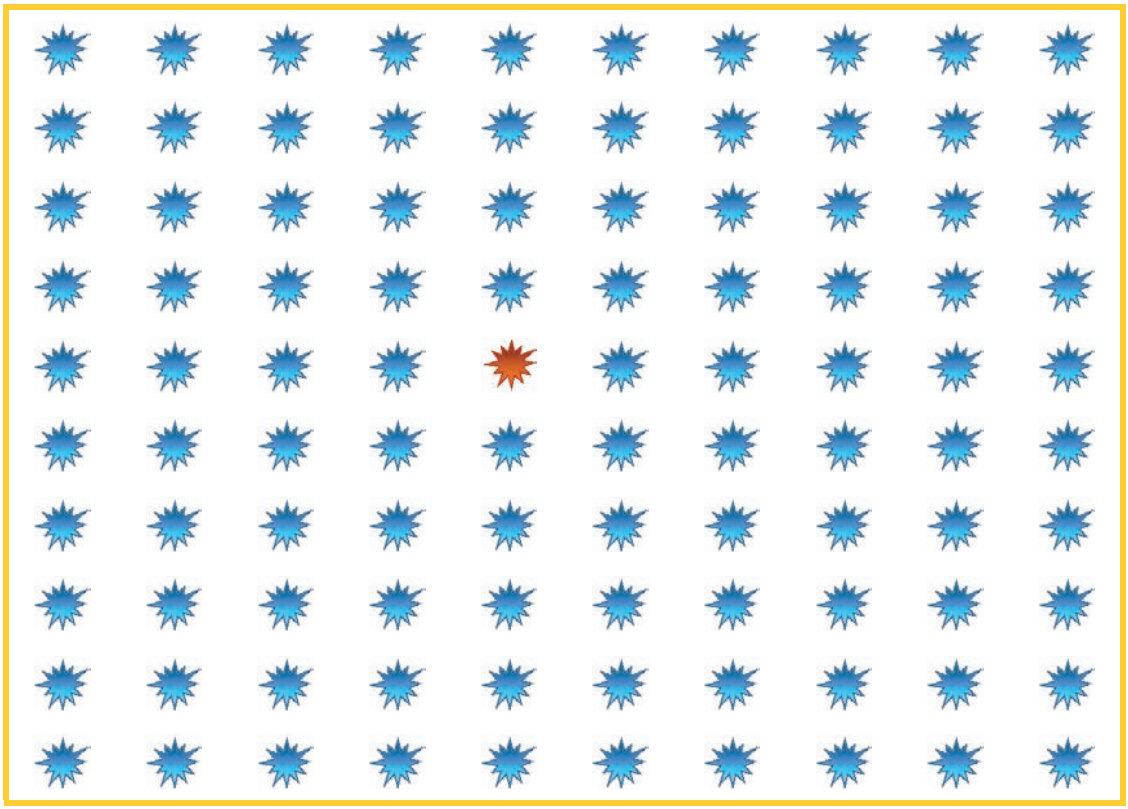
a) What fraction of the stars are coloured orange? Circle all the correct answers.

$\frac{1}{10}$ $\frac{1}{100}$ 0.01 0.1



b) What fraction of the stars are coloured orange? Circle all the correct answers.

0.1 0.01 $\frac{1}{100}$ $\frac{1}{10}$



Circle the correct answer for the following.

c) Which decimal fraction is larger? 0.01 or 0.1

d) Which fraction is smaller? $\frac{1}{100}$ or $\frac{1}{10}$

Activity 5

5.1

Complete these sentences and number sentences using < or >.

a) Tenths are _____ hundredths.

b) Deke's slice of cake is 0.1 of the cake. Mezz' slice is 0.01 of the cake.

Deke's slice is _____ than Mezz' slice.

c) 0.03 _____ 0.3

d) 0.6 _____ 0.09

e) 0.7 _____ 0.9

f) 0.5 _____ 0.08

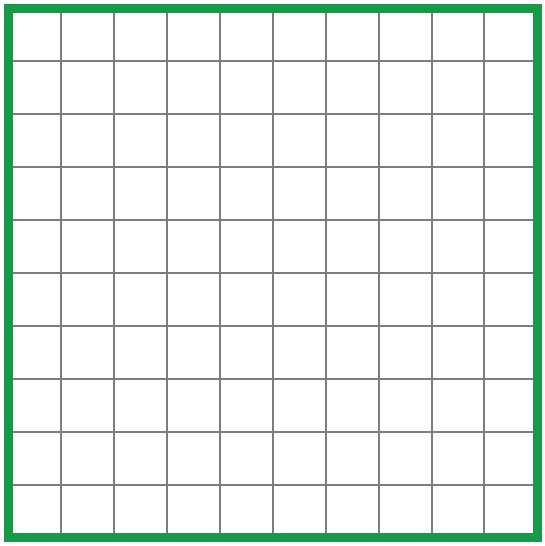
g) 0.04 _____ 0.07

h) 0.02 _____ 0.03

Activity 6

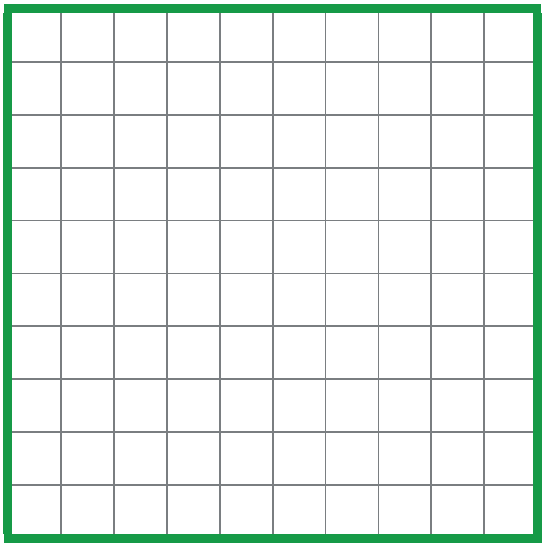
This activity will help you 'see' what some hundredths look like.

6.1



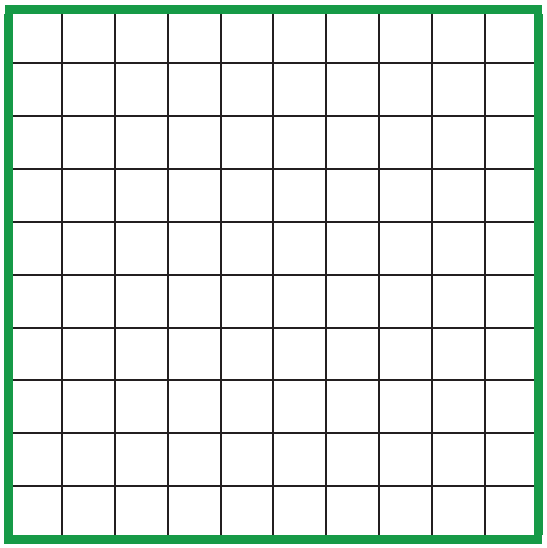
a) Shade 0.06.

$0.06 = \frac{6}{100}$



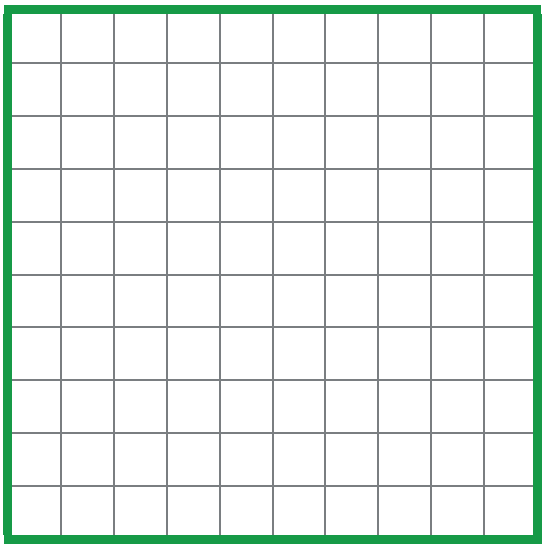
b) Shade 0.05.

$0.05 = \frac{5}{100}$



c) Shade 0.03.

$0.03 = \frac{3}{100}$

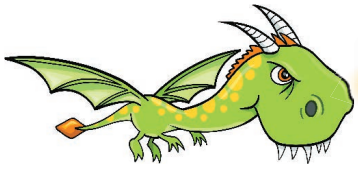


d) Shade 0.09.

$0.09 = \frac{9}{100}$

6.2

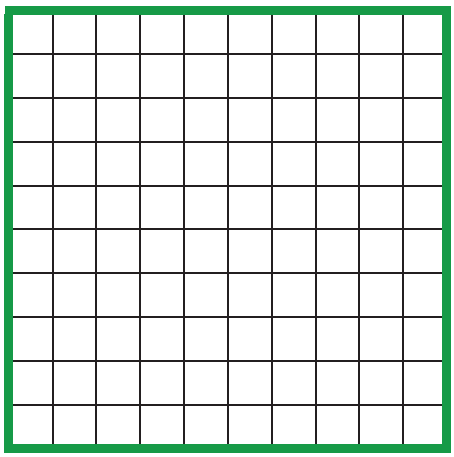
Let's explore some more in these grids. Take care to look carefully!



One hundredth is ■

and one tenth is ■■■■■■■■■■

a) Begin by shading half of this grid.



Half = $\frac{1}{2}$ = $\frac{\quad}{10}$ = $\frac{\quad}{100}$ = 0.50 = 0.5

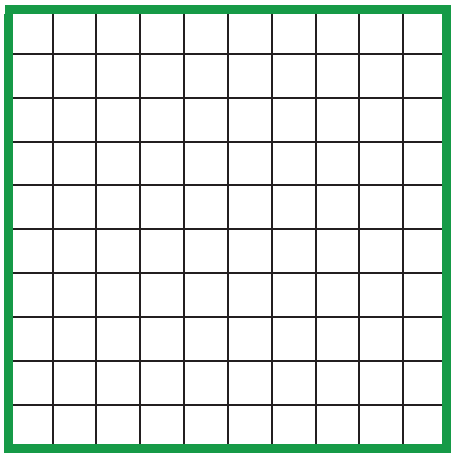
How many hundredths have you shaded?

_____

How many tenths have you shaded?

_____

b) Shade one tenth of this grid.



A tenth = $\frac{\quad}{10}$ = $\frac{\quad}{100}$ = 0.☐☐ = 0.☐

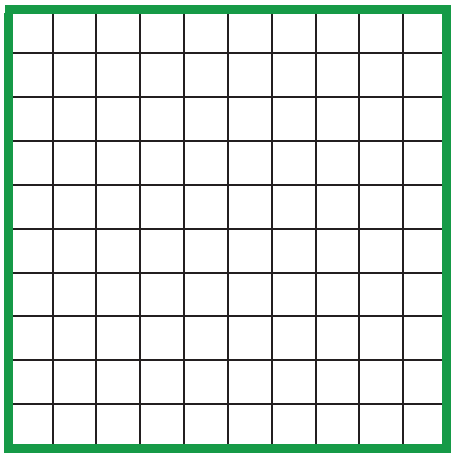
How many hundredths have you shaded?

_____

How many tenths have you shaded?

_____

c) Shade six tenths of this grid.



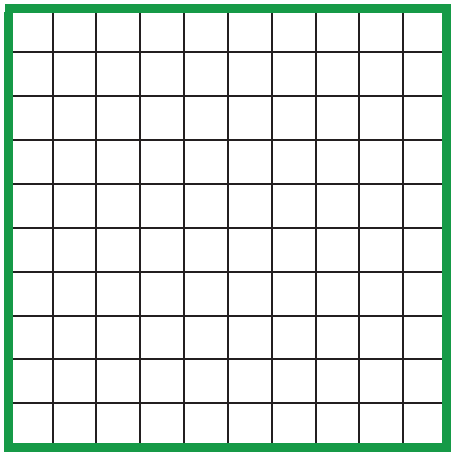
Six tenths = $\frac{}{10}$ = $\frac{}{100}$ = 0. ☐☐ = 0. ☐

How many hundredths have you shaded?

_____

How many tenths have you shaded? _____

d) Shade eighty hundredths of this grid.



Eighty hundredths = $\frac{}{100}$ = $\frac{}{10}$ = 0. ☐☐

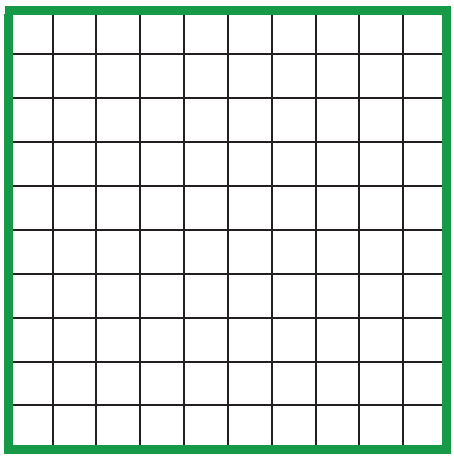
= 0. ☐

How many hundredths have you shaded?

_____

How many tenths have you shaded? _____

e) Shade 0.40 of this grid.



0.40 = $\frac{}{100}$ = $\frac{}{10}$ = 0. ☐☐ = 0. ☐

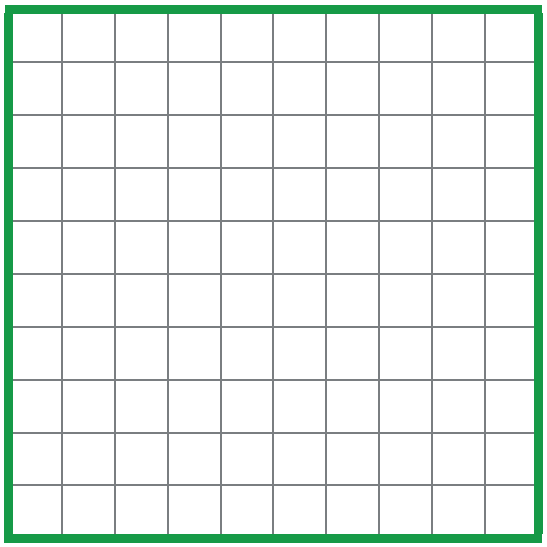
How many hundredths have you shaded?

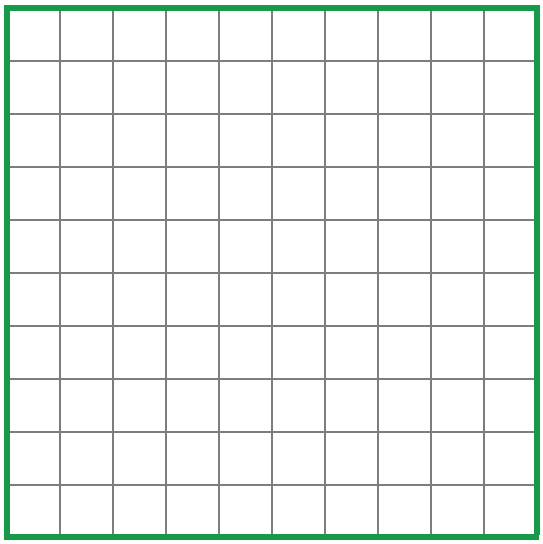
_____

How many tenths have you shaded? _____

6.3

Use these grids and the space below to explain whether 0.3 is larger or smaller than 0.03.

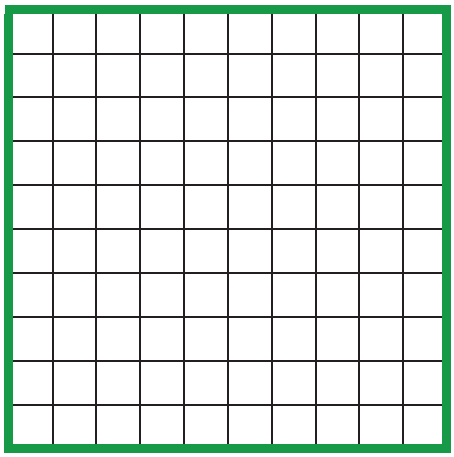




6.4

That activity explored multiples of 10. Let's look at other decimals.

a) Shade twenty-five hundredths of this grid.



$\frac{25}{100} = 0.$ ☐☐

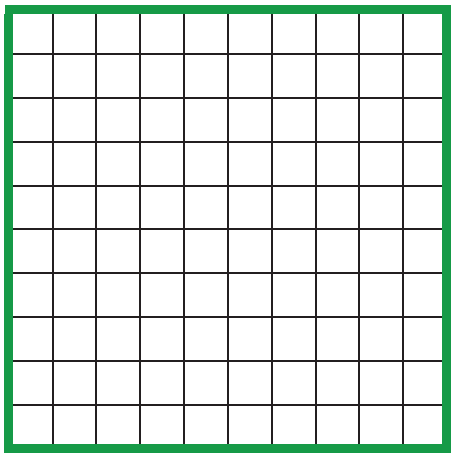
$\frac{25}{100} = \frac{\quad}{20} = \frac{\quad}{4}$

How many hundredths have you shaded?

_____

A quarter can be written as 0. ☐☐

b) Shade three-quarters of this grid.



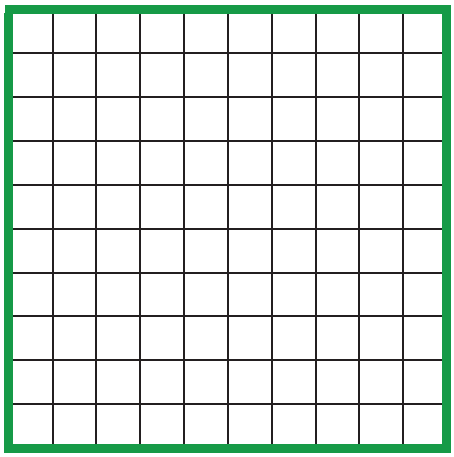
$\frac{3}{4} = \frac{\quad}{100} = 0.$ ☐☐

How many hundredths have you shaded?

_____

Three-quarters can be written as 0. ☐☐

c) Shade eighty-five hundredths of this grid.



$\frac{85}{100} = 0.$ ☐☐

POWER UP

Sammi's grandfather gave him a coin collection to look at one rainy day.

The coin collection contained **100** coins.

Complete the table to show what part of the collection the different coins make up.

This coin does not have any information to help you.

Can you use what you know about the other coins to complete its columns?

Coins	Number of coins	Fraction	Decimal fraction
	1		0.01
			0.1
	20		
		$\frac{25}{100} = \frac{1}{4}$	
	14		
			0.06
		$\frac{16}{100}$	
			

DAY 3

Thrilling thousandths

TUNE IN

1 Decimals and fractions

a) Colour any bubbles that show an equivalent fraction for 0.5.

$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{5}{10}$	$\frac{50}{100}$
○	○	○	○	○

b) Colour the bubbles that match the fractions that are equivalent to 0.25.

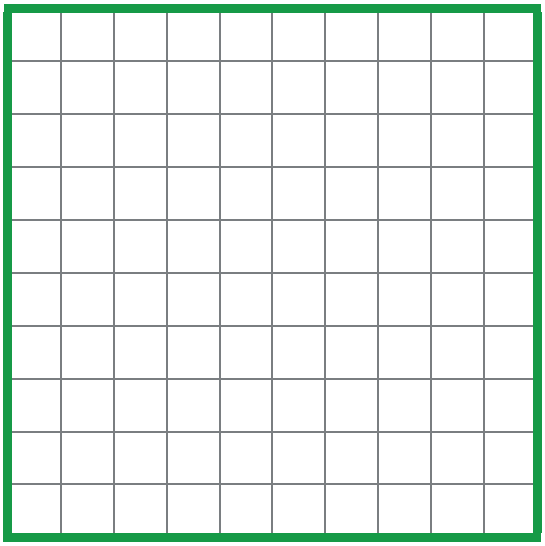
$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{25}{100}$	$\frac{75}{100}$
○	○	○	○	○

2 Shady tenths

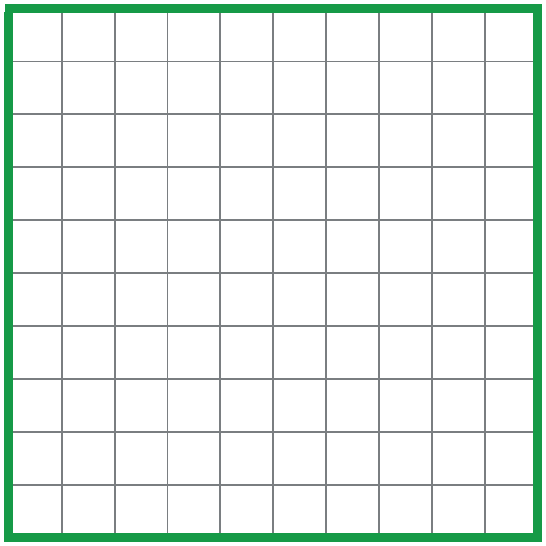
Shade 0.3.

Shade 0.5.

Shade 0.7.



Shade 0.9.

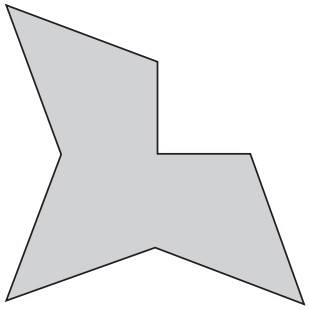


3 Pay the price

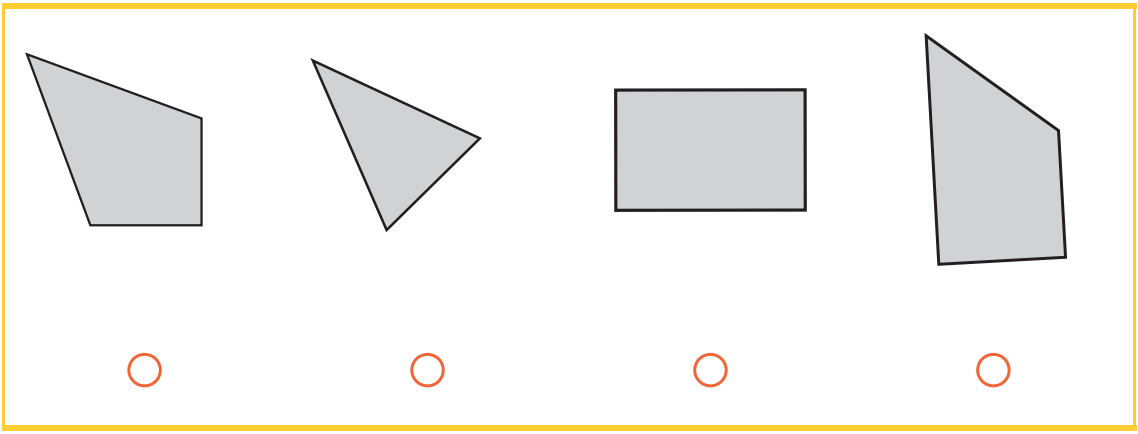
	
Cost = $4.00	Cost = $3.50

		
How much?	How much?	How much?

4 Puzzle piece

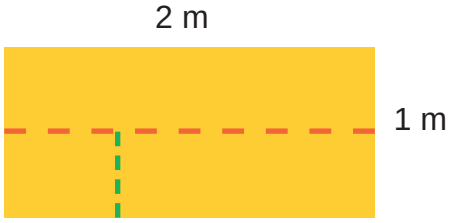


One piece is missing from this symmetrical puzzle. Shade the bubble that shows the missing piece.



5 Snip snap

Kelli had a piece of material that was 1 m × 2 m.



She cut the material in half lengthways.

What are the lengths and widths of the two pieces of material? L = ___ W = ___

Kelli cut a quarter of the length of one piece of material.

What is the length and width of the smaller piece of material? L = ___ W = ___

SWITCH ON

Activity 1

Let's move onto the **third decimal place** and the equivalent fractions.

The third decimal place? The pieces that we cut a whole into are getting very small!

Remember! The 1 000 cube is an MAB one that has been enlarged! When we call the 1 000 cube one, the other MABs become a fraction of its size.

Look at the place value chart and locate the third decimal place.

1.1

You need:

- your place value chart from the kit
- MAB.

a) Identify the MAB that is divided into 1 000 parts. This is your whole. Place it into the ones column on your place value chart.

b) Identify the MAB that represents one tenth of the whole.

c) Place the block into the **first decimal place** or **tenths column**.

d) Which block did you choose? _____

e) Identify the MAB that represents one hundredth of the whole.

f) Which block did you choose? _____

g) Place the MAB into your chart in the **second decimal place** or **hundredths column**.

h) Identify the MAB that represents one thousandth of the whole.

i) Which block did you choose? _____

j) Place the MAB into your chart in the **third decimal place** or **thousandths column**.

Why did you select this block? _____

_____

_____

Use this information to help you complete the next activity.

Activity 2

2.1

a) In the chart below, draw the MAB you used to show thousandths, in the third decimal position.

b) In the next row, write in a 1 to represent one thousandth.

c) There are no ones, tenths or hundredths however these columns need a digit to show this. Fill in these columns with the correct digits.

Whole numbers				•	Decimal fractions		
Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
					first decimal place	second decimal place	third decimal place
				•			
				•			

d) Why does Deke call the thousandths position the **third decimal place**?

_____

_____

_____

Activity 3

Zero is a very important digit when we write decimal numbers. We use zero as a place holder in the decimals columns if there are no other digits to fill in these places.

This zero is a place holder and puts the 6 in the hundredths column.

Ones	•	Tenths	Hundredths
1	•	0	6

Zero is a **not** a place holder in this decimal number and can be left off.

Ones	•	Tenths	Hundredths	Thousandths
1	•	2	4	0

3.1

Use digits to show one tenth, one hundredth and one thousandth on this place value chart.

Don't forget the zeros!

	Whole numbers	•	Decimal fractions		
	Ones	•	Tenths	Hundredths	Thousandths
one tenth		•			
one hundredth		•			
one thousandth		•			

3.2

You may want to use your place value chart and MABs to help you complete this activity.

Read each number. Draw the MABs that represent each number onto the chart. Write each number into the place value chart under your drawings.

a) 0.2

Whole numbers	•	Decimal fractions		
Ones	•	Tenths	Hundredths	Thousandths
	•			
	•			

b) 0.05

Whole numbers	•	Decimal fractions		
Ones	•	Tenths	Hundredths	Thousandths
	•			
	•			

c) 1.078

Whole numbers	•	Decimal fractions		
Ones	•	Tenths	Hundredths	Thousandths
	•			
	•			

Activity 4

Now it's time to use our imagination!

Imagine you have a chocolate block that is divided into 1 000 squares!

We can use our understanding that $\frac{1}{1000} = 0.001$ to write other decimal fractions.

4.1

One square of chocolate is 0.001 of the block. What fraction is that?

_____

4.2

Write the equivalent fraction or decimal fraction into these rows to complete each counting sequence.

$\frac{1}{1000}$	$\frac{2}{1000}$	$\frac{3}{1000}$		$\frac{5}{1000}$	$\frac{6}{1000}$	$\frac{7}{1000}$		
0.001			0.004				0.008	0.009

4.3

Now that you have explored tenths, hundredths and thousandths, can you see a pattern developing? Complete this table to show it.

Decimal place	Number of digits after the decimal point	Number of zeros in the equivalent fraction denominator
1st decimal place		
2nd decimal place		
3rd decimal place		
4th decimal place		
5th decimal place		
10th decimal place		
15th decimal place		
20th decimal place		
41st decimal place		

What patterns can you see? _____

_____

_____

_____

Activity 5

5.1

Complete these number sentences using < or > or =.

a) Tenths are _____ hundredths _____ thousandths.

b) Deke, Mezz and PV Pete share a bottle of soft drink. Mezz poured the drink into 3 glasses.

Deke's glass has 0.001, Mezz's glass has 0.1 and PV Pete's glass has 0.01 of the drink.

Deke's drink _____ Mezz's drink _____ PV Pete's drink.

c) 0.007 _____ 0.7

d) 0.07 _____ 0.7

e) 0.007 _____ 0.07

f) 0.5 _____ 0.005

g) 0.5 _____ 0.05

h) 0.05 _____ 0.005

5.2

Write in the equivalent decimal fraction or fraction. The first example has been completed for you.

$\frac{7}{1000}$		$\frac{46}{1000}$		$\frac{367}{1000}$		$\frac{8}{1000}$		$\frac{603}{1000}$	
0.007	0.506		0.005		0.031		0.092		0.422

Activity 6

Let's investigate tenths, hundredths and thousandths some more.

Complete the chart by adding zero as a place holder.

6.1

Add the missing zeros to the chart to show one tenth, one hundredth and one thousandth.

Whole numbers				•	Decimal fractions		
Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
				•	first decimal place	second decimal place	third decimal place
			0	•	1		
				•		1	
				•			1

6.2

Write these decimal fractions in words.

0.673	
0.05	
0.504	
0.008	
0.023	

6.3

Expand these decimal fractions.

Number	Wholes	•	Decimal fractions		
0.593	0 ones	•	5 tenths	9 hundredths	3 thousandths
0.08		•			
0.006		•			
0.243		•			
0.3		•			

6.4

Fill in the place value and total value of the highlighted digits.

	Place value	Total value
0.094		
0.07		
0.002		
0.306		
0.051		

6.5

Complete the table by filling in the equivalent decimal fractions and fractions.

$\frac{4}{10}$		$\frac{99}{1000}$		$\frac{62}{100}$		$\frac{3}{10}$	
	0.078		0.009		0.57		0.2

6.6

a) Work out the counting pattern and write in the missing decimal numbers.

4.3		4.5			4.8			

What is the pattern?

_____

_____

b) Work out the counting pattern and write in the missing decimal numbers.

86.2		86.6		87		87.4		

What is the pattern?

_____

_____

POWER UP

Complete these number sentences using <, > and =.

0.3	_____	0.03	_____	0.003
0.500	_____	0.50	_____	0.5
0.07	_____	0.18	_____	0.34
$\frac{9}{10}$	_____	0.5	_____	0.2
$\frac{4}{100}$	_____	$\frac{67}{100}$	_____	0.75
0.102	_____	$\frac{42}{1000}$	_____	0.006
$\frac{51}{100}$	_____	0.5	_____	0.049
0.789	_____	$\frac{4}{10}$	_____	0.08
$\frac{324}{100}$	_____	0.6	_____	0.78

DAY 4

Wholes and parts

TUNE IN

1 The largest slice

a) Colour the bubble that represents the largest slice of chocolate cake.

- ○ one tenth (0.1 or $\frac{1}{10}$) of the chocolate cake
- ○ one hundredth (0.01 or $\frac{1}{100}$) of the chocolate cake
- ○ one thousandth (0.001 or $\frac{1}{1000}$) of the chocolate cake

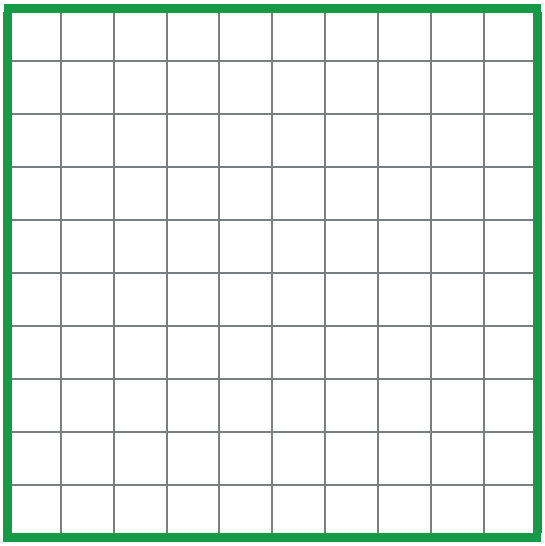
b) Explain your choice _____

_____

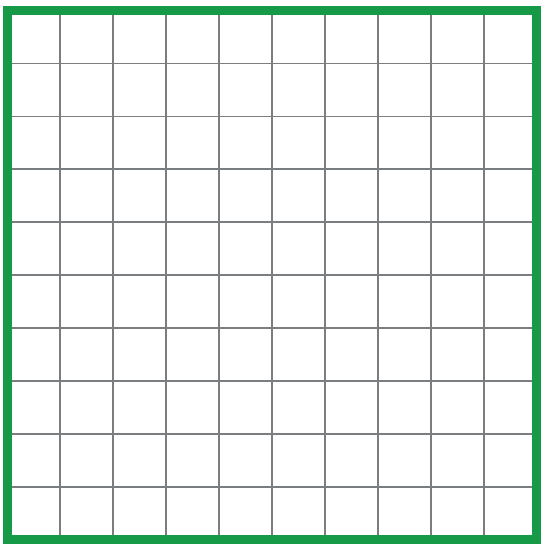
_____

2 Shady decimals

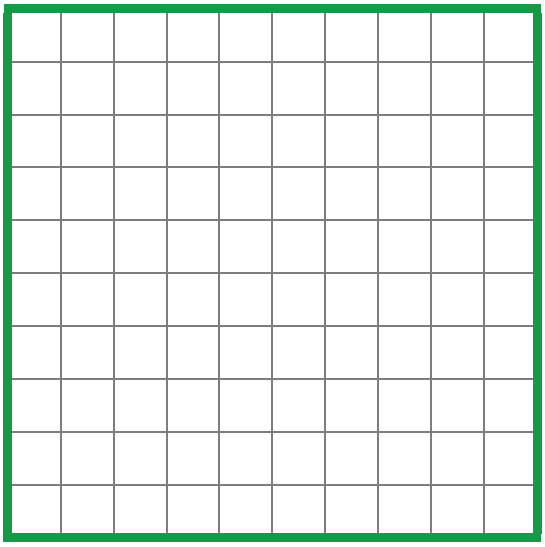
Shade 0.45.



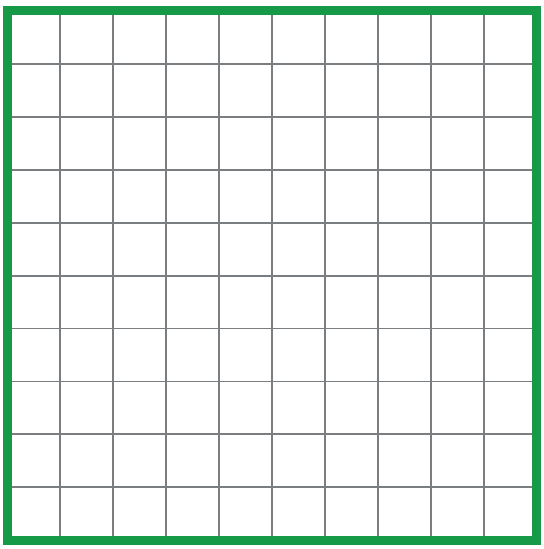
Shade 0.67.



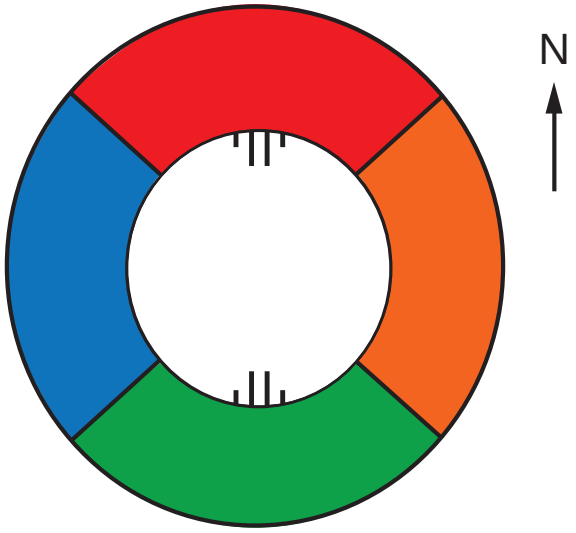
Shade 0.39.



Shade 0.5.



3 Footie seating



Kathie sits in the west side of the oval. Which section does she sit in?

○ red ○ blue ○ orange ○ green

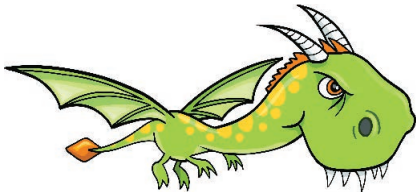
4 Flying high

Liam is cutting strings for the body of his kite. He has a 60 cm length of string and he needs to cut 5 strings.

a) If the cut strings are equal in length, what fraction of the original length will each string be?

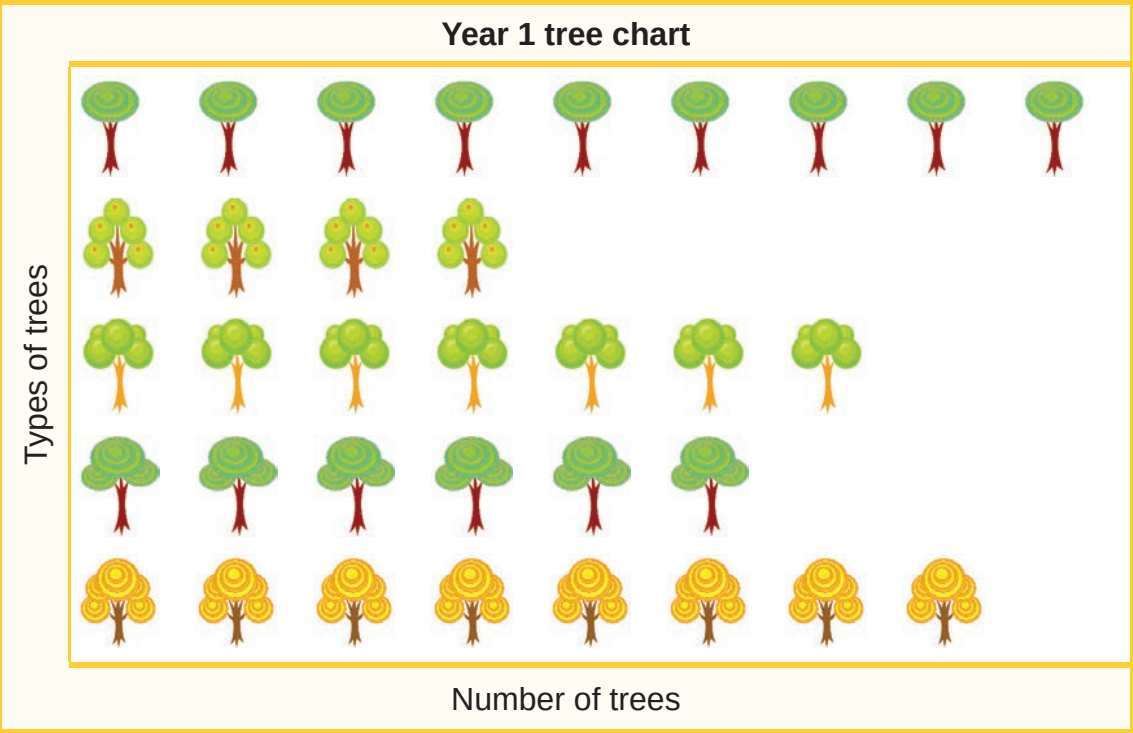
$\frac{1}{2}$	$\frac{1}{5}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{12}$
○	○	○	○	○

b) What is the length of each cut piece of string? _____ cm



5 Tree planting

The Redhill students planted trees around their school after a bush fire. The Year 1 students made a chart to show the types of trees and how many were planted.



Each picture on the chart represents 6 trees. Write T (true) or F (False) next to each of these statements about the tree planting.

	T/F
If the number of  is doubled, it will equal the number of 	
The number of  is 12 less than the number of 	
The number of  +  +  = 4 × the number of 	
The number of  +  > 4 × the number of 	
The total number of trees planted is < 200	

SWITCH ON

Decimal numbers are similar to mixed numerals. There is one part that refers to the whole number and one part that refers to the fractional part.

The fraction part of a mixed numeral is easy to identify because it has the numerator and denominator, eg 9 $\frac{1}{4}$.

A decimal number uses a decimal point to separate the whole number from the fractional part of the number, eg 7.4.

Activity 1

1.1

a) Draw a coloured line or shade the boxes to match the mixed numerals with their decimal numbers.

b) Read each fraction and decimal number to an adult.

c) Tick the check boxes for those you read correctly.

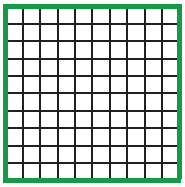
Fraction	Decimal number	Fraction check	Decimal check
$23\ \frac{586}{1000}$	23.5		
$23\ \frac{5}{100}$	23.25		
$23\ \frac{1}{10}$	23.1		
$23\ \frac{1}{4}$	23.05		
$23\ \frac{1}{2}$	23.586		

Activity 2

Let's explore images of decimal numbers and mixed numerals.

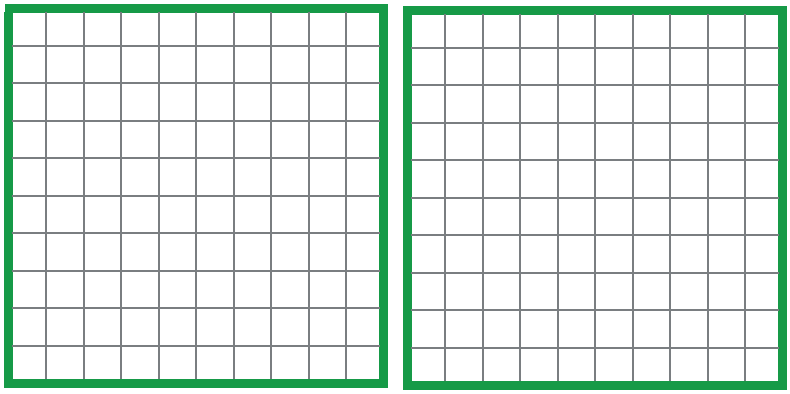
2.1

Remember that



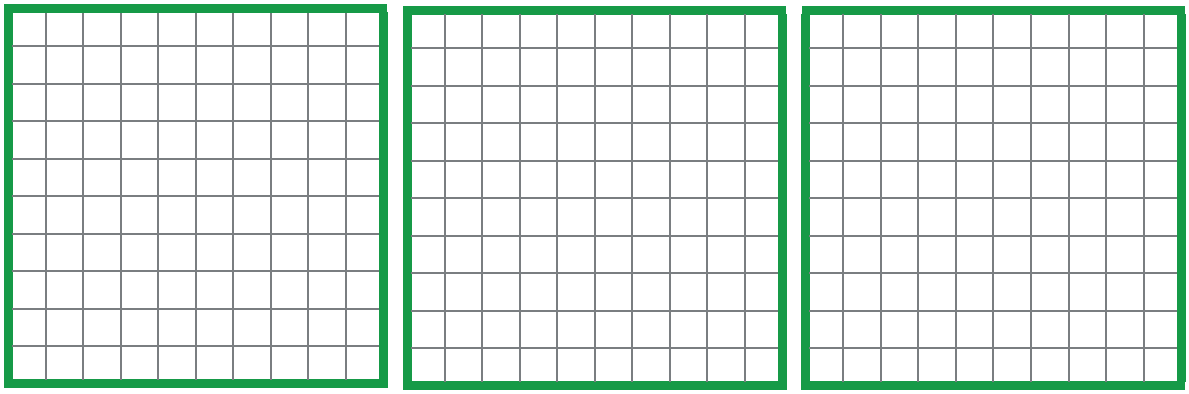
= 1 whole

a) Shade $1\frac{1}{2}$ grids.



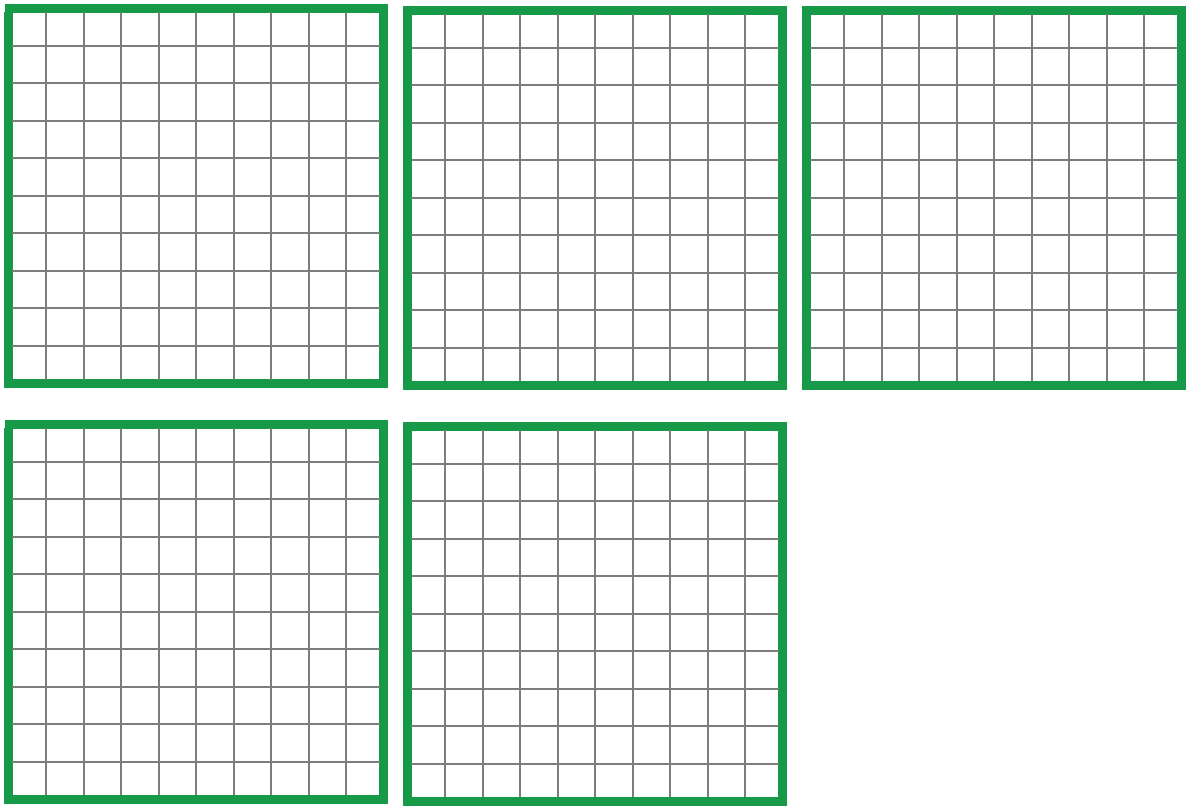
$1\frac{1}{2}$ = _____ (decimal number)

b) Shade 2.3.



2.3 = _____ (mixed numeral)

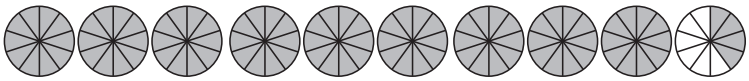
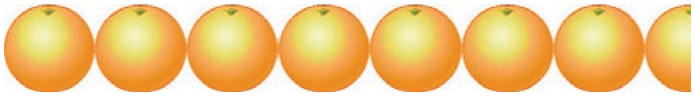
c) Shade 4.75.



4.75 = _____ (mixed numeral)

2.2

Let's use some other images. Look at the images and complete the columns.

	Decimal fraction	Mixed numeral
		
		
		
		

Activity 3

Decimal numbers occupy places between whole numbers on a number line.

When you are ordering and comparing decimal numbers, always read the whole numbers first, eg 10.4 > 7.2 because **10** > **7**. You can easily order decimal numbers when the whole numbers are different.

If the whole numbers are the same you will need to look at the decimal fractions to see which is larger.

Look at the tenths first, eg 10.4 > 10.2 because 0.4 > 0.2.
Four tenths is greater than two tenths.

If the tenths are the same you will need to look at the hundredths eg 10.46 > 10.43 because 0.46 > 0.43
Forty-six hundredths is greater than forty-three hundredths.

Take care to read the whole number and the decimal fraction that make up each decimal number.

If the hundredths are the same you will need to look at the thousandths,
eg 10.467 > 10.461 because 0.467 > 0.461
Four hundred and sixty seven thousandths is greater than four hundred and sixty-one thousandths.

3.1

Mark these numbers on the number line. One example has been completed. Write the equivalent mixed numeral on the line next to each decimal number.

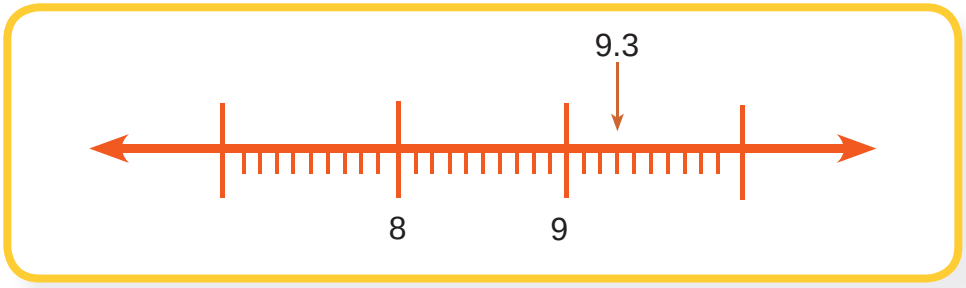
a) $9.3 = 9\frac{3}{10}$

b) 8.2 = _____

c) 9.65 = _____

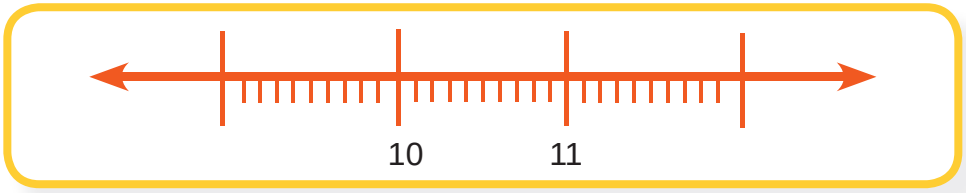
d) 10.1 = _____

e) 8.75 = _____



3.2

Use the number line to answer these questions.



Which is larger? Circle the correct answer.

a) 10.5 or 10.8

b) 10.15 or 10.1

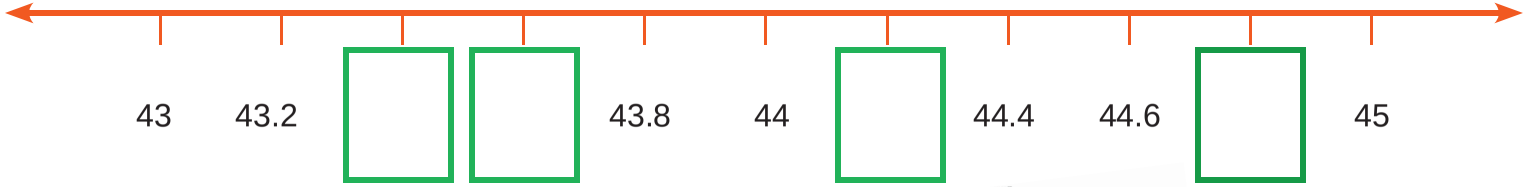
c) 10.3 or 10.25

d) 10.9 or 11.2

3.3

Place these decimal numbers in the correct order on the number line.

43.6 44.2 43.4 44.8



Activity 4

Ordering mixed numerals is the same as ordering decimals numbers.

When you are ordering and comparing mixed numerals, always read the whole numbers first,
eg $10\frac{4}{10} > 7\frac{2}{10}$ because **10 > 7.**

Take care to read the whole number and the fraction that make up each mixed numeral.

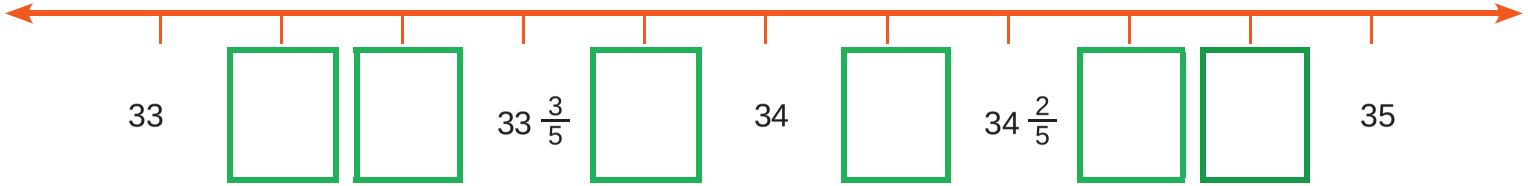
You can easily order mixed numerals when the whole numbers are different.

If the whole numbers are the same you will need to look at the fractions to see which is larger,
eg $10\frac{4}{10} > 10\frac{2}{10}$
because $\frac{4}{10} > \frac{2}{10}$.

4.1

Place these mixed numerals in the correct order on the number line.

$33\frac{1}{5}$ $34\frac{3}{5}$ $33\frac{2}{5}$ $34\frac{1}{5}$ $33\frac{4}{5}$ $34\frac{4}{5}$

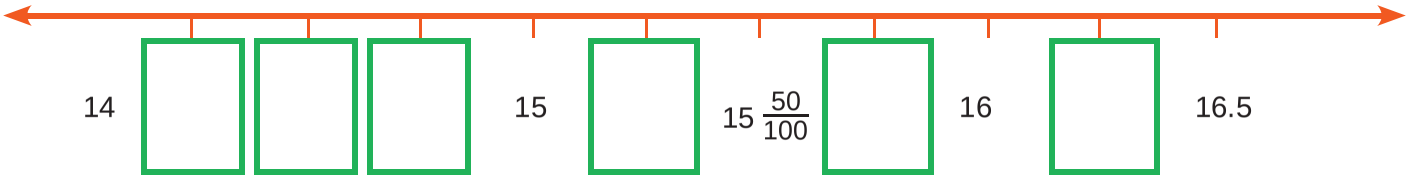


Activity 5

5.1

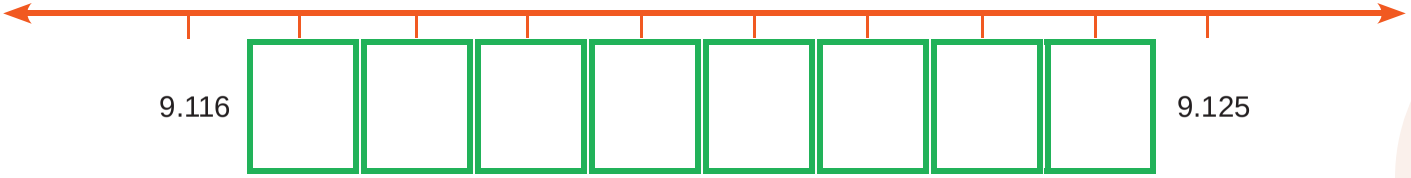
a) Place these decimal numbers and mixed numerals in the correct order on the number line.

14.5 14.25 $15\frac{25}{100}$ $15\frac{75}{100}$ 14.75 16.25



b) Place these decimal numbers and mixed numerals in the correct order on the number line.

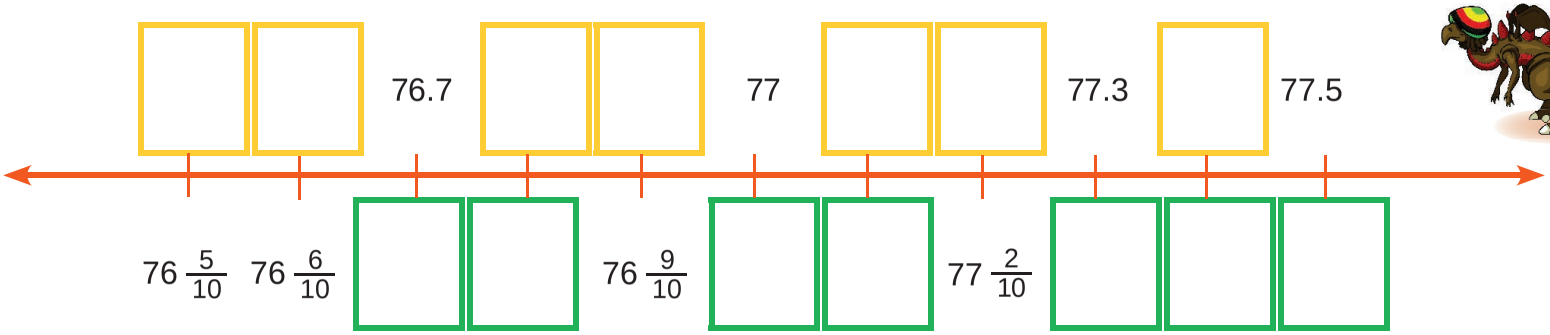
9.117 $9\frac{119}{1000}$ 9.12 $9\frac{123}{1000}$ 9.122 9.118 $9\frac{121}{1000}$ 9.124



c) Place these decimal numbers and fractions in the correct order on the number line.

76.5 77.1 76.9 76.6 77.2 76.8 77.4

$77\frac{3}{10}$ $77\frac{5}{10}$ $76\frac{7}{10}$ $76\frac{8}{10}$ $77\frac{1}{10}$ $77\frac{4}{10}$ 77



Take extra care when you are completing these activities because they include decimal numbers and mixed numerals.

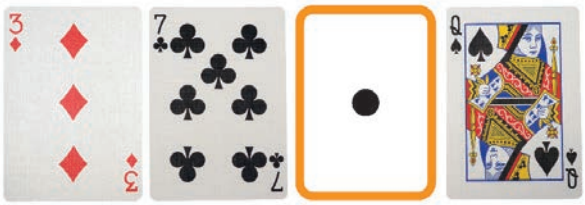
Activity 6

6.1

Decimal numbers card game

In this card game, the number cards (Ace to 9) have the value of the number on the face of the card. The picture cards – Jacks, Queens and Kings – have a value of zero.

You need to make a decimal point card using a blank card from your kit.



You need:

- pack of playing cards – without the 10s
- pencil
- place value chart/s – remove from next pages (one provided for single player and 4 provided for partner/group players)
- a decimal point card – make this using one of your blank cards from your kit.

Single player

Shuffle your cards.

Turn over seven cards.

Arrange your cards in order to make the largest number possible.

At least one number must be to the right of the decimal point.

Write your number into your Place Value chart.

Arrange your cards in order to make the smallest number possible.

At least one number must be to the right of the decimal point.

Write your number into your Place Value chart.

Turn over the next seven cards.

Play this round in the same way using the seven new cards you have just turned over.

Play two rounds of the game using eight cards.

Play two rounds of the game using nine cards.

Group play

Shuffle the cards.

Deal seven cards to each person.

Each player turns over their cards.

Each player arranges their cards in order to make the largest number possible.

At least one number must be to the right of the decimal point.

Each player writes their number into their Place Value chart.

Each player reads out their number.

The player who has made the largest number places a tick next to their number.

The player with the smallest number places circle next to their number.

Collect and shuffle the cards and deal seven to each player.

Play this round in the same way as the last round.

Play two rounds of the game using eight cards.

Play two rounds of the game using nine cards.

Make up your own winning rules for the game!

If you are keen to have winners, perhaps the player with the largest number is the winner in both rounds 1 and 3. The player with the smallest number could be the winner in round 2.

Single player record chart

Place value chart									
Thousands			Ones			•	Decimal fractions		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
hundred thousand	ten thousand	one thousand	hundred	ten	one	•	0.1	0.01	0.001
						•			
						•			
						•			
						•			
						•			
						•			
						•			
						•			
						•			
						•			
						•			

Group player record chart 1

Place value chart									
Thousands			Ones			•	Decimal fractions		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
hundred thousand	ten thousand	one thousand	hundred	ten	one	•	0.1	0.01	0.001
						•			
						•			
						•			
						•			
						•			
						•			

Group player record chart 2

Place value chart									
Thousands			Ones			•	Decimal fractions		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
hundred thousand	ten thousand	one thousand	hundred	ten	one	•	0.1	0.01	0.001
						•			
						•			
						•			
						•			
						•			
						•			

Group player record chart 3

Place value chart									
Thousands			Ones			•	Decimal fractions		
Hundreds	Tens	Ones	Hundred	Ten	Ones	•	Tenths	Hundredths	Thousandths
hundred thousand	ten thousand	one thousand	hundred	ten	one	•	0.1	0.01	0.001
						•			
						•			
						•			
						•			
						•			
						•			

Group player record chart 4

Place value chart									
Thousands			Ones			•	Decimal fractions		
Hundreds	Tens	Ones	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
hundred thousand	ten thousand	one thousand	hundred	ten	one	•	0.1	0.01	0.001
						•			
						•			
						•			
						•			
						•			
						•			

6.2

a) In the table below, write six of the numbers you made in the game using digits and words.

b) Read these numbers to an adult.

Number in digits	Number in words	Tick

Ask an adult to tick the numbers you could read and write correctly.

Activity 7

7.1

Expand these decimal fractions.

Number	Wholes		•	Decimal fractions		
2.468	0 tens	2 ones	•	4 tenths	6 hundredths	8 thousandths
7.03			•			
12.001			•			
0.957			•			
56.2			•			

7.2

Fill in the place value and total value of the highlighted digits.

	Place value	Total value
0.60**7**		
2.075		
78.0**1**		
0.**9**78		
50.0**5**3		
4.01**2**		
1**3**5.74		

DAY 5

Review

TUNE IN

1 Decimal check

a) Highlight the largest decimal number in each row.

b) Circle the smallest decimal number in each row.

4 255.7	4 255.75	4 255.07
789 098.394	789 098.094	789 098.04
67.12	67.1	67.2
872.325	872.41	872.4

2 Juggling money

equals

Three lollipops and two gingerbread men cost as much as two lollipops and three gingerbread men.

Cost = $4.00

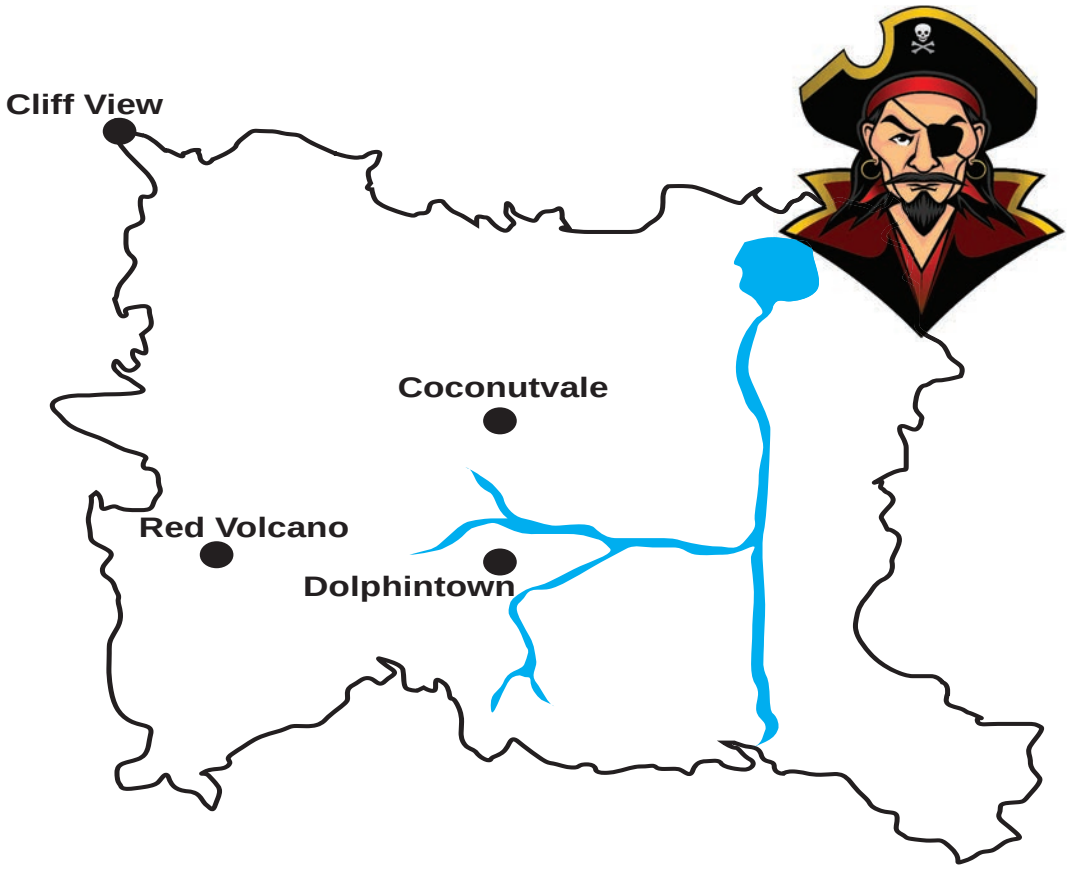
How much? Cost =

How much?

How much?

How much?

3 Treasure island



Capt'n Jack has landed at Cliff View.

a) He carries his treasure to Coconutvale. Which direction does he walk?

_____

b) He buries his treasure under a tree and goes to explore Red Volcano.

What direction does he walk to get there? _____

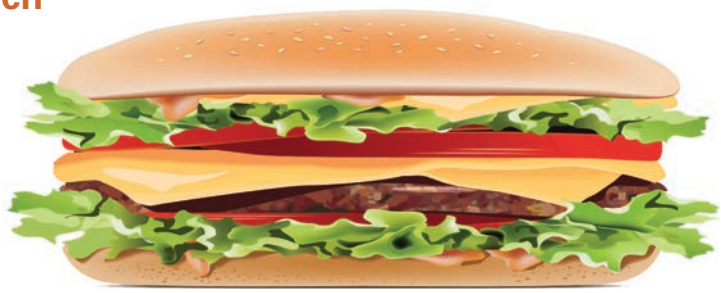
c) Capt'n Jack walks _____ (direction) to reach Dolphintown and then _____ (direction) back to Cliff View.

4 What will the time be?

These clocks all show the same time on a Tuesday afternoon. Work out the new times. Remember to include am or pm.

			
+ 45 min		+ 3 h 30 min	
			
+ 12 h		+ 52 min	

5 Eating lunch



After soccer training Pele's mum made a 1.2 m long ham and salad roll for 8 of the players to share.

a) If the roll is cut into equal pieces, what fraction of the roll does each player eat? _____

b) Three of the players decide they are not hungry. What fraction of the roll does each of the hungry players eat? _____

c) If one slice of cheese covers 10 cm, how many slices are needed to cover the length of the roll? _____

SWITCH ON

Activity 1

Write four facts about the decimal number system and decimal numbers.

Activity 2

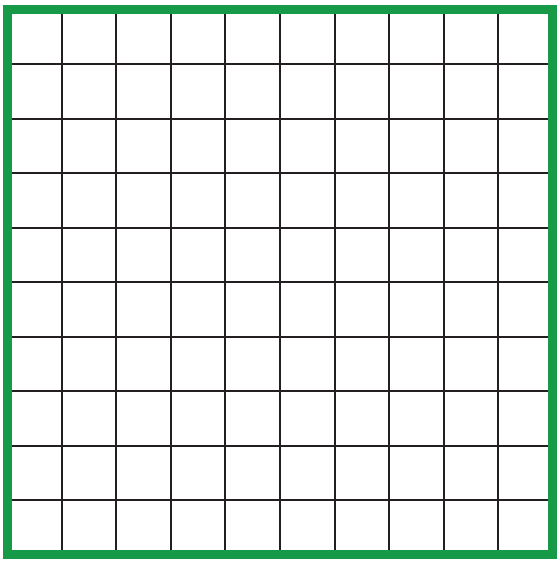
a) Colour all the answers that represent the first decimal place in yellow.

b) Colour all the answers that represent the second decimal place in blue.

c) Colour all the answers that represent the third decimal place in green.

$\frac{1}{1000}$	tenths	0.001	zero point zero one
$\frac{1}{10}$	thousandths	0.1	zero point one
$\frac{1}{100}$	hundredths	0.01	zero point zero zero one

Activity 3



a) Shade these decimal fractions on the hundredths grid.

0.4 blue

0.25 yellow

0.06 red

0.2 brown

b) How much of the grid is white? (Answer as a decimal fraction and fraction.)

_____ or _____

c) Write the fraction and decimal fraction for the amount of the grid that is:

blue + brown _____

red + blue _____

d) How did you work out your answers to c)?

_____

_____

Activity 4

Liam was taking bingo balls out of a container. These are the numbers he chose.

4	8	3	2	2	5	5	1

a) What is the largest number Liam can make using all the digits and a decimal point?

Write the number in digits and words.

b) What is the smallest number Liam can make using all the digits and a decimal point?

Write the number in digits and words.

Activity 5

Deke and Mezz are sharing pancakes. They eat one pancake at a time.

	Decimal fraction left	Fraction left	Who ate the most?
Deke takes 0.25 of the first pancake. How much is left for Mezz?			
Mezz takes 0.2 of the second pancake. How much is left for Deke?			
Deke takes 0.5 of the last pancake.			
Who ate the most altogether?			
How do you know?			

Activity 6

Show the place value and total value of the highlighted digit in each decimal number.

	Place value	Total value
4 820.059		
74 798.168		
862.269		
300 870.069		

Activity 7

Work out the counting pattern and write in the missing decimal numbers.

32.1			32.4	32.5		32.7		32.9	

a) What is the pattern? _____

_____

104.2	104.25	104.3		104.4	104.45			104.6	

b) What is the pattern? _____

_____

64.25		64.75	65		65.5			66.25	66.5

c) What is the pattern? _____

_____

	97.668	97.670		97.674			97.680		97.684

d) What is the pattern? _____

_____

Activity 8

Write mixed numerals for these decimal numbers.

109.05	86.17	324.9	798.667	7.3	907.002	76.08	2.438

DAY 6

Decimals in money

TUNE IN

1 Holiday treat

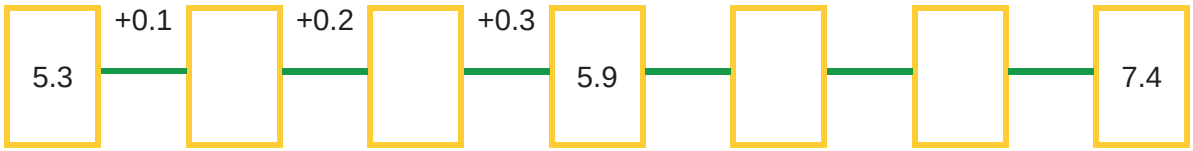
Veronica and Alice are planning an afternoon out. They have $30.00 each to spend on their entry fee and food.

Colour the bubble/s to show where they can afford to spend the afternoon.

○	○	○	○
 Movie entry: $15	 Swimming pool entry: $10	 Fun park entry: $25	 Circus entry: $20
			
$4.50	$5.50	$5.00	$4
			
$ 6.50	$4.50	$5.50	$4.50

2 Decimal plus

Follow the path to work out the pattern. Fill in the boxes to complete the path.

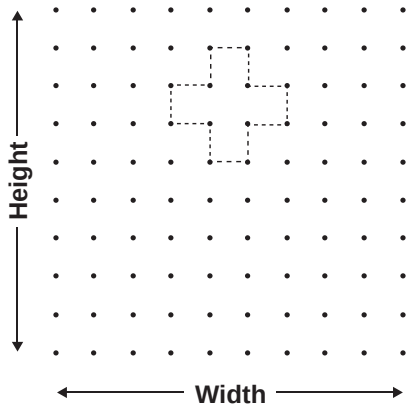


What is the next number in the pattern? _____

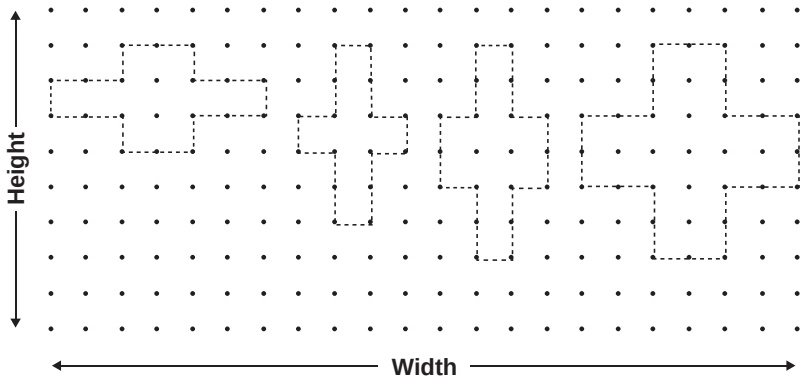
What is added to 7.4 to get that number?_____

3 Stretching up

Lois drew this 2D shape.



She drew it again and doubled its height only. Which figure shows her second drawing?



○ ○ ○ ○

4 The right time

Ryan, Haleem, Ayden and Shah are meeting at the beach at 3.15.

To ride to the beach, Ryan takes 17 minutes, Haleem takes 40 minutes, Ayden takes 22 minutes and Shah takes 6 minutes.

What time will each boy need to leave home to get to the beach by 3.15?

Write the times on these digital clocks.

 Ryan	 Haleem
 Ayden	 Shah

5 Coaster fun

The Coaster Company has been researching roller coasters around the world. This is what they discovered.

	 London Racer	 Perth Velocitrain	 New York Tower Train	 Bali Dragon	 Singapore Flyer
rail length	2 479 m	840 m	950 m	1 371 m	2 000 m
height	97 m	32 m	139 m	71 m	52 m
number of trains	6	5	4	7	10
speed	152 kph	82 kph	206 kph	136 kph	240 kph
ride duration	4 min	2 min	28 s	3 min	1 min 30 s

Are these statements T (true) or F (false)?

The coaster with the longest rail length has the fastest speed.	
The coaster with the shortest rail length has the slowest speed.	
The coaster with the least number of trains is the fastest.	
The New York Tower Train has almost half the rail length of the Singapore flyer.	
The difference between the heights of the highest coaster and the lowest coaster is about 100 m.	
The time of the London Racer's ride is 8 times longer than the time of the New York Tower Train's ride.	

SWITCH ON

Before we get to money Mezz, let's start with a puzzle that will help us remember decimals.

Activity 1

Today we are taking decimals into money Deke.

1.1

Answer the questions using the numbers from the grid.

9	9	7	5	6	5	6	9	9	9
9	9	7	6	5	6	5	9	9	9
9	9	9	9	9	9	9	9	9	9
9	1	9	1	9	1	9	1	9	1
1	4	1	1	1	1	1	1	1	1
1	4	1	1	1	1	1	1	8	1
1	4	1	2	2	2	2	1	1	1
1	4	1	2	3	3	2	1	8	1
1	4	1	2	3	3	2	1	1	1
1	1	1	2	3	3	2	1	1	1

a) Which number covers 0.25 of the grid? _____

b) Which number covers 0.1 of the grid? _____

c) Which number covers 0.05 of the grid? _____

d) Which colours each cover 0.04 of the grid? _____

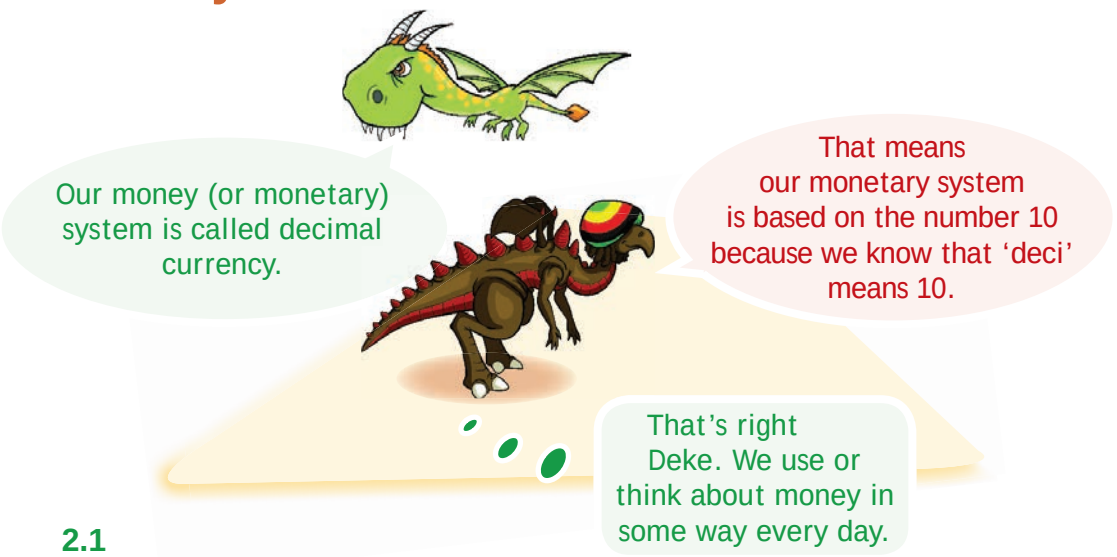
e) Which colours each cover 0.02 of the grid? _____

f) What decimal fraction of the grid does colour number 1 cover? _____

g) Describe the picture in the grid. _____

_____

Activity 2



2.1

Brainstorm the ways you think about and use money. Write your ideas into this shape.

Activity 3

3.1

So every day we are reading about or using decimal numbers!

Correct! Let's take a look at how that works.

If you can work with money then you can also work with decimal numbers!

Decimals and money are quite similar.

List any similarities you can think of between decimal numbers and money.

Activity 4

4.1

We know that there are 100 cents in a dollar. Imagine that this grid shows the 100 cents that make up one dollar.

1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c
1c	1c	1c	1c	1c	1c	1c	1c	1c	1c

Each small square is one hundredth ($\frac{1}{100}$) of the grid.

So 1 square = 1c = one hundredth ($\frac{1}{100}$) of a dollar = $0.01.

a) Shade 53 of the 100 parts.

b) As a fraction, this is written as $\frac{\square}{\square}$

c) As a decimal faction this is written as ________

d) How would you write this amount in decimal currency? ______________ or ___________

e) Write the decimal fraction into this place value chart.

Place value chart									
Whole numbers						•	Decimal fractions		
Hundreds	Tens	Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
100 000	10 000	1 000	100	10	1	•	0.1	0.01	0.001
						•			

f) Write the name of the decimal fraction in words.

_____

The decimal fraction also tells us the amount of cents when we are working with money.

g) Write the decimal fraction (or part of a dollar) into this 'Money' place value chart.

Money place value chart									
Dollars						•	Cents		
Hundreds	Tens	Thousands	Hundreds	Tens	Ones	•	Tenths	Hundredths	Thousandths
100 000	10 000	1 000	100	10	1	•	0.1	0.01	0.001
						•			

h) Write the name of the amount of money in words.

_____

4.2

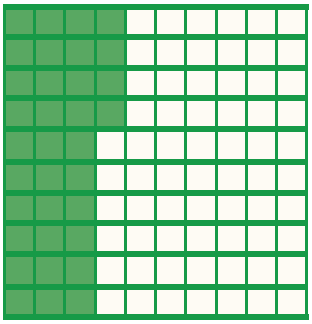
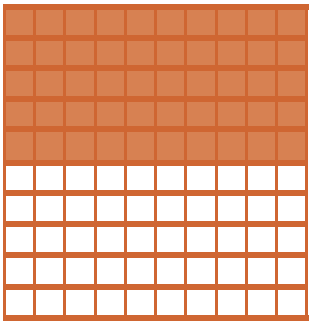
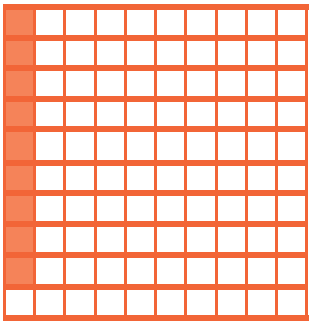
Write these amounts of money as dollars, using decimal numbers.

a) 163c = $1.63	b) 1049c =
c) 305c =	d) 570c =
e) 712c =	f) 1525c =

Activity 5

5.1

Complete this chart to show the fraction, decimal fraction and decimal part of a dollar.

Parts shaded	Fraction	Decimal part of a dollar	Dollars	Cents
 35 out of 100	$\frac{35}{100}$	0.35	$0.35	35c
				
				

Now let's complete a similar activity using coins.

5.2

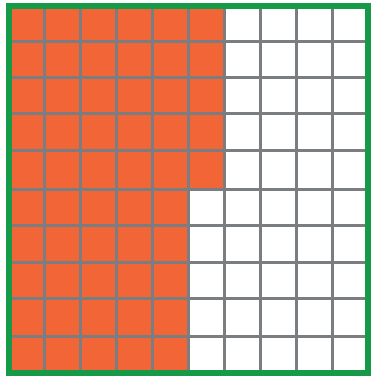
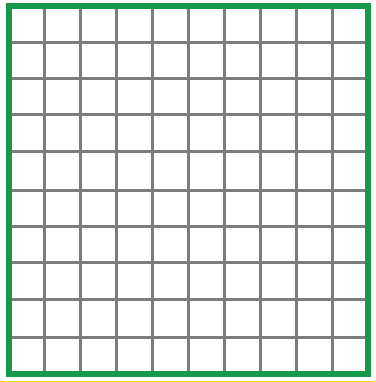
Coins	Part of a dollar	Fraction	Decimal part of a dollar	Dollar	Cents
	65c out of 100c	$\frac{65}{100}$	0.65	$0.65	65c
					
					
					

Activity 6

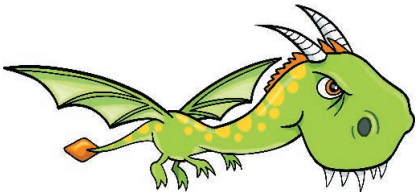
6.1

Practise your conversion skills with decimal fractions, fractions and money.

Complete the table by colouring the grids and filling in all the empty boxes.

Shaded grid	Fraction	Part of a dollar	Decimal part of a dollar	Dollars	Cents	Least number of coins
	$\frac{55}{100}$	55c out of 100c	0.55	$0.55	55c	
	$\frac{10}{100}$					

Shaded grid	Fraction	Part of a dollar	Decimal part of a dollar	Dollars	Cents	Least number of coins
			0.15			
		95c out of 100c				
				$0.70	70c	



Complete this statement. It's something I am sure you have realised as you have worked through today's activities!

6.2

Fractions, decimal fractions and the cents part of an amount of money all represent

_____ .

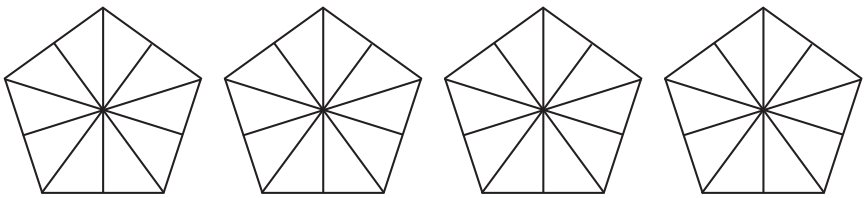
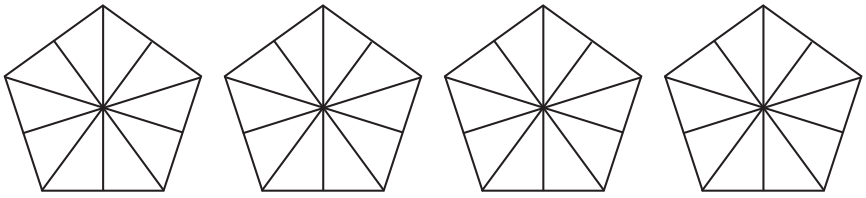
DAY 7

Mixing decimals with fractions and money

TUNE IN

1 Pentagonal puzzle

Colour the pentagons in each row to show the given decimal fraction.

Decimal fraction	Pentagons
2.3	
3.7	

2 Making it equal

8 × 8 =

Which answers make this number sentence true?

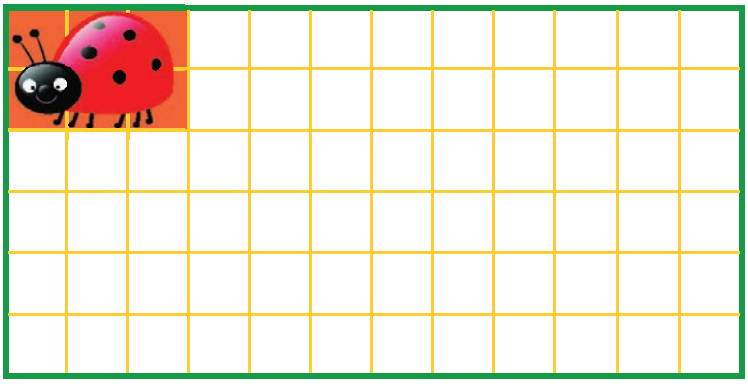
- ○ 16 × 4
- ○ 64 ÷ 8
- ○ 100 – 36
- ○ 32 × 3

You can shade more than one bubble.

3 A stretchy bug

Jaz took this photo of a ladybird to use as a screensaver on her computer. The photo was not the right size so she enlarged it.

Jaz kept the ladybird the same height but made it three times as wide.



How many squares will the new picture cover? _____ squares

4 Back to the library

June						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Kaleira borrowed a book from the library on 28 June. She returned it a fortnight later.

a) What date does she return the book? _____

b) Kaleira also returned a book her brother Sam had borrowed 3 weeks before.

What date did Sam borrow his book? _____

5 What chance?

a) Toby is tossing a coin. What chance does he have of tossing a head?

_____

b) Julian is throwing a 6-sided die. What chance does he have of throwing a 4?

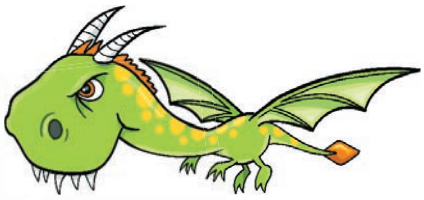
_____

c) What chance does Julian have of throwing a 1 or a 6? _____

d) Marshall is throwing two 6-sided dice. What chance does he have of throwing a 5? _____

e) What chance does Marshall have of tossing a 2, 3 or 4? _____

SWITCH ON



Today we will explore the connections between mixed numerals, decimal numbers and money Deke.

I think that is something the students will know quite a bit about Mezz.

Let's find out!

Activity 1

1.1

Complete the missing sections of the table to show how mixed numerals, decimal numbers and money connect.

Number story	Mixed numeral	Decimal number	Decimal currency	Least number of notes and coins
Cammi went shopping and spent $7\frac{3}{10}$ dollars.	$7\frac{3}{10}$	7.3	$7.30	
Cammi's mother went to the hairdresser and spent $185.70.				
Cammi's brother Rick bought a train set for fifteen dollars and sixty-five cents.				
Cammi's father treated the family to fast food and spent $62\frac{40}{100}$ dollars.				

1.2

Let's start with some money and see if you can write it as decimal numbers and mixed numerals.

Notes and coins	Decimal currency	Decimal number	Mixed numeral
	$8.55	8.55	$8\frac{55}{100}$
			
			
			

Activity 2

Exploring mixed numerals, decimal numbers and decimal currency involves place value and total value.

Partitioning and expanding will help us gain more understanding about place value.

2.1

Partition these decimal numbers and money amounts using these expanders.

a) $235.90

	thousands		hundreds		tens		ones	•		tenths		hundredths

b) 5 709.55

	thousands		hundreds		tens		ones	•		tenths		hundredths

c) $56\frac{9}{10}$

	thousands		hundreds		tens		ones	•		tenths		hundredths

d) $9 047.04

	thousands		hundreds		tens		ones	•		tenths		hundredths

e) 876.2

	thousands		hundreds		tens		ones	•		tenths		hundredths

f) $3\ 607\frac{34}{100}$

	thousands		hundreds		tens		ones	•		tenths		hundredths

2.2

Now let's look at the place value and total value of some mixed numerals, decimal numbers and decimal currency.

Complete the table to show the place value and total value of the highlighted numbers.

Number	Place value	Total value
$234 687.89	thousands	4 000
495.06		
346 $\frac{89}{100}$		
$1 480.35		
79 $\frac{3}{10}$		
10 089.67		
$0.80		

Activity 3

3.1

Give an example (using numbers) that will show what each of these statements mean.

Statement	Example
A decimal number does not use zero as a placeholder in the final place to the right of the decimal point.	
A decimal currency amount uses zero as a place holder in the hundredths position.	
Decimal numbers and decimal currency both use zero as a placeholder after the decimal point.	
Decimal fraction and decimal currency amounts less than one use zero as a place holder in the ones position.	

Activity 4

These are a little bit tricky!

Hmmm ... I am not so sure that we can trick these fast learners so easily!

4.1

Complete the equivalent decimal number, decimal currency and fraction.

Write the place value and total value of the highlighted number into the last two columns.

Decimal number	Decimal currency	Mixed numeral	Place value	Total value
23.**5**				
		789 $\frac{3}{4}$		
	$89 045.2**5**			

POWER UP

Here's a shopping problem that you can solve using your knowledge of fractions, decimals fractions and decimal currency.

You can use your calculator if you wish. Remember to show your working or thinking steps.

Caleb and Janis are shopping for a gift for their grandmother. They have decided to buy a basket and fill it with lots of different treats. They have $150 to spend on the gift.

a) The basket, ribbon, card and wrapping paper cost 0.2 of the $150 dollars. How much do they have left to spend on the food?

_____

b) Caleb selects some items for a cheese platter – cheese, fruit and crackers. These cost $20. How much spending money do they have left?

_____

c) Janis spends 0.25 of the remaining money on ginger chocolates, chocolate biscuits and a magazine. How much did Janis spend?

_____

d) How much money remains? _____

e) Caleb and Janis decide to spend 0.5 of the remaining money on fresh and dried fruit. How much money do they have left?

_____

f) At the flower stall Janis spends $17.50 on a mixed bunch of flowers. How much money remains? _____

g) Caleb spends 0.75 of this money on a book and Janis spends the last 0.25 on a box of soaps.

How much did Caleb spend?_____

Who spent the most money altogether – Caleb or Janis?_____

Did this person spend more or less than one third of the total spending money? _____

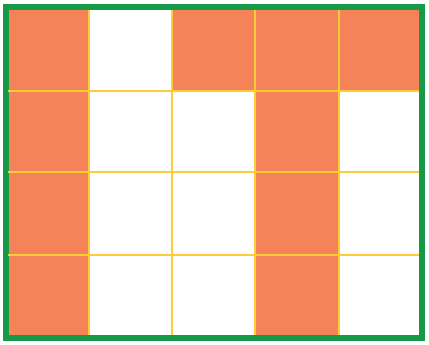
DAY 8

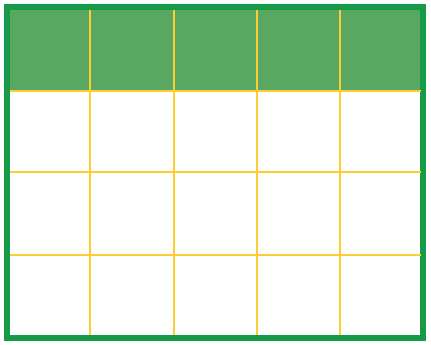
Decimals in food

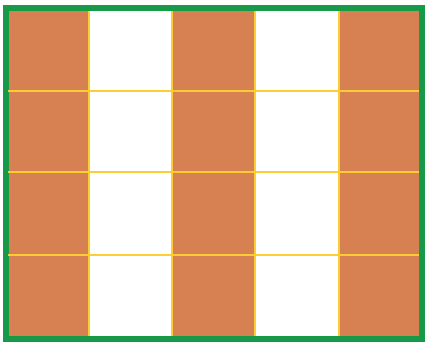
TUNE IN

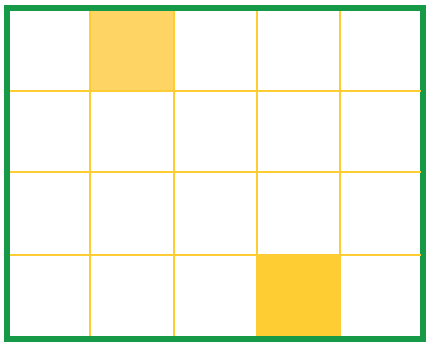
1 Coloured in

What fraction of each grid is shaded?









2 Bingo multiples

This is Alec's bingo card.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24

The first number called was 1 and Alec has crossed it off.

The next numbers called are all multiples of 2, then 3, then 4, then 5. Alec crosses them all off.

a) How many numbers will Alec need to complete his bingo card? _____

b) What do you notice about all the remaining numbers?

_____

_____

3 Outward bound

The needle on this compass is pointing _____

Marnie turns the needle a quarter-turn clockwise. Which direction is the arrow pointing after the turn?

○	○	○	○
South	South-east	Southwest	North-east

4 Weigh it up

Wendy is making chocolate slice.

Ingredients:

200 g powdered cocoa
250 g butter
$\frac{1}{4}$ cup milk
180 g packet of malt biscuits

a) Which ingredients will she measure using kitchen scales? _____

b) What will she measure with a measuring jug? _____

c) Which ingredient does not need weighing? _____

Explain why not. _____

_____

5 What's in a name?

These were the five most popular girls' names in Western Australia in 2010.

Name	Number of girls
Ruby	210
Chloe	199
Emily	197
Isabella	195
Ella	192

Which of these statements is true of a girl born in Western Australia in 2010?

- ○ She is certain to be named Ruby.
- ○ It is impossible she will be named Sarah.
- ○ She is less likely to be named Emily than Ella.
- ○ She is more likely to be named Chloe than Isabella.

SWITCH ON

Decimal numbers can be used when we weigh items Deke.

A gram is a part of a kilogram so when we see a mass of 12.349 kg, we know that the decimal fraction of .349 tells us how many parts (or grams) of a kilogram are included in the mass.

It's important to remember that a kilogram is the 'whole' when we are measuring in grams and kilograms.

We also know that the mass is more than 12 kg but less that 13 kg.

Activity 1

1.1

a) Highlight the decimal fraction part of these masses.

0.034 kg	8.365 kg	450 kg	10.28 kg	676.904 kg
9.4 kg	185.98 kg	0.39 kg	1 245.06 kg	0.482 kg

b) Make up a number sentence using four of the numbers from the table. Use < and > in your sentence.

Activity 2

Let's investigate the mass of some food.

In that case I think it might be time to check out the freezer.

2.1

Go to your freezer or fridge and find some packages of fresh meat, fish or chicken. These foods are often packaged first and weighed after. Shoppers often buy meat by number. They may ask for 8 sausages or 4 pieces of fish so the amount of meat in a package is not a regular amount, such as 1 kg.

Have a look at the details on one of the packages you have found.

a) Copy the details onto this label.

Type of meat	Mass of the meat
Cost per kilo	**Total cost of the meat**

You can see how decimals are used for mass and decimal currency on the package label.

b) Does the meat weigh more than 1 kg? _____

c) How do you know? _____

_____

d) How many decimal places are used in the mass? _____

e) Convert the decimal fraction part of the mass into a fraction _____

f) What other foods are usually selected and packaged before they are weighed?

_____

Activity 3

Let's raid the fridge, freezer, pantry and kitchen cupboards!

Select five different items that have a gram or kilogram mass written on the outside of the jar, tin or package.

3.1

Complete these activities using the 5 food items.

a) Write the name and mass of each food item into the table below.

b) Convert the mass into a decimal.

c) Convert the mass into a fraction.

d) Order the mass from heaviest to lightest: 1 = heaviest and 5 = lightest.

Item	Mass (kg/g) written on package	Mass (in kg) as a decimal	Mass (in kg) as a fraction	Mass order

Activity 4

Now let's head back to the pantry or kitchen cupboards.

This time we are not looking at the mass of the food are we?

That's right. We are looking at the amount of nutrients in certain foods.

4.1

Select a box from the pantry. A box of cereal, cake mix or muesli bars would be good choices.

Find the nutritional information panel on the box. The panel is usually located on one side or the back.

Using your box, complete as much of this nutrition information panel as you can.

Nutrition Information		
Servings per package:	Serving size:	
	Average quantity per serving	**Average quantity per 100 mL**
Energy		
Protein		
Fat – total		
Fat – saturated		
Carbohydrate		
Carbohydrate – sugars		
Dietary fibre		
Sodium		

You can see how decimals are used to explain the amount of each nutrient in either a serving or 100 mL of the product.

4.2

Look at the information about energy in the two columns.

a) Is the amount in the 'Average quantity per serving' column more or less that the amount in the 'Average quantity per 100 mL' column?

b) Why is this? _____

Look at the items that are measured in grams.

c) Which amount is the largest and which nutrient does it match?

d) Which amount is the smallest and which nutrient does it match?

Activity 5

Get into the freezer, fridge, pantry or kitchen cupboards again!

Select two more food items from your fridge, freezer or pantry. You could use a jar of jam or peanut butter, sauce, a tin of fruit, a packet of biscuits, a jelly, a pancake mix or icecream.

Locate the nutrition panels on your two food items.

5.1

Use the nutritional value 'grams per 100 mL serving' to compare the information.

a) Make some number sentences using the information on the nutritional panels and =, < and > signs.

Number sentence	Explanation
2.6 < 3.2	Cake mix has less protein than pancake mix.

b) Which food item is the healthiest? _____

c) Explain your choice. _____

_____

Activity 6

Now let's head back to the pantry or kitchen cupboards, or your fridge if you prefer.

This time we are looking for items that are measured in litres or millilitres.

6.1

Select 5 items and use them to complete this table.

a) Write the name and capacity of each item into the table.

b) Convert the capacity into a decimal.

c) Convert the capacity into a fraction.

d) Order the capacities from largest to smallest: 1 = largest and 5 = smallest.

Item	Capacity (L, mL)	Capacity as a decimal	Capacity as a fraction	Capacity order

6.2

Now that you have completed the table, you will be able to finish this statement.

When we are measuring capacity, the number of litres or millilitres can be shown as a d _____ or a f _____.

DAY 9

Lengthy decimals

TUNE IN

1 Add it up

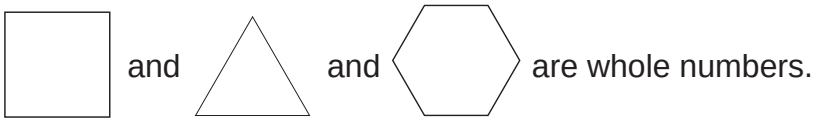
Masai has four number cards.

0	2	4	5

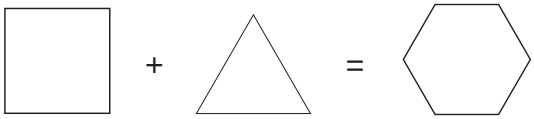
He uses each card once to make this number sentence true. Show where Masai placed each card.

			×		=	2010

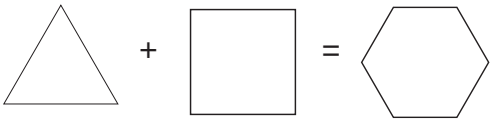
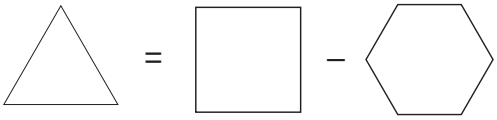
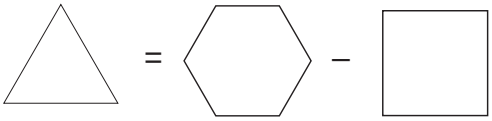
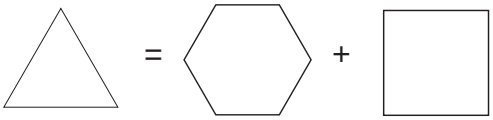
2 Shape maths

 and and are whole numbers.

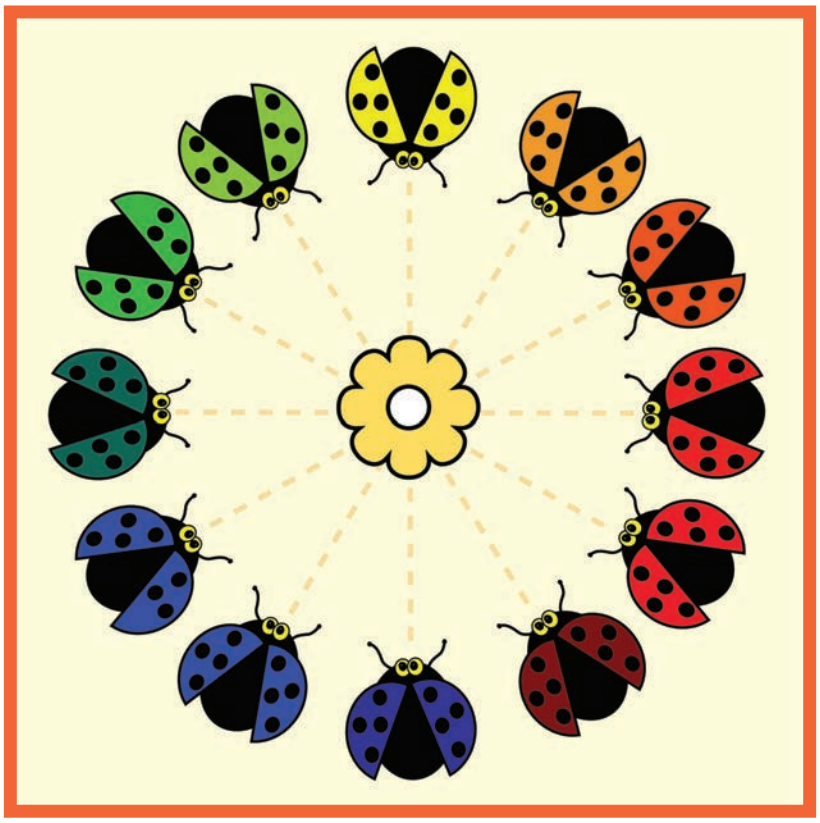
This number sentence is true.



Which of these are also true?

○	
○	
○	
○	

3 Ladybird circle



To win the ladybird circle game, Willow needs to get to the yellow ladybird so she can slide into the winners' flower. Her token is on the red ladybird in the 3 o'clock position. She throws the two dice and makes these four moves.

Direction	Number
clockwise	3
anti-clockwise	5
anti-clockwise	4
clockwise	2

Has Willow made it to the yellow ladybird? _____

What number and direction does she need to throw, to get to the yellow ladybird? _____

4 Fence it

Cameron is fencing his duck pond so the ducks will be safe from fox attacks. The ground he has fenced is rectangular and has an area of 120 m^2. Which of these measurements would give a rectangle that has an area of 120 m^2?

- ◯ 12 m × 10 m
- ◯ 4 m × 30 m
- ◯ 50 m × 3 m
- ◯ 20 m × 6 m

You can shade more than one bubble.

5 Throwing money

Jenna has a 6-sided money die with $2, $1, 50c, 20c, 10c and 5c on the sides.

What is the least number of throws she needs to make these amounts?

$4.50 _____

$1.80 _____

$10.45 _____

SWITCH ON

Decimal numbers can be used to record length.

The **ten**ths are called **dec**imetres and the **hundred**ths are called **centi**metres.

The metric measuring system is based on the metre. Metre means 'a measure'.

Activity 1

Most people know how tall they are and parents often measure the height of their children every year but have you ever measured your body parts and limbs?

There a quite a few interesting facts about the relationships between the measurements of different body parts.

Ask an adult if you had your height measured when you were about two years old. If you did, double this measurement and this will be your approximate height when you are an adult!

Another way to work out your possible height as an adult is:

- add your parent's heights together
- boys – add 13 cm
- girls – subtract 13 cm
- divide by 2.

These interesting facts are part of the 'Golden ratio' or 'Divine proportion' that we are about to explore.

1.1

Let's test the concepts of the 'Golden ratio' or 'Golden section'.

The basic understanding of the Golden ratio is that our body is a proportional object with a vertical line of symmetry running from top to toe. It is thought that some measurements of body parts are proportional to others.

For example, have you ever heard this old saying?

> Once around the waist, twice around the neck; once around the neck, twice around the wrist.

a) What does this saying mean? _____

_____

_____

b) How will you test it? _____

_____

_____

c) Use this space to record your measurements and show any working. Explain whether this saying is true for you. Use decimal numbers to record your measurements.

> Hmmm ...what will I use to measure my waist, wrist and neck? It will have to be something that can bend or curve around.

_____

_____

_____

_____

_____

d) Explain what happened

_____

_____

Activity 2

Let's practise changing centimetres into metres before we explore more of the Golden ratio.

We know that 100 cm = 1 m and this fact will help us with our calculations.

Do you remember how to convert centimetres into metres?

543 cm = ? m and ? cm

- Divide 543 by 100 to find the number of metres. The answer is 5.
- 5 × 100 = 500
- The remainder = 43 cm.
- So the number sentence is 543 cm ÷ 100 = 5 r 43.
- 543 cm = 5 m and 43 cm.

Can you convert a centimetre measurement into metres and write the answer as a decimal number?

- Divide 543 by 100 to find the number of whole metres. The answer is 5.
- The remainder = 43 cm. This is the decimal fraction.
- So 543 cm = 5.43 m.

Here's a quick tip!
If your measurement is in metres and centimetres, you can place a decimal point to separate the number of whole metres from the decimal fraction (or centimetres).
So 5 m 43 cm = 5.43 m.

2.1

Use the information you have just learnt to convert these centimetre measurements. One has been completed for you.

Centimetres	Number sentence	m and cm	Decimal number
937 cm	937 cm ÷ 100 = 9 r 37	9 m 37 cm	9.37
473 cm			
280 cm			
1065 cm			
35 cm			

2.2

We need to think about converting measurements like 34 m 15 cm into centimetres.

First we must remember that 1 m = 100 cm.

34 m 15 cm = ? cm

- Multiply the number of metres by 100.
- 34 × 100 = 3 400 cm
- Add the number of extra centimetres.
- 3 400 cm + 15 cm = 3 415 cm

Use this information to complete these conversions.

m and cm measurement	Steps to work out	Centimetres
5 m 27 cm	5 m × 100 = 500 cm 500 cm + 27 cm = 527 cm	527 cm
3 m 98 cm		
8 m 76 cm		
12 m 43 cm		
35 m 4 cm		

Activity 3

You will need:

- tape measure
- a pencil.

To get accurate measurements, you might ask someone to help you with the measuring of the more difficult parts.

3.1

a) Measure the body parts listed on the table and record your measurements as cm, m and cm or decimal numbers.

b) Using the knowledge you have about converting measurements, complete the remaining columns in the table.

Body part	Measurements		
	m and cm	cm	Decimal number (m)
eg: Full height	1 m 68 cm	168 cm	1.68 m
Full height			
Top of head to chin (head length)			
Shoulder to wrist			
Shoulder to elbow			
Elbow to wrist			
Wrist to finger tip			
Arm span – tip of finger across chest to tip of finger			
Groin to sole of foot			
Heel to toe			
Hip to knee			
Knee to sole of foot			

3.2

Here are some statements based on the Golden ratio.

Test each statement and then complete the table to show whether it is true for you.

Statement	Yes/no
Height measurement = 8 head length measurements (top of head to chin).	
Chin to waist measurement = two head length measurements.	
Waist to groin measurement = one head length measurement.	
Groin to knee = 2 head length measurements.	
Knee to foot = two head length measurements.	
The length of your foot = the length from elbow to wrist.	
Your arm span measurement = your height measurement.	
Face measurement = wrist to finger tip measurement.	

Hey Mezz! Did you know that artists often use these Golden ratio proportions when they are drawing, painting or modelling people?

Very interesting Deke! Plants in nature also reflect the Golden ratio. If you want to know more about this, do some library or internet research.

Activity 4

Let's practise changing millimetres into centimetres before we work on the next activity.

We know that 10 mm = 1 cm and this will help us with our calculations.

Do you remember how to convert millimetres into centimetres?

- 237 mm = ? cm and ? mm
- Divide 237 by 10 to find the number of centimetres. The answer is 23.
- 23 × 10 = 230
- The remainder = 7 mm.
- So 237 mm = 23 cm and 7 mm.

Can you convert a millimetre measurement into centimetres and write the answer as a decimal number?

- Divide 237 by 10 to find the number of whole centimetres. The answer is 23.
- The remainder = 7 mm. This is the decimal fraction.
- So 237 mm = 23.7 cm.

Here is another quick tip!

If your measurement is in centimetres and millimetres, you can place a decimal point to separate the number of whole centimetres from the decimal fraction or millimetres.

So 23 cm 7 mm = 23.7 cm.

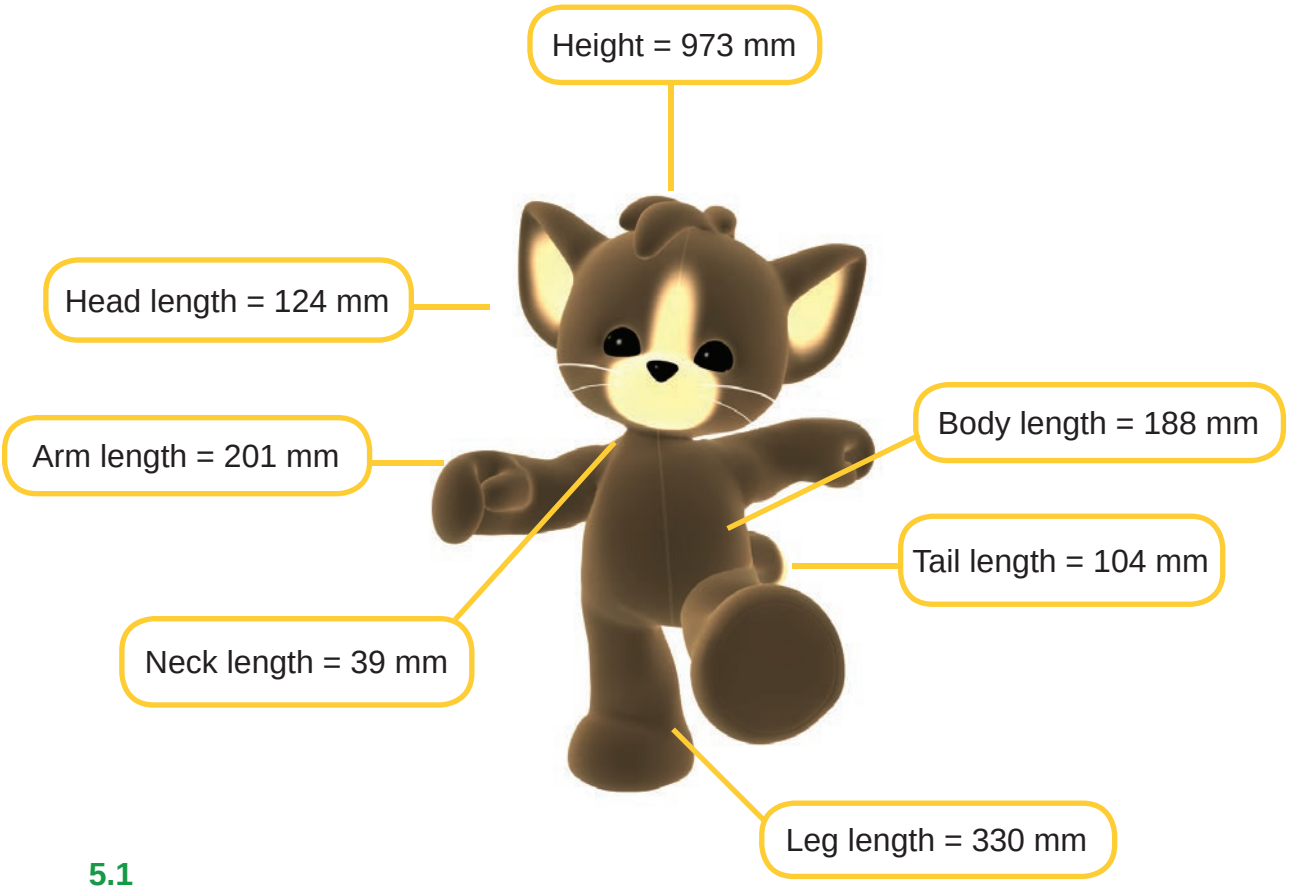
4.1

Use the information you have just learnt to convert these millimetre measurements. One has been completed for you.

Millimetres	Number sentence	cm and mm	Decimal number
793 mm	793 mm ÷ 10 = 79 r 3	79 cm 3 mm	79.3 cm
304 mm			
620 mm			
1042 mm			
41 mm			

Activity 5

Katie works out the measurements for a new toy and records them in millimetres. This diagram shows the measurements.



5.1

Katie uses her tables to help her convert her millimetre measurements into centimetres.

a) She knows that there are _____ millimetres in a centimetre and so she divides each millimetre measurement by _____ to convert it to centimetres.

b) Katie also knows that she can use a _____ to separate the whole centimetres from the part centimetres (or millimetres).

c) Record Katie's new measurements in this chart.

Body part	Millimetres	Centimetres and millimetres	Centimetres
head length			
body length			
arm length			
tail length			
neck length			
leg length			

d) Katie uses fur fabric to make six pattern pieces. She places the pieces end to end on the fur. How long is the piece of fur fabric that is covered by the pattern pieces?

_____

e) How did you work out the length of the fabric? _____

_____

_____

Activity 6

Distances between places and small measurements such as the length of a pencil also use decimal numbers.

6.1

Measurements on maps including road maps, street directories and those in atlases, are written as either whole numbers or decimal numbers.

Why do you think fractions are **not** used on maps to show parts of kilometres?

_____

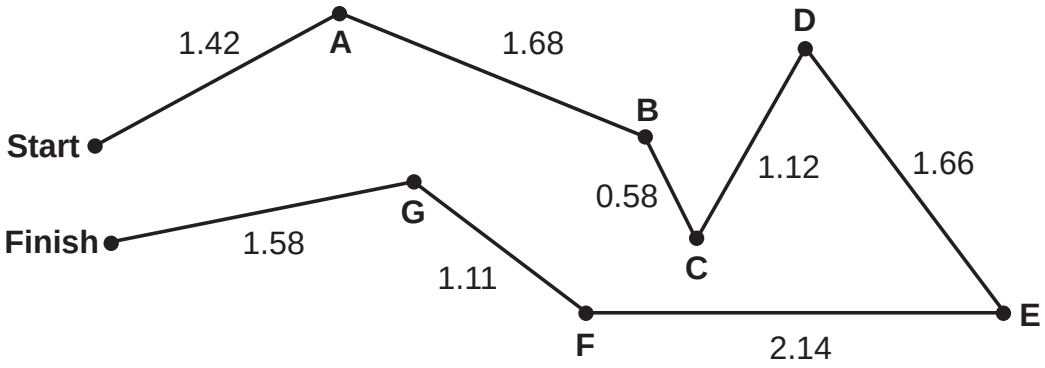
_____

6.2

Orienteering is an outdoor sport where participants use a map and compass to compete against each other as they move through checkpoints in a certain time.

The map used is similar to the one you see here.

Use this map to answer the questions. All the distances are given in kilometres.



a) The longest distance is between checkpoint letters _____

b) The shortest distance is between checkpoints _____.

c) I am halfway between checkpoint G and the finish. How far do I walk to get to the finish? _____

d) Which distance is longer? Circle your answer.

Start to Checkpoint A	Checkpoint A to Checkpoint B	Checkpoint D to Checkpoint E

POWER UP

Here are some more interesting statements based on the 'Golden ratio'.

Statement	Yes/no
The measurement of the widest part of your face = the measurement across one shoulder from ear to shoulder edge.	
The measurement of the gap between your eyes = the measurement of the width of your eye.	
Your face is divided into thirds – hairline to eyes, eyes to bottom of nose and bottom of nose to chin.	
The measurement from the centre of your chest to the tip of your finger = the length of your leg.	

Use the working space and your calculator to test these statements.

Complete the table to show your findings.

Create a table to record the measurements you used to test the statements. You can use your calculator if you wish.

Just for fun!

The 'Golden ratio' is based on the number 5. In the human body there are:

- 5 appendages to the torso – arms, legs and head.
- 5 appendages on each of these – fingers and toes and 5 openings on the face.
- 5 senses in sight, sound, touch, taste and smell.

You have gained a wealth of knowledge about decimals. You explored decimal numbers and fractions and then looked at how they worked in the decimal currency and metric measuring systems.

We hope that working with us has shown you that decimals are part of your daily life and that you can work with them in a confident and successful way.

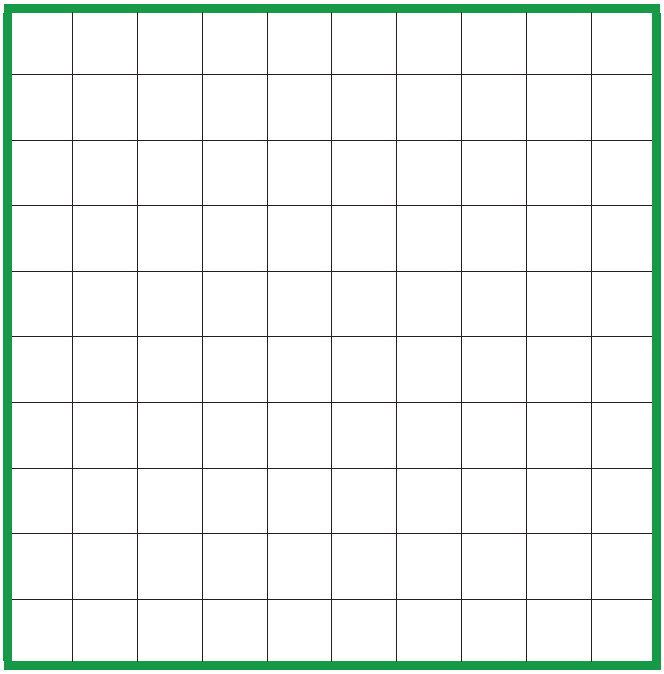
Well done!

DAY 10

Review

TUNE IN

1 What makes a whole?



0.5 **0.15** **0.25** **0.1**

If you colour these decimal fraction amounts on the grid, have you coloured the whole grid? _____

How did you work it out?

_____

_____

2 Kayla's number

Kayla started with a number.

She divided by 3.

Then she took away 8.

Then she halved it.

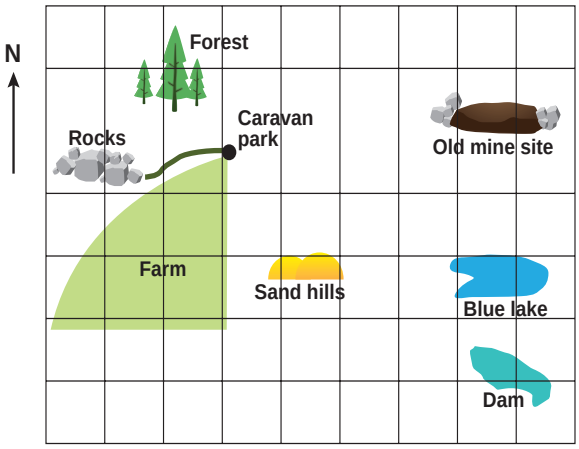
Her answer was 11.

What was Kayla's starting number?

○	○	○	○	○
51	112	39	90	65

3 On the map

Holly and Nick were on holiday at the caravan park. They went bushwalking and used this map.



Scale: 1 cm = 1 km.

Holly and Nick walked west from the caravan park for about 1.5 km.

a) They came to _____ and could not go any further.

b) They turned south and walked 3 km across a _____ .

c) They then turned north-east and walked 7 km.

Where are Holly and Nick? _____

d) What direction do they need to walk in to take the shortest route back to the caravan park?

_____

4 Matching maths

8 × 9 =

Which answers make this number sentence true?

You can shade more than one bubble.

- ◯ double 36
- ◯ 81 ÷ 9
- ◯ 100 – 38
- ◯ 72 ones
- ◯ 24 × 3

5 John's house

This table shows the distances between John's house and the places he visits each week.

From → / To ↓	John's house	Tim's house	Bike shop	School
John's house		0.35 km	2.7 km	1.8 km
Tim's house	0.35 km		2.81 km	1.95 km
Bike shop	2.7 km	2.81 km		2.32 km
School	1.8 km	1.95 km	2.32 km	

a) Who lives closer to the bike shop – John or Tim? _____

b) Every morning John rides to Tim's house and then to school. Every afternoon he rides straight home from school.

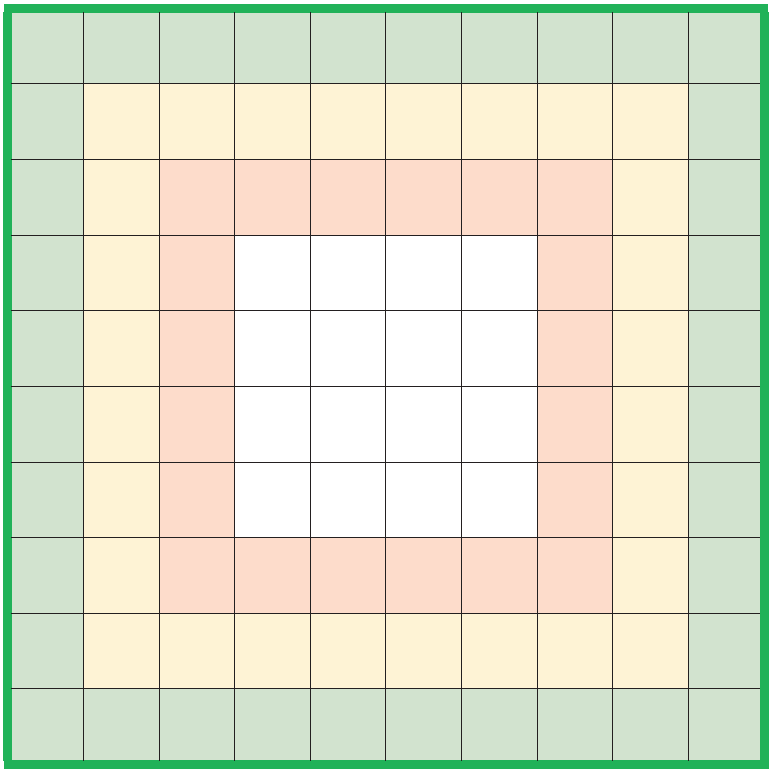
How far does he ride each day? _____

c) How far does John ride in a school week? _____

SWITCH ON

Activity 1

Follow the rules to colour the 100 square grid.



a) Follow these rules to make a pattern in the white squares:

- 0.25 of the white squares are coloured black
- 0.25 of the white squares are coloured red
- 0.5 of the white squares are coloured purple

b) Complete this table based on the coloured grid.

Colours	Fraction	Decimal fraction
green		
yellow		
orange		
purple		
black		
red		

Activity 2

Four facts I know about decimals are:

Activity 3

Colour the decimal currency amounts that are **not** written correctly. You can shade more than one value.

$10.45	$1203.9	$12 456.03	$17.99	$4.60c

Explain your choices _____

_____

_____

Activity 4

Complete the chart by counting the money and filling in each column.

Coins	Mixed fraction	Decimal number	Decimal currency
			
			
			
			

Activity 5

Use your ruler or tape measure to measure these items and record the measurements in the table.

Item	Measurement cm and mm	Measurement mm	Measurement cm
novel (length)			
pencil (length)			
mug (height)			
water bottle (height)			
kitchen sink (width)			

a) How did you convert the cm and mm measurement into mm?

b) How did you work out the cm (decimal number) measurement?

Activity 6

Write in the place value and total value of the highlighted digits in these amounts. Remember that you are working in kilograms.

Number	Place value	Total value
385.0**9** kg		
2 840.**6** kg		
2.43**7** kg		
87 678.**0**2 kg		

Activity 7

Partition these decimal numbers, measurements and money amounts using these expanders.

a) 7 095.01 km

	thousands		hundreds		tens		ones	•		tenths		hundredths

b) $19\ \frac{4}{10}$ L

	thousands		hundreds		tens		ones	•		tenths		hundredths

c) $3 627.08

	thousands		hundreds		tens		ones	•		tenths		hundredths

d) 152.2 m

	thousands		hundreds		tens		ones	•		tenths		hundredths

e) $9\ 507\ \frac{43}{100}$ kg

	thousands		hundreds		tens		ones	•		tenths		hundredths

Activity 8

Write the answers to the questions in the story.

a) Toni takes a 1 L bottle of pineapple juice from the fridge and pours herself a drink.

She uses 100 mL of the juice. How much is left in the bottle? _____ mL

b) Terri also pours herself a drink. She uses one-tenth of a litre. Did Terri drink more, less or the same amount as Toni? _____

c) How much juice is left in the bottle? _____ mL

d) Simon is also thirsty. He drinks 0.25 of the remaining juice. What fraction of the remaining juice does he drink? $\frac{\quad}{\quad}$

e) How much juice is left? _____ mL or _____ L (decimal fraction)

Show your working in the space below.

DAY 10 Reflection

Tick the column that best reflects the level of help needed.

	Student			Teacher/Adult		
Concepts	**On my own**	**Some help needed**	**Lots of help needed**	**No help needed**	**Some help needed**	**Lots of help needed**
Read, write and say decimals into the thousandths place.						
Compare, order and represent decimals in various ways (eg using MABs, place value chart or a number line).						
Use the name and value of decimals up to three decimal places.						
Count in tenths and hundredths for money and measures (eg 2.3, 2.4, 2.5).						
Recognise different representations of numbers involving decimal fractions, eg $1.4 = 1\frac{4}{10}$						
Identify the whole part and the fraction part in measurements.						
Understand common metric prefixes and their meanings. (eg 'centi' as in centimetre, meaning $\frac{1}{10}$ of a unit)						
Make conversions between various metric units, eg $2.5\ \text{L} = 2\frac{1}{2}\ \text{L} = 2\,500\ \text{mL}$						
Read calibrated scales where all the calibrations have been marked, eg tape measure.						
Use simple operations with decimals, eg convert mm to cm by dividing 42 mm = 4.2 cm.						

MATHEMATICS

YR5

Decimals in Life

Activity Book