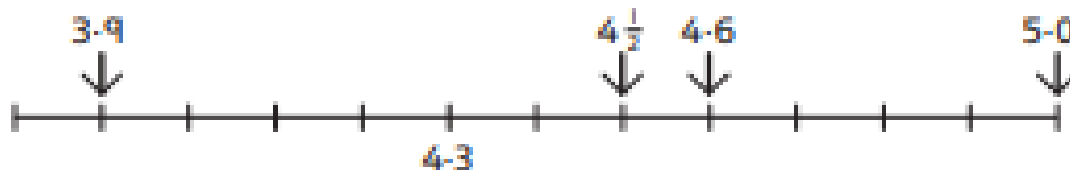


Lesson 3: Tenths (3)

→ pages 126–128

- The worm is 1.2 cm long.
 - The ladybird is 0.8 cm long.
- The container holds 9.5 ml of water.
 - The container holds 15.9 ml of water.
- The grasshopper is 9.6 cm long.
 - The second grasshopper is 8.9 cm long.
- 3.9, 4, 4.1, 4.2, 4.3, 4.4, ..., 4.6, 4.7, 4.8, 4.9, ..., 5.1, 5.2
- Arrows drawn to correct mark on number line:



- Explanations may vary but should reference the following:

The number '4.10' has been incorrectly written. This number is one tenth (0.1) more than 4.9 and so is 5.



Reflect

It is true. Both numbers have 5 wholes. $\frac{4}{10}$ is 4 tenths, which is written as a decimal as 0.4. So, $5\frac{4}{10} = 5.4$

Lesson 4: Dividing by 10 (I)

→ pages 129–131

- a) 2 ones = 20 tenths
 $20 \text{ tenths} \div 10 = 2 \text{ tenths}$
 $2 \div 10 = 0.2$

b) 8 ones = 80 tenths
 $80 \text{ tenths} \div 10 = 8 \text{ tenths}$
So $8 \div 10 = 0.8$

c) $7 \div 10 = 0.7$
- Each section in the bar model represents 0.5;
 $5 \div 10 = 0.5$
- Explanations may vary but should reference the following:
1 ones counter is equal to 10 tenths counters.
However, Max is dividing by 10 and so dividing 1 whole (or 10 tenths) by 10 gives 1 tenth, i.e. $1 \div 10 = \frac{1}{10}$ or 0.1.
- a) $6 \div 10 = 0.6$ e) $4 \div 10 = 0.4$
b) $8 \div 10 = 0.8$ f) $0.5 = 5 \div 10$
c) $1 \div 10 = 0.1$ g) $0.3 = 3 \div 10$
d) $0 \div 10 = 0$ h) $10 \div 10 = 1$
- I disagree because $5 \div 10 = 0.5$ or $\frac{5}{10}$. Explanations may vary; for example: using a place value grid and exchange shows that 5 is equal to 50 tenths. Dividing 50 tenths by 10 gives 5 tenths or 0.5.
- Explanations of patterns may vary; for example, when a single-digit number is divided by 10 the answer will have the digit in the tenths column and 0 in the ones column.
The pattern will continue: $4 \div 10 = 0.4$; $5 \div 10 = 0.5$, ...

Reflect

Methods will vary but children could include using a place value grid and exchange to convert the ones into tenths and then divide these by 10. Answers should show that when a single-digit number is divided by 10 the answer will have the digit in the tenths column and 0 in the ones column.

Lesson 5: Dividing by 10 (2)

→ pages 132–134

- 2 tens = 20 ones
 $20 \text{ ones} \div 10 = 2 \text{ ones}$
4 ones = 40 tenths
 $40 \text{ tenths} \div 10 = 4 \text{ tenths}$
So, $24 \div 10 = 2 \text{ ones and } 4 \text{ tenths} = 2.4$
 - 4 tens = 40 ones
 $40 \text{ ones} \div 10 = 4 \text{ ones}$
5 ones = 50 tenths
 $50 \text{ tenths} \div 10 = 5 \text{ tenths}$
So, $45 \div 10 = 4 \text{ ones and } 5 \text{ tenths} = 4.5$
 - $51 \div 10 = 5.1$
- $28 \div 10 = 2.8$
- Explanations may vary; for example:
The 4 tens are equal to 40 ones, the 7 ones are equal to 70 tenths. $40 \text{ ones} \div 10 = 4 \text{ ones}$ and $70 \text{ tenths} \div 10 = 7 \text{ tenths}$. $4 \text{ ones} + 7 \text{ tenths} = 4.7$.
The digits stay the same but their positions in the place value grid change as they move one column to the right.
- False
False
True
True
- $46 \div 10 = 4.6$
 - $18 \div 10 = 1.8$
 - $72 \div 10 = 7.2$
 - $3.9 = 39 \div 10$
 - $39 \div 10 = 3.9$
 - $6.5 = 65 \div 10$
- Sometimes true; if the 2-digit number has the digits 1 to 9 in the ones column then dividing by 10 will give an answer with a digit in the tenths column. However, if the 2-digit number has a 0 in the ones column, then dividing by 10 will give a 0 in the tenths column, which does not need to be written in. For example:
 $12 \div 10 = 1.2$ but $10 \div 10 = 1$.
- The missing number could be 78, 77, 76, 75 or 74.
5 ways.

Reflect

Answers will vary; for example:

Same: Both are being divided by 10. The digits stay the same but their positions in the place value grid change; they will move one place to the right. The digit in the ones column will become the digit in the tenths column. Answers to both will have no digit in the tens column.

Different: The answer when dividing the 2-digit number by 10 will have a (non-zero) digit in the ones column, whereas the answer when dividing the 1-digit number by 10 will have zero in the ones column. Dividing the 2-digit number by 10 could make a whole number (if the 2-digit number was a multiple of 10) but dividing the 1-digit number by 10 will always produce a decimal.

Lesson 6: Hundredths (I)

→ pages 135–137

1. a) 2 squares shaded in the hundredths grid $\frac{2}{100}$ 0.02
b) 14 squares shaded in the hundredths grid $\frac{14}{100}$ 0.14
c) 5 squares shaded in the hundredths grid $\frac{5}{100}$ 0.05

2. $\frac{10}{100}$ or 0.1

3.

Fraction	$\frac{16}{100}$	$\frac{18}{100}$	$\frac{20}{100}$	$\frac{22}{100}$	Any fraction
Decimal	0.16	0.18	0.2 (or 0.20)	0.22	Decimal equivalent

4. a) $\frac{32}{100} = 0.32$

b) $0.27 = \frac{27}{100}$

c) $0.39 = \frac{39}{100}$

d) Nineteen hundredths = 0.19

e) $0.46 = 46$ hundredths

f) $\frac{52}{100} = 0.52$

g) $0.59 = \frac{59}{100}$

h) $\frac{93}{100} = 0.93$

i) Ninety hundredths = 0.90 (or 0.9)

j) $0.03 = 3$ hundredths

5. Jamie is correct. Explanations may vary; for example:
There are 20 squares shaded, which is $\frac{20}{100}$ or 0.20. This could also be written as 0.2.
2 columns are shaded. Each column is 1 tenth, which as a fraction is $\frac{2}{10}$ and as a decimal is 0.2.

Reflect

Explanations will vary, but children should reference that, when placed in a place value grid, the 7 in 0.07 would be in the hundredths column, meaning it is $\frac{70}{100}$.

Lesson 7: Hundredths (2)

→ pages 138–140

- a) 44 squares shaded in hundredths grid $\frac{44}{100}$ 0.44

b) 14 hundredths counters $\frac{14}{100}$ 0.14

c) 15 squares shaded in hundredths grid $\frac{15}{100}$ 0.15
- Mo has $\frac{23}{100}$, or 0.23

Isla has $\frac{45}{100}$, or 0.45

Zac has $\frac{32}{100}$, or 0.32
- $0.5 + 0.5 = 1$
- $\frac{83}{100}$ 0.83
- I disagree because 5 squares are shaded; this is 5 hundredths or $\frac{5}{100}$, which written as a decimal is 0.05.
- 0.40 is 4 tenths, which is equivalent to 40 hundredths; Ebo should shade 40 squares on the hundredths grid.

Reflect

0.31, 0.32, 0.33, 0.34, 0.35, 0.36, 0.37, 0.38, 0.39. There are 9 ways of completing the number sentence using decimals with 2 digits after the decimal point.

