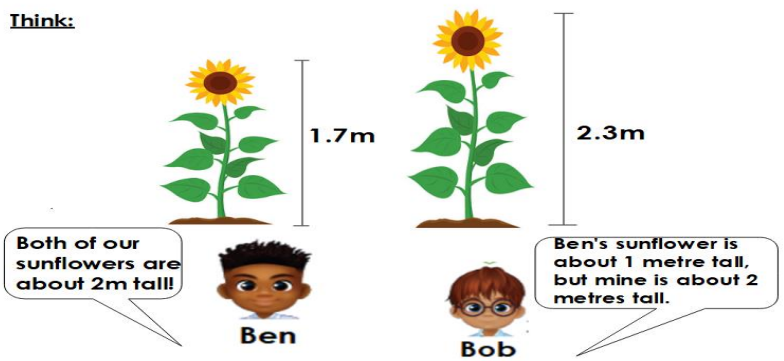
Year 4 maths - week beginning: 04.05.20

Theme	**Decimals Lesson 1** Rounding decimals with one decimal place	**Decimals Lesson 2** Writing decimals as fractions (½ , ¼, ¾)	**Decimals Lesson 3** Dividing whole numbers by 10	**Decimals Lesson 4** Dividing whole numbers by 10	**Decimals Lesson 5** Dividing whole numbers by 100
Factual fluency (to aid fluency)	https://www.topmarks.co.uk/maths-games/hit-the-button Level 4 Mixed Multiplication.	https://www.topmarks.co.uk/maths-games/hit-the-button Level 4 Mixed Multiplication.	https://www.topmarks.co.uk/maths-games/hit-the-button Level 4 Mixed Multiplication.	https://www.topmarks.co.uk/maths-games/hit-the-button Level 4 Mixed Multiplication.	https://www.topmarks.co.uk/maths-games/hit-the-button Level 4 Mixed Multiplication.
Problem/ activity of the day	**(Lesson 1 resources below)** **MAKING LINKS:** Last week we learnt how to record, compare and order decimal numbers. Today we are going to learn how to round decimal numbers with one decimal place (tenths) to the nearest whole number. **THINK: (support below)** **Ben and Bob entered a sunflower growing competition.** **Ben's sunflower grew to 1.7 metres tall and Bob's sunflower grew to 2.3 metres tall.** **Ben said both sunflowers were about (approximately) 2 metres tall.** **Bob said only his sunflower was about (approximately) 2 metres tall and that Ben's sunflower was about (approximately) 1 metre tall.** **Who was right?** **SEE: (model below)** **DO:** (below).	**(Lesson 2 resources below)** **MAKING LINKS:** Last term we learnt how to find equivalent fractions, today we are going to learn the decimal equivalents for the fractions ¼, ½ and ¾. **THINK: (support below)** **Ben and Bob are learning about equivalent fractions and decimals.** **Their teacher asks them to work out how much of a square has been shaded.** **There are 5 out of 10 squares shaded.** **Ben says this is equivalent to ½ of the square.** **Bob says it is equivalent to 0.5 of the square.** **Who is correct?** **SEE: (model below)** **DO:** (below).	**(Lesson 3 resources below)** **MAKING LINKS:** Last lesson we looked at how to write decimals as fractions and fractions as decimals. Today we are going to use this knowledge to help us divide whole numbers by 10. **THINK (support below):** **10 children share these 3 chocolate bars equally between them.**  **What fraction of a chocolate bar does each child get?** **SEE (model below)** Watch video here. **DO:** (below).	**(Lesson 4 resources below)** **MAKING LINKS:** Yesterday you looked at how to divide single digit numbers by 10. Today we are going to use that knowledge to help us divide two-digit numbers by 10. **THINK (support below):** **10 children share 23 sheets of paper equally between them.** **What fraction of paper does each child get?** **(You can use yesterday's answer and method to help you!)** **SEE (model below)** **DO:** (below)	**(Lesson 5 resources below)** **MAKING LINKS:** Over the past two days you learnt how to divide numbers by 10. Today we are going to use a similar method to divide whole numbers by 100. **THINK: (support below)** **Bob has made 7 large cakes and wants to make 100 parcels, all containing the same amount of cake, to deliver to the local community.** **How much cake would there be in each parcel?** **SEE: (model below)** Watch video here. **DO:** (below).
Methods, tips & clues	***SEE model below (day 1)***	***SEE model below (day 2)***	***SEE model below (day 3)***	***SEE model below (day 4)***	***SEE model below (day 5)***
Time to check	***Day 1 – Answers below***	***Day 2 – Answers below***	***Day 3 – Answers below***	***Day 4 – Answers below***	***Day 5 – Answers below***

See below for resources to support you to THINK-SEE-DO

DAY 1 RESOURCES:

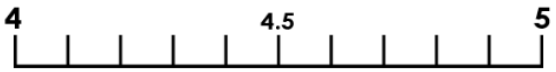
Think:



DO:

1. Place the numbers on the numberline and decide if they round UP to 5 or DOWN to 4.

4.6	4.9	4.1	4.5	4.4



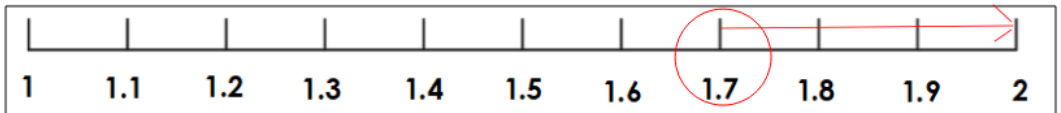
2. Identify which of these rounding statements are TRUE or FALSE. Draw a numberline divided into tenths to help you.

	True or false
7.1 rounded to the nearest whole number is 7.0	
8.9 rounded to the nearest whole number is 8.0	
6.5 rounded to the nearest whole number is 6.0	
5.4 rounded to the nearest whole number is 5.0	
4.3 rounded to the nearest whole number is 4.5	
3.2 rounded to the nearest whole number is 3.0	

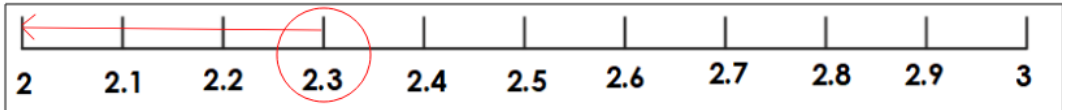
SEE:

To find which whole number a decimal number is closest to we use rounding. We can then say it is 'about' or approximately' that whole number.

When we round decimal numbers with one decimal place (tenths) we can remember the rhyme: **5 and above give it a shove, 4 and below let it go!**
We need to look at the last digit of the decimal number so we look at the tenths:



Ben's sunflower is 1.7 metres tall. It is more than 1.5 so we round it UP to the whole number 2. Ben's sunflower is about, or approximately, 2 metres.
We can write this as 1.7m ≈ 2m.

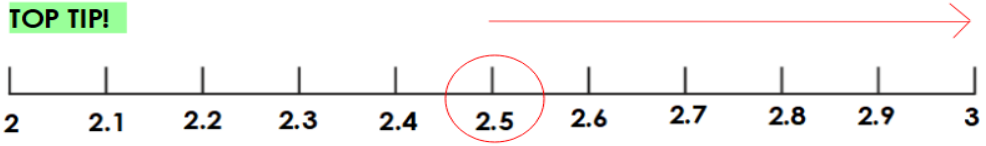


Bob's sunflower is 2.3 metres tall. It is less than 2.5 so we round it DOWN to the whole number 2. Ben's sunflower is also about, or approximately, 2 metres.
We can write this as 2.3m ≈ 2m.

Ben

Ben was correct! Both sunflowers are approximately, or about, 2m tall as both heights round to 2 metres.

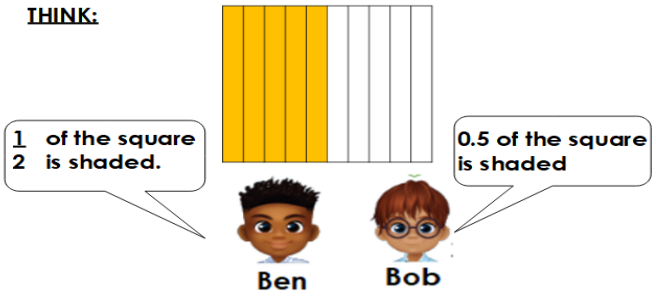
TOP TIP!



If I had a sunflower which was 2.5 metres tall I would round it UP to 3 because tenths of 5 and above round UP to the next whole number.
My sunflower is about, or approximately, 3 metres.
We can write this as 2.5m ≈ 3m.

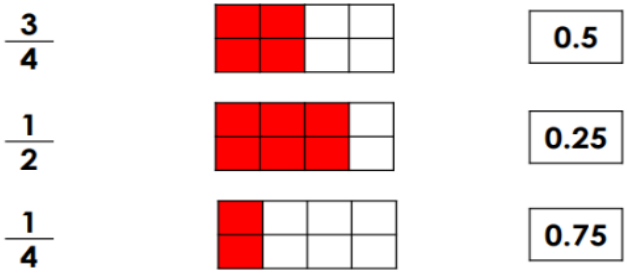
Day 2 Resources:

THINK:

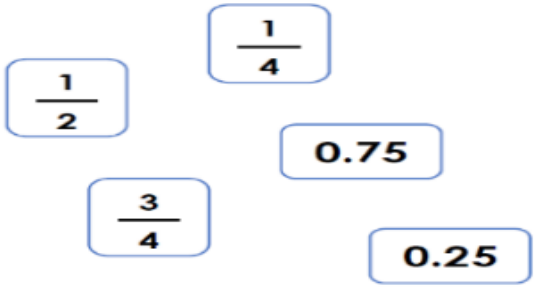


DO:

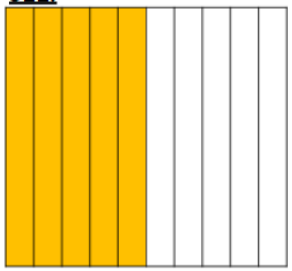
1. Match the fraction to the correct representation and decimal.



2. Match the pairs. Can you say which is the odd one out and why?



SEE:

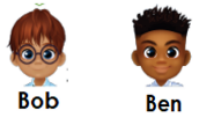


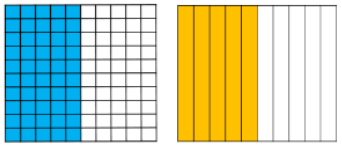
We can see that 1/2 of the square has been shaded.
We can also see that 5/10 of the square has been shaded.

$\frac{1}{2} \overset{\times 5}{=} \frac{5}{10}$ (×5)

We know that: $\frac{5}{10}$ as a decimal = 0.5

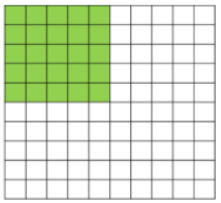
So = ½ = 0.5 Bob and Ben were both correct!





We can also see here that:

$\frac{50}{100} = \frac{5}{10} = \frac{1}{2} = 0.5$

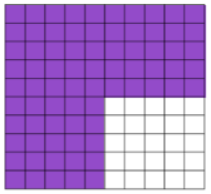


In this hundred square we can see that 1/4 of the square is shaded.
We can also see that 25/100 of the square is shaded.

$\frac{1}{4} \overset{\times 25}{=} \frac{25}{100}$ (×25)

25/100 or 1/4 as a decimal:

ones	tenths	hundredths
0	2	5



In this hundred square we can see that 3/4 of the square is shaded.
We can also see that 75/100 squares are shaded.

$\frac{3}{4} \overset{\times 25}{=} \frac{75}{100}$ (×25)

75/100 or 3/4 as a decimal:

ones	tenths	hundredths
0	7	5

Key learning:

= ½ = 0.5

= ¼ = 0.25

= ¾ = 0.75

Day 3 Resources:

THINK:

10 children share these 3 chocolate bars equally between them.

What fraction of a chocolate bar does each child get?

DO:

1.

a) 4 ÷ 10 = ☐ tenths = ☐

b) 6 ÷ 10 = ☐ tenths = ☐

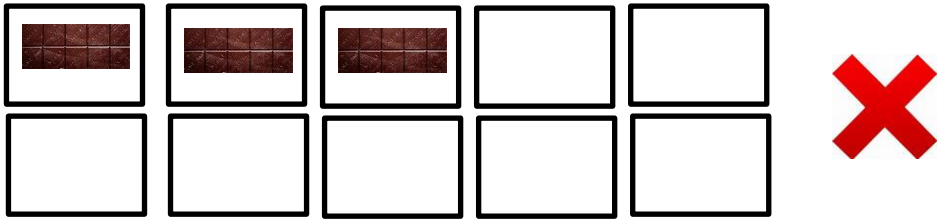
2. Match these divisions to their answers

1 ÷ 10 =	0.9
5 ÷ 10 =	0.1
9 ÷ 10 =	0.5

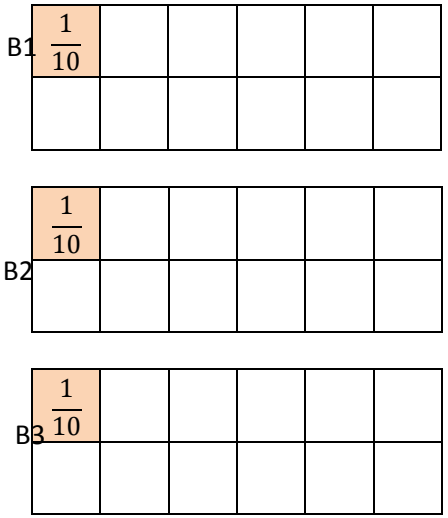
3. In your own words, describe what happens to the digits in a number when you divide by 10.

SEE:

As you can see 3 whole chocolate bars cannot be shared equally between 10 children. The chocolate bars have not been shared out equally as each child does not have the same amount.



Therefore, you need to divide each chocolate bar into 10 pieces and then you can share the pieces of each chocolate bar out equally.



By splitting 1 whole chocolate bar up into 10 pieces, each piece is now worth 1 tenth or 1 out of 10 pieces.

Therefore, if you have 3 whole chocolate bars, each child will get 1 tenth from each whole bar so they will get 3 tenths overall.

3 ÷ 10 = 3 tenths

= 0.3

Digit 3 in the ones place

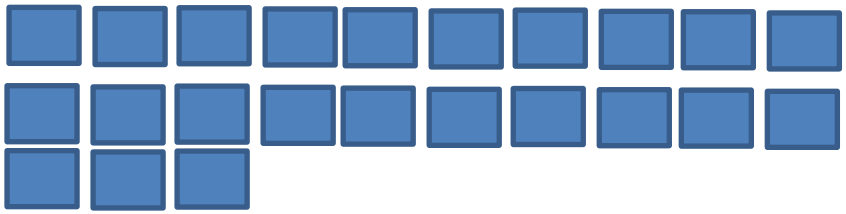
Digit 3 in the tenths place

When you divide a number by 10, each digit moves one place value place to the right to make it 10 times smaller. This happens because each digit in the number is divided into 10 parts making each digit 10 times smaller.

Watch a video of an explanation here.

Day 4 Resources:

THINK:



10 children share 23 sheets of paper equally between them.

What fraction of paper do each child get?

DO:

1.

a) 34 ÷ 10 = ☐ ones ☐ tenths = ☐

b) 97 ÷ 10 = ☐ ones ☐ tenths = ☐

2.

a) 54 ÷ 10 =

50 ÷ 10 = ☐

4 ÷ 10 = ☐

54 ÷ 10 = ☐

b) 73 ÷ 10 =

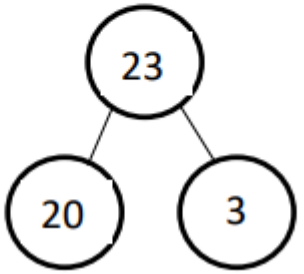
70 ÷ 10 = ☐

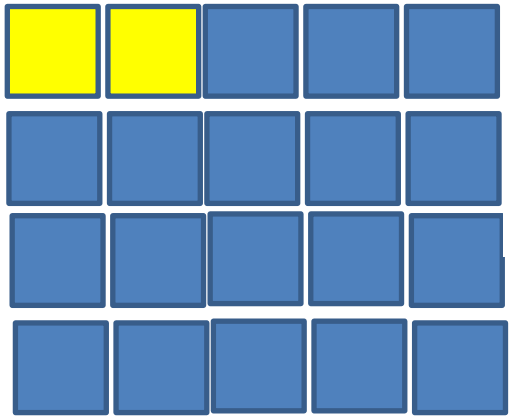
3 ÷ 10 = ☐

73 ÷ 10 = ☐

SEE:

When dividing a two-digit number by 10 you can use a part whole diagram to partition the digit in the tens place and the digit in the ones place and divide them by 10 separately.

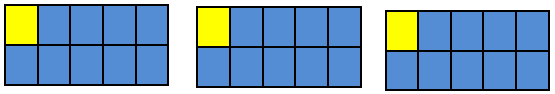




First, you can divide the tens by 10. Remember to use your knowledge of sharing to help you share 20 pieces of paper into 10 groups.

20 ÷ 10 = 2

Next, you can use yesterday's strategy to work out the answer to the digit in the ones place divided by 10. Remember to divide each whole piece of paper into 10 pieces or 1 tenth and then share them out equally.



3 ÷ 10 = 0.3

20 ÷ 10 = 2
\+ 3 ÷ 10 = 0.3
23 ÷ 10 = 2.3

Day 5 resources:

THINK:

Bob has made 7 large cakes and wants to make 100 parcels, all containing the same amount of cake, to deliver to the local community.

How much cake would there be in each parcel?

DO:

1. Fill in the blanks

a) 1 ÷ 100 = ☐ hundredths = ☐

b) 5 ÷ 100 = ☐ hundredths = ☐

c) 9 ÷ 100 = ☐ hundredths = ☐

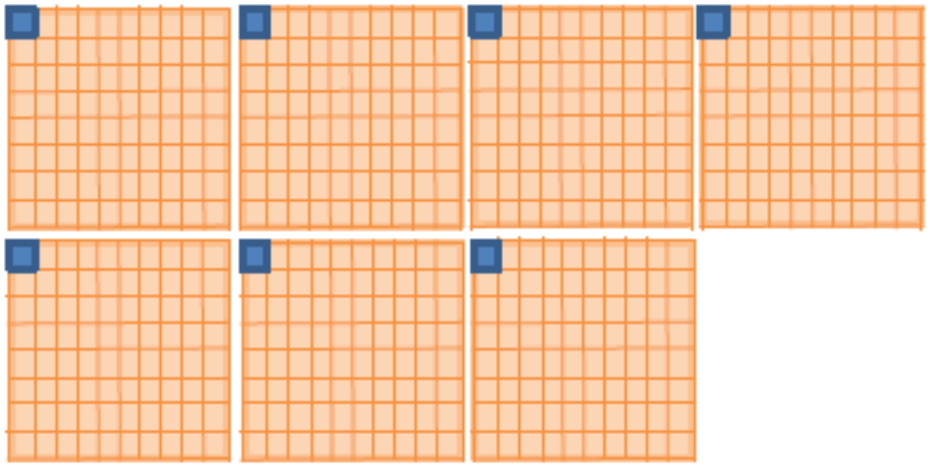
2. Match these divisions to their answers

3 ÷ 100	0.08
8 ÷ 100	0.02
2 ÷ 100	0.03

When you divide a number by 100, each digit moves two place value places to the right to make it 100 times smaller. This happens because each digit in the number is divided into 100 parts making each digit 100 times smaller.

SEE:

Like when dividing a single digit number by 10, you have to divide each whole cake into 100 parts as you cannot share 7 whole cakes between 100 people.



Once Bob has divided each whole cake into 100 parts, he can then take 1 part from each cake and make the 100 equal parcels.

By dividing 1 whole cake into 100 parts, each part is now worth 1 hundredth or 1 out of 100 parts.

Therefore, if you have 7 whole cakes each parcel will get 1 hundredth from each whole cake meaning each parcel will have 7 hundredths overall.

7 ÷ 100 = 7 hundredths

= 0.07

Digit 7 in the ones place

Digit 7 in the hundredths place

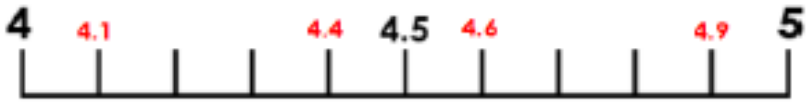
Watch a video of an explanation here.

See below for the answers to these problems.

Day 1 – Answers

1.

4.6	4.9	4.1	4.5	4.4



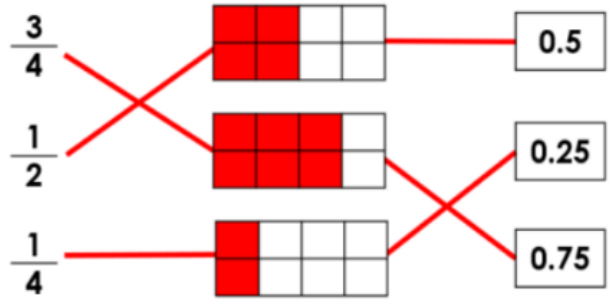
4.6 rounds up to 5; 4.9 rounds up to 5;
4.1 rounds down to 4; 4.5 rounds up to 5;
4.4 rounds down to 4.

2.

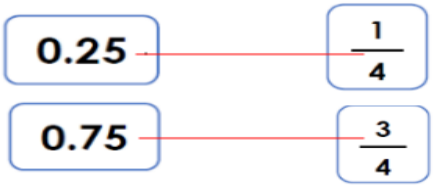
	True or false
7.1 rounded to the nearest whole number is 7.0	T
8.9 rounded to the nearest whole number is 8.0	F
6.5 rounded to the nearest whole number is 6.0	F
5.4 rounded to the nearest whole number is 5.0	T
4.3 rounded to the nearest whole number is 4.5	F
3.2 rounded to the nearest whole number is 3.0	T

Day 2 – Answers

1.



2.



$\frac{1}{2}$ is the odd one out.
It would match with 0.5

Day 3 – Answers

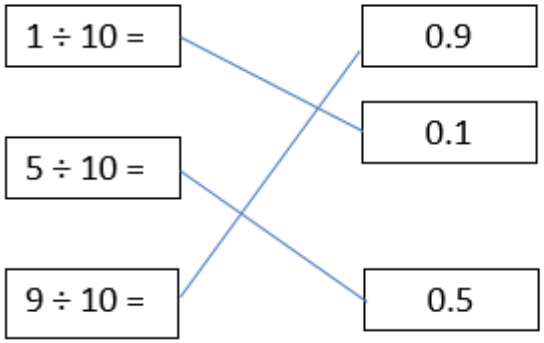
DO:

1.

a) 4 ÷ 10 = 4 tenths = 0.4

b) 6 ÷ 10 = 6 tenths = 0.6

2. Match these divisions to their answers



3. In your own words, describe what happens to the digits in a number when you divide by 10.

When you divide a number by 10, each digit moves one place value place to the right to make it 10 times smaller. This happens because each digit in the number is divided into 10 parts making each digit 10 times smaller.

Day 4 - Answers

DO:

1.

a) 34 ÷ 10 = 3 ones 4 tenths = 3.4

b) 97 ÷ 10 = 9 ones 7 tenths = 9.7

2.

a) 54 ÷ 10 = 5.4

b) 73 ÷ 10 = 7.3

50 ÷ 10 =	5
4 ÷ 10 =	0.4
54 ÷ 10 =	5.4
70 ÷ 10 =	7
3 ÷ 10 =	0.3
73 ÷ 10 =	7.3

3. What do you notice when a number is divided by 10? Use a place value chart to write a short explanation about what you notice.

When you divide a number by 10 the number gets 10 times smaller. You can check this by using the inverse of dividing by 10 and multiply the answer by 10. I also noticed that it is easier to partition a number if it is more than one digit, divide each number by 10 separately and then add them back together to get the final answer.

Day 5 Answers

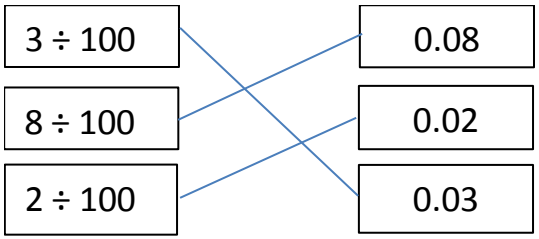
1.Fill in the blanks

a) 1 ÷ 100 = 1 hundredths = 0.01

b) 5 ÷ 100 = 5 hundredths = 0.05

c) 9 ÷ 100 = 9 hundredths = 0.09

2. Match these divisions to their answers



When you divide a number by 100, each digit moves two place value places to the right to make it 100 times smaller. This happens because each digit in the number is divided into 100 parts making each digit 100 times smaller.