

Reasoning and Problem Solving

Step 4: Divide by 100

National Curriculum Objectives:

Mathematics Year 4: (4C6b) [Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain why a calculation regarding a 3-digit number being divided by 100 is correct or incorrect.

Expected Explain why a calculation regarding a 4-digit number being divided by 100 is correct or incorrect.

Greater Depth Explain why a calculation regarding 4-digit number being divided by 100 is incorrect. Includes a mixture of words and numbers and also includes looking at divide by 10.

Questions 2, 5 and 8 (Problem Solving)

Developing To answer a word problem using 3-digit numbers being divided by 100 with a variety of answers.

Expected To answer a word problem using 4-digit numbers being divided by 100 with a variety of answers.

Greater Depth To answer a word problem using 4-digit numbers being divided by 100 with a variety of answers. Includes a deep understanding of place value by also looking at divide by 10.

Questions 3, 6 and 9 (Reasoning)

Developing Explain why a statement regarding 3-digit numbers being divided by 100 is incorrect, using place value counters as a visual aid.

Expected Explain why a statement regarding 4-digit numbers being divided by 100 is incorrect, using place value counters as a visual aid.

Greater Depth Explain why a statement regarding 4-digit numbers being divided by 100 is incorrect, using a mixture of Base 10 and place value counters as visual support.

More [Year 4 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Divide by 100

1a. Sebastian has 200 lollies that he wants to share with 100 friends.

Sebastian says,



My friends will get 20 lollies each.

Is he correct? Explain your answer.



R

Divide by 100

1b. April has 800 ants to put into an ant farm. Each unit holds 100 ants.

April says,



I will need 8 units for my ants.

Is she correct? Explain your answer.



R

2a. I am thinking of a 3-digit number.

I divide that number by 100.

The answer I get after dividing by 100 is between 1 and 10 and is a multiple of 3.

What number did I start with?



PS

2b. I am thinking of a 3-digit number.

I divide that number by 100.

The answer I get after dividing by 100 is between 1 and 10 and is a multiple of 4.

What number did I start with?



PS

3a. A number divided by 100 equals this:

T	O

Frasier thinks the calculation must be:
 $80 \div 100 = 8$.

Is he correct? Prove it.



R

3b. A number divided by 100 equals this:

T	O

Niamh thinks the calculation must be:
 $60 \div 100 = 6$.

Is she correct? Prove it.



R

Divide by 100

4a. There are 100 centimetres in a metre. Sasha is winding 1,600cm of ribbon onto 1m spools.

Sasha says,



I will have 160 spools when I have finished.

Is she correct? Explain your answer.



R

Divide by 100

4b. A box holds 100 straws. David has 5,200 straws to put into the boxes.

David says,



I will have 52 boxes when I have finished.

Is he correct? Explain your answer.



R

5a. I am thinking of a 4-digit number.

I divide that number by 100.

The answer I get after dividing by 100 is a multiple of 3 between 20 and 30.

What number did I start with?



PS

5b. I am thinking of a 4-digit number.

I divide that number by 100.

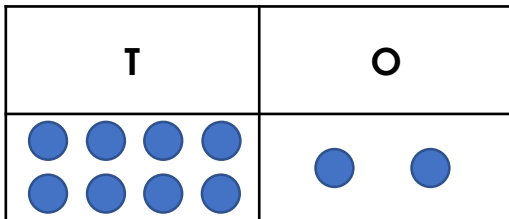
The answer I get after dividing by 100 is a multiple of 4 between 40 and 50.

What number did I start with?



PS

6a. A number divided by 100 equals this:



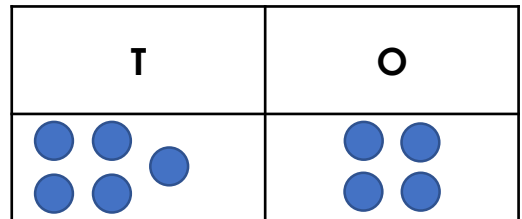
Kofi thinks the calculation must be:
 $820 \div 100 = 82$.

Is he correct? Prove it.



R

6b. A number divided by 100 equals this:



Olivia thinks the calculation must be:
 $5,040 \div 100 = 54$.

Is she correct? Prove it.



R

Divide by 100

Divide by 100

7a. Brad has 2,300 marbles. He puts them into ten piles. He then puts each pile into ten bags.

Brad says,



There will be 23 marbles in each bag.

Is he correct? Explain your answer.



R

7b. Keeley has 3,400 stickers. She has ten sticker books, each having ten pages.

Keeley says,



I can fit 30 stickers in each book.

Is she correct? Explain your answer.



R

8a. I am thinking of a 4-digit number.

I divide the number by 10 and then divide the answer by 10 again.

The final number is a multiple of 3 between 40 and 60.

What number did I start with?



PS

8b. I am thinking of a 4-digit number.

I divide the number by 10 and then divide the answer by 10 again.

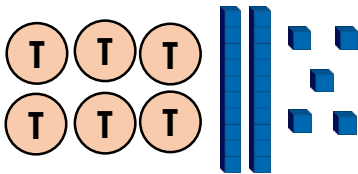
The final number is a multiple of 4 between 60 and 80.

What number did I start with?



PS

9a. A number divided by 100 equals this:



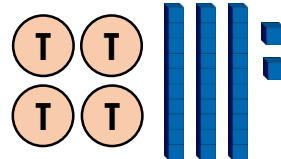
Mutya thinks the calculation must be:
 $8,050 \div 100 = 85$.

Is she correct? Prove it.



R

9b. A number divided by 100 equals this:



Theo thinks the calculation must be:
 $702 \div 100 = 72$.

Is he correct? Prove it.



R

Reasoning and Problem Solving Divide by 100

Developing

- 1a. Sebastian is incorrect. $200 \div 100 = 2$ lollies each.
2a. 300; 600; 900
3a. Frasier is incorrect. The starting number is 800. $8 \times 100 = 800$ so $800 \div 100 = 8$

Expected

- 4a. Sasha is incorrect. $1,600 \div 100 = 16$ spools.
5a. 2,100; 2,400; 2,700
6a. Kofi is incorrect. The starting number is 8,200. $82 \times 100 = 8,200$ so $8,200 \div 100 = 82$

Greater Depth

- 7a. Brad is correct. $2,300 \div 10 = 230$; $230 \div 10 = 23$ marbles in each bag.
8a. 4,200; 4,500; 4,800; 5,100; 5,400; 5,700; 6,000
9a. Mutya is incorrect. The starting number is 8,500. $85 \times 100 = 8,500$ so $8,500 \div 100 = 85$

Reasoning and Problem Solving Divide by 100

Developing

- 1b. April is correct. $800 \div 100 = 8$ units for her ant farm.
2b. 400; 800
3b. Niamh is incorrect. The starting number is 600. $6 \times 100 = 600$ so $600 \div 100 = 6$

Expected

- 4b. David is correct. $5,200 \div 100 = 52$ boxes.
5b. 4,000; 4,400; 4,800
6b. Olivia is incorrect. The starting number is 5,400. $54 \times 100 = 5,400$ so $5,400 \div 100 = 54$

Greater Depth

- 7b. Keeley is incorrect. $3,400 \div 10 = 340$; $340 \div 10 = 34$ stickers in each book.
8b. 6,000; 6,400; 6,800; 7,200; 7,600; 8,000
9b. Theo is incorrect. The starting number is 7,200. $72 \times 100 = 7,200$ so $7,200 \div 100 = 72$