

Reasoning and Problem Solving

Step 5: Divide 1 Digit by 10

National Curriculum Objectives:

Mathematics Year 4: (4F9) [Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Find and explain the mistake when using a place value grid to divide a 1-digit number by 10.

Expected Find and explain the mistake when using a Gattegno chart to divide a 1-digit number by 10.

Greater Depth Find and explain the mistake when dividing a 1-digit number by 10.

Questions 2, 5 and 8 (Problem Solving)

Developing Use the clues provided to find a number using knowledge of dividing a 1-digit number by 10. Place value grid provided to check the answer.

Expected Use the clues provided to find a number using knowledge of dividing a 1-digit number by 10. Work with 2 parameters.

Greater Depth Use the clues provided to find a number using knowledge of dividing a 1-digit number by 10. Work with 3 parameters.

Questions 3, 6 and 9 (Problem Solving)

Developing Use the digit cards to make the statement correct. Place value chart provided as visual support.

Expected Use the digit cards to make the statement correct. Two missing numbers required.

Greater Depth Use the digit cards to make the statement correct. Three missing numbers required.

More [Year 4 Decimals](#) resources.

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Divide 1 Digit by 10

1a. Lena is dividing 1-digit numbers by 10 and showing the answer on the place value grid below.

5 ÷ 10 = 0.5

Tens	Ones	Tenths	Hundredths
	●	●●	

Explain the mistake she has made.



R

Divide 1 Digit by 10

1b. Ali is dividing 1-digit numbers by 10 and showing the answer on the place value grid below.

4 ÷ 10 = 0.4

Tens	Ones	Tenths	Hundredths
●●		●	

Explain the mistake he has made.



R

2a. Faith is thinking of a 1-digit number.



My number is between 5 and 8.
When divided by 10, my number is less than 0.7.

Tens	Ones	Tenths	Hundredths

What could her number be?
Use the place value grid to check your answer.



PS

2b. Eli is thinking of a 1-digit number.



My number is between 1 and 4.
When divided by 10, my number is greater than 0.2.

Tens	Ones	Tenths	Hundredths

What could his number be?
Use the place value grid to check your answer.



PS

3a. Use the digit cards to make the following statement correct.

□	÷ 10 <	T	O	t	h
				●●	

2

7

1

5

Give 2 possible answers.



PS

3b. Use the digit cards to make the following statement correct.

□	÷ 10 >	T	O	t	h
				●●	

8

1

2

9

Give 2 possible answers.



PS

Divide 1 Digit by 10

4a. Nathan is dividing 1-digit numbers by 10 and circling the answer on the Gattegno chart.

10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09

Explain the mistake he has made.



R

Divide 1 Digit by 10

4b. Fozia is dividing 1-digit numbers by 10 and circling the answer on the Gattegno chart.

10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09

Explain the mistake she has made.



R

5a. Freddie is thinking of a 1-digit number.



It is an even 1-digit number.
When divided by 10, my number is greater than 0.5.

What could his number be?



PS

5b. Joy is thinking of a 1-digit number.



It is an odd 1-digit number.
When divided by 10, my number is less than 0.4.

What could her number be?



PS

6a. Use the digit cards to make the following statement correct.

$$\square \div 10 > \square \div 10$$



Give 3 possible answers.



PS

6b. Use the digit cards to make the following statement correct.

$$\square \div 10 < \square \div 10$$



Give 3 possible answers.



PS

Divide 1 Digit by 10

Divide 1 Digit by 10

7a. Annabel is dividing 8 by 10.

She places 8 counters in the ones column of a place value grid.

She says,

I need to move the counters one column to the left to find the answer.



Explain the mistake she has made.



R

7b. Jakub is dividing 5 by 10.

He places 5 counters in the ones column of a place value grid.

He says,

I need to move the counters two columns to the right to find the answer.



Explain the mistake he has made.



R

8a. Chloe is thinking of an even 1-digit number.



When halved, my number is between 2 and 9.
When divided by 10, my number is less than 0.9.

What could her number be?



PS

8b. Theo is thinking of an even 1-digit number.



When doubled, my number is between 1 and 9.
When divided by 10, my number is greater than 0.1.

What could his number be?



PS

9a. Use the digit cards to make the following statement correct.

$$\square \div 10 < \square \div 10 < \square \div 10$$



Give 3 possible answers.



PS

9b. Use the digit cards to make the following statement correct.

$$\square \div 10 > \square \div 10 > \square \div 10$$



Give 3 possible answers.



PS

Reasoning and Problem Solving

Divide 1 Digit by 10

Developing

1a. Lena has shown 1.4 on the place value chart. There should be 5 counters in the tenths column.

2a. 6

3a. $1 \div 10 < 0.3$; $2 \div 10 < 0.3$

Expected

4a. Nathan has circled 6 instead of 0.6. He has divide by 1 instead of 10.

5a. 6 or 8

6a. Various answers, for example:

$7 \div 10 > 3 \div 10$; $8 \div 10 > 1 \div 10$;

$8 \div 10 > 7 \div 10$

Greater Depth

7a. Annabel has moved the counters to the tens column instead of the tenths column. The answer should be 0.8.

8a. 6 or 8

9a. Various answers, for example:

$2 \div 10 < 5 \div 10 < 8 \div 10$;

$2 \div 10 < 8 \div 10 < 9 \div 10$;

$5 \div 10 < 8 \div 10 < 9 \div 10$

Reasoning and Problem Solving

Divide 1 Digit by 10

Developing

1b. Ali has shown 40 on the place value chart. There should be 4 counters in the tenths column.

2b. 3

3b. $8 \div 10 > 0.2$; $9 \div 10 > 0.2$

Expected

4b. Fozia has circled the hundredths number instead of 0.3. She has divided by 100 instead of 10.

5b. 1 or 3

6b. Various answers, for example:

$6 \div 10 < 9 \div 10$; $2 \div 10 < 5 \div 10$;

$5 \div 10 < 6 \div 10$

Greater Depth

7b. Jakub has moved the counters to the hundredths column instead of the tenths column. The answer should be 0.5.

8b. 2 or 4

9b. Various answers, for example:

$8 \div 10 > 6 \div 10 > 4 \div 10$;

$8 \div 10 > 4 \div 10 > 1 \div 10$;

$6 \div 10 > 4 \div 10 > 1 \div 10$