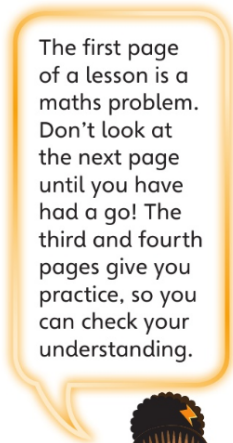


Contents

Week 1 – Multiplication and division	4
Multiplying a 2-digit number by a 1-digit number	4
Multiplying a 3-digit number by a 1-digit number	8
Dividing a 2-digit number by a 1-digit number	12
Dividing a 3-digit number by a 1-digit number	16
Week 2 – Multiplication and division cont.	20
Solving problems – division	20
Perimeter and area	24
Perimeter of a rectangle	24
Perimeter of rectilinear shapes	28
Counting squares	32
Week 3 – Fractions	36
Tenths and hundredths	36
Equivalent fractions	40
Simplifying fractions	44
Fractions greater than 1	48
Week 4 – Fractions cont.	52
Adding fractions	52
Subtracting fractions	56
Calculating fractions of a quantity	60
Solving problems – fraction of a quantity	64
Week 5 – Decimals	68
Tenths	68
Dividing by 10	72
Hundredths	76
Dividing by 100	80



Week 6 – Decimals cont.	84
Writing decimals	84
Comparing decimals	88
Ordering decimals	92
Rounding decimals	96
Week 7 – Money	100
Pounds and pence	100
Ordering amounts of money	104
Solving problems – pounds and pence	108
Solving two-step problems	112
Week 8 – Money cont.	116
Solving problems – money	116
Rounding money	120
Statistics	124
Line graphs	124
Charts and tables	128
Week 9 – Geometry – angles and 2D shapes	132
Comparing and ordering angles	132
Identifying regular and irregular shapes	136
Classifying triangles	140
Classifying and comparing quadrilaterals	144
Week 10 – Geometry angles and 2D shapes cont.	148
Lines of symmetry inside a shape	148
Completing a symmetric figure	152
Geometry – position and direction	156
Describing position	156
Drawing on a grid	160
Answers to Practice questions	164



Tenths

Discover



- 1 a) Which ten frame could represent the fraction $\frac{5}{10}$?
 b) Is there another way to represent $\frac{5}{10}$ as a number?

Share

- a) The ten frame is the whole. Each ten frame is split into 10 equal parts.

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

In $\frac{5}{10}$, the denominator is 10 and the numerator is 5.

The ten frame that represents $\frac{5}{10}$ is the one with counters on 5 of the 10 parts.

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

- b) $\frac{5}{10}$ is read as 5 tenths.

T	O	•	Tth
		•	$\frac{5}{10}$
	0	•	5

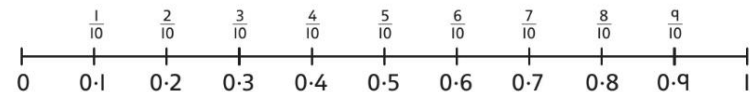
We can write $\frac{5}{10}$ as a **decimal**.

The **decimal point** separates the ones and tenths column.

This can be represented as 5 counters in the tenths column on a place value grid.

There are 0 ones and 5 tenths.

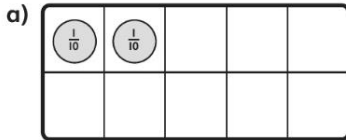
$\frac{5}{10}$ can be written as 0.5



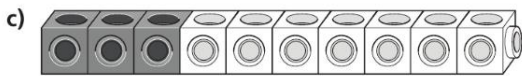
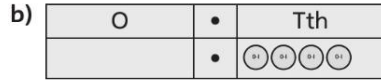
Lesson 1

Tenths

1 What numbers do the following representations show?



This shows $\frac{\square}{\square}$ or $\square.\square$. This shows $\frac{\square}{\square}$ or $\square.\square$.



The white cubes represent $\frac{\square}{\square}$ or $\square.\square$.

The grey cubes represent $\frac{\square}{\square}$ or $\square.\square$.

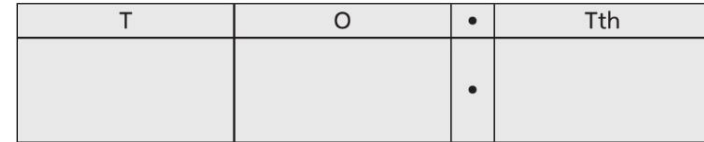


The white beads represent $\frac{\square}{\square}$ or $\square.\square$.

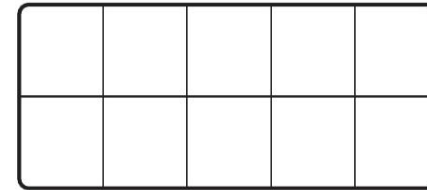
The grey beads represent $\frac{\square}{\square}$ or $\square.\square$.

2 Complete the models below to show each decimal number:

a) Draw counters to show 0.3.



b) The ten frame represents one whole. Draw enough counters to represent 0.8.



3 Complete the following number sentences.

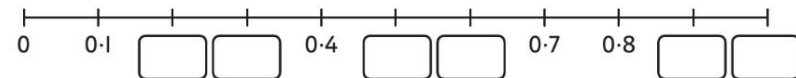
a) $\frac{1}{10} = \frac{\square}{\square}$

c) $0.7 = \frac{\square}{\square}$

b) $0.3 = \frac{\square}{\square}$

d) $\frac{6}{10} = \square.\square$

4 Complete the missing numbers on the number line.



Dividing by 10

Discover

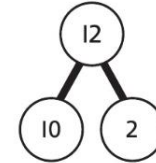


- 1** a) How heavy is each book in Box A?
 b) How heavy is each book in Box B?
 What do you notice about the digits in the answer?

Share

- a) 12 can be partitioned into 1 ten and 2 ones.

I will try what we did in the last lesson and divide each digit by 10.



1 ten and 2 ones =
10 ones and 20 tenths

$$10 \text{ ones} \div 10 = 1 \text{ one}$$

$$20 \text{ tenths} \div 10 = 2 \text{ tenths}$$

So, $12 \div 10 = 1 \text{ one and } 2 \text{ tenths}$

$$= 1.2$$

T	O	.	Tth
10	2		

T	O	.	Tth
	10		20
			20
			20
			20
			20
			20
			20
			20
			20

Each book in Box A weighs 1.2 kg.

- b) We need to calculate $14 \div 10$.

$$14 = 1 \text{ ten and } 4 \text{ ones}$$

$$= 10 \text{ ones and } 40 \text{ tenths}$$

$$10 \text{ ones} \div 10 = 1 \text{ one}$$

$$40 \text{ tenths} \div 10 = 4 \text{ tenths}$$

So, $14 \div 10 = 1 \text{ one and } 4 \text{ tenths} = 1.4$

Each book in Box B weighs 1.4 kg.

The digits in 14 and 1.4 are the same, but their position has changed.

I will visualise the place value counters on a place value grid.



Lesson 2

Dividing by 10

1 Complete the following calculations.

a) 2 tens = ones
 ones $\div 10 =$ ones

4 ones = tenths
 tenths $\div 10 =$ tenths

So, $24 \div 10 =$ ones and
 tenths = .

T	O	.	Tth
20	4	.	

T	O	.	Tth
	40	.	400

b) 4 tens = ones
 ones $\div 10 =$ ones

5 ones = tenths
 tenths $\div 10 =$ tenths

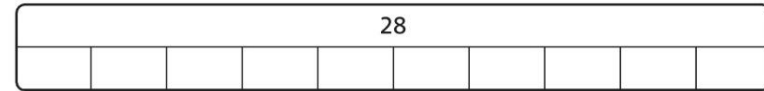
So, $45 \div 10 =$ ones and tenths = .

T	O	.	Tth
40	5	.	

c) $51 \div 10 =$

T	O	.	Tth
50	1	.	

2 Complete the bar model and the calculation it represents.



\div =

3 Describe what happens to each digit when you divide 47 by 10.

T	O	.	Tth
		.	

4 Are the following calculations true or false? Circle your answer.

$43 \div 10 = 3.4$ True / False

$10 \div 43 = 4.3$ True / False

$43 \div 10 = 4.3$ True / False

$4.3 = 43 \div 10$ True / False

5 Complete the following calculations.

a) $46 \div 10 =$

d) = $39 \div 10$

b) $\div 10 = 1.8$

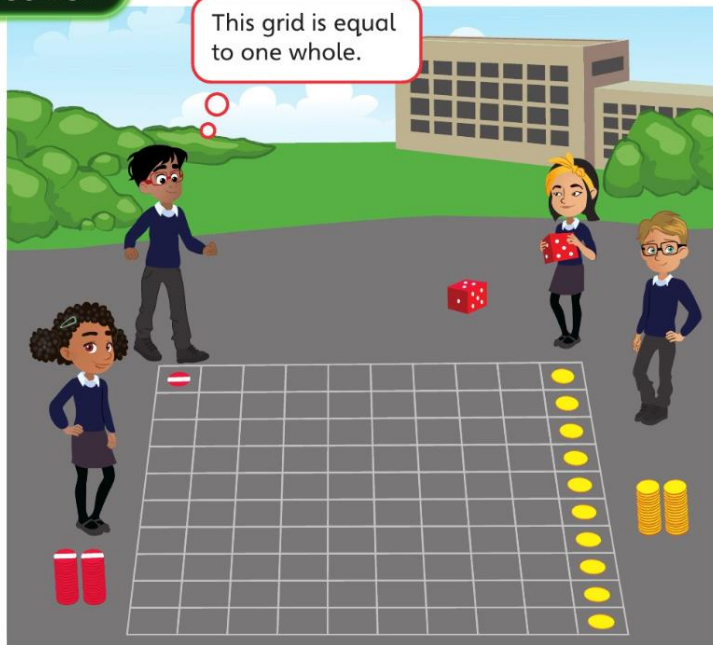
e) $\div 10 = 3.9$

c) $\div 10 = 7.2$

f) $6.5 =$ $\div 10$

Hundredths

Discover



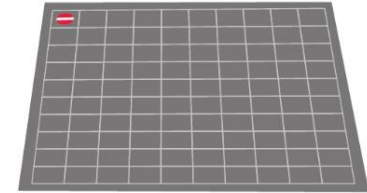
- 1** a) What fraction of the hundredths grid is covered with striped counters?
How can this be written as a decimal?
- b) What fraction of the hundredths grid is covered with plain counters?
How can this be written as a decimal?

Share

- a) There are 100 equal squares in the whole.

1 square is covered with a striped counter.

This can be written as $\frac{1}{100}$.



We say this as '1 hundredth'. There is also a place value column called hundredths.

O	•	Tth	Hth
0	•	0	1

One hundredth can also be written as a decimal.

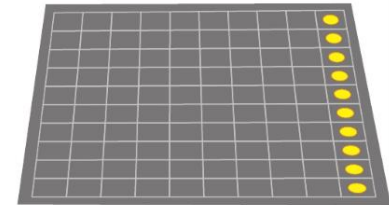
The digit 1 is placed in the hundredths column.

$\frac{1}{100}$ can be written as 0.01.

- b) 10 of the 100 squares are covered by plain counters.

This can be written as $\frac{10}{100}$.

The fraction of the hundredths grid covered by plain counters is $\frac{10}{100}$.



O	•	Tth	Hth
0	•	1	0

We know that 10 hundredths is equal to 1 tenth.

So $\frac{10}{100}$ can be written as a decimal as 0.10 (shows 10 hundredths) or 0.1 (shows 1 tenth).

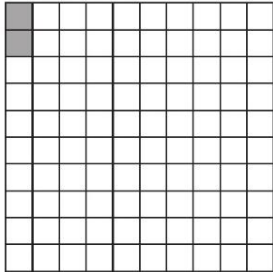
If I look at the columns in the hundredths grid, 1 of the 10 columns is covered with counters. I know this is written as $\frac{1}{10}$.

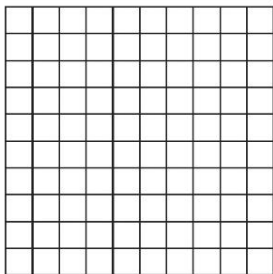


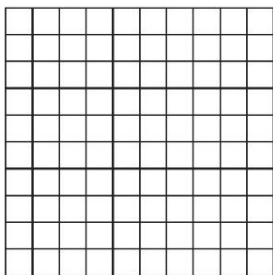
Lesson 3

Hundredths

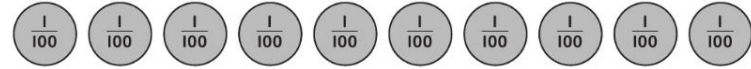
1 Complete the following so that the hundredths grid, fraction and decimal in each part are equivalent to each other.

a)  $\frac{\boxed{}}{100}$ $\boxed{}.\boxed{}\boxed{}$

b)  $\frac{14}{100}$ $\boxed{}.\boxed{}\boxed{}$

c)  $\frac{\boxed{}}{\boxed{}}$ 0.05

2 How could the following be written as a fraction and as a decimal?



$\frac{\boxed{}}{\boxed{}}$ or $\boxed{}.\boxed{}$

3 Complete the table.

Fraction:	$\frac{16}{100}$	$\frac{18}{100}$		$\frac{22}{100}$	
Decimal:	0.16		0.20		

4 Complete these equivalent fractions and decimals. 

a) $\frac{32}{100} = 0.\boxed{}$

f) $\frac{\boxed{}}{100} = 0.52$

b) $0.27 = \frac{\boxed{}}{100}$

g) $0.59 = \frac{\boxed{}}{\boxed{}}$

c) $0.39 = \frac{\boxed{}}{\boxed{}}$

h) $\frac{\boxed{}}{\boxed{}} = 0.93$

d) Nineteen hundredths

i) Ninety hundredths

= $\boxed{}.\boxed{}$

= $\boxed{}.\boxed{}$

e) $0.46 = \boxed{}$ hundredths

j) $0.03 = \boxed{}$ hundredths

Dividing by 100

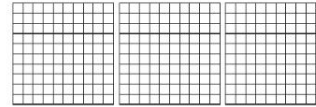
Discover



- 1** a) The pizza is cut so it can be shared out to the 100 guests. How long is each piece of pizza?
- b) The cake is then shared out to the 100 guests. How long is each piece of cake?

Share

- a) The pizza is 3 m long.
We need to divide it into 100 pieces.



3 ones = 300 hundredths

300 hundredths \div 100 = 3 hundredths

$3 \div 100 = 0.03$ so each piece of pizza is 0.03 m long.

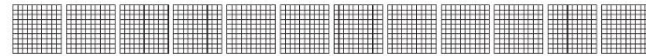
I divided each whole into 100 pieces. I then divided the 300 hundredths into 100 groups.



- b) The cake is 12 m long. We need to divide this into 100 pieces too.

Method 1

12 ones = 1,200 hundredths



1,200 hundredths \div 100 = 12 hundredths

$12 \div 100 = 0.12$

So each piece of cake is 0.12 m long.

Method 2

Divide 10 of the squares into tenths and 2 of the squares into hundredths.



10 ones = 100 tenths
100 tenths \div 100 = 1 tenth

2 ones = 200 hundredths
200 hundredths \div 100 = 2 hundredths

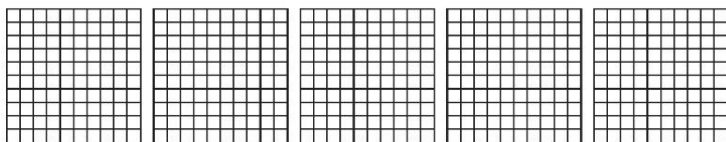
1 tenth and 2 hundredths is equal to 0.12. So each piece of cake is 0.12 m long.

Lesson 4

Dividing by 100

1 Complete the following calculations.

a) $5 \div 100$



5 ones = hundredths

hundredths $\div 100 =$ hundredths

So, $5 \div 100 =$

b) $11 \div 100$



10 squares split into 10 parts means there are tenths.

tenths $\div 100 =$ tenth(s)

1 square split into 100 pieces means there are hundredths.

hundredths $\div 100 =$ hundredth(s)

$11 \div 100 =$

2 Aki is dividing 15 by 100.



I have noticed that when you divide by 100 the digits move columns.

T	O	•	Tth	Hth
1	5	•		

Explain what happens to the digits when you divide by 100.

3 Complete the calculations using the examples in **bold** to help you.

$7 \div 100 = \mathbf{0.07}$

$13 \div 100 = \mathbf{0.13}$

$45 \div 100 = \mathbf{0.45}$

a) $8 \div 100 =$

c) $14 \div 100 =$

e) $55 \div 100 =$

b) $9 \div 100 =$

d) $15 \div 100 =$

f) $65 \div 100 =$

4 Are the following statements true or false? Write your answer in the table.

When you divide by 100:

	True or False?
The digits change.	
Any digit in the ones column moves to the tenths column.	
Any digit in the tens column moves to the tenths column.	
Each digit becomes $\frac{1}{100}$ of the value.	