

Reasoning and Problem Solving

Step 3: Divide by 10

National Curriculum Objectives:

Mathematics Year 4: (4C6a) [Recall multiplication and division facts for multiplication tables up to \$12 \times 12\$](#)

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 if a statement is correct by dividing a 3-digit number by 10. Includes place value counters and charts to support.

Expected Explain if a statement is correct by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented with a variety of pictorial representations.

Greater Depth Explain if a statement is correct by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented using mixed manipulatives and some use of unconventional partitioning.

Questions 2, 5 and 8 (Problem Solving)

Developing Find possible answers to a word problem by dividing a 3-digit number by 10. Includes place value counters and charts to support.

Expected Find possible answers to a word problem by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented with a variety of pictorial representations.

Greater Depth Find possible answers to a word problem by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented using mixed manipulatives and some use of unconventional partitioning.

Questions 3, 6 and 9 (Problem Solving)

Developing Find the quantity of ingredients needed by dividing a 3-digit number by 10. Includes place value counters and charts to support.

Expected Find the quantity of ingredients needed by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented with a variety of pictorial representations.

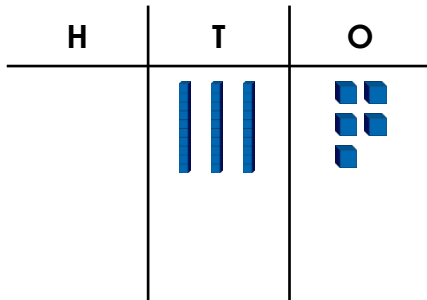
Greater Depth Find the quantity of ingredients needed by dividing a 3-digit number by 10. Includes using knowledge of commutative law. Numbers represented using mixed manipulatives and some use of unconventional partitioning.

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

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

Divide by 10

1a. Molly thinks she has divided 350 by 10 to find the answer below.



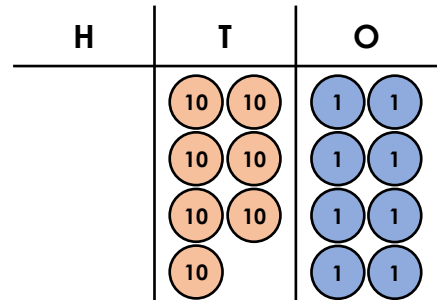
Is she correct?
Explain how you know.



R

Divide by 10

1b. Harry thinks he has divided 870 by 10 to find the answer below.



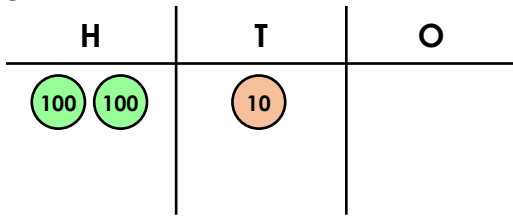
Is he correct?
Explain how you know.



R

2a. Jayden and Suzy are running laps of the park. It takes 10 minutes to run each lap.

Altogether they ran for 210 minutes.



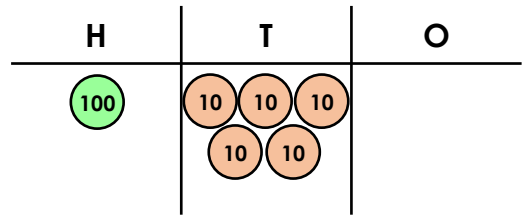
How many laps could Jayden and Suzy have run each? Find 3 possibilities.



PS

2b. Joe and Fatima are solving puzzles. It takes 10 minutes to solve each puzzle.

Altogether they spent 150 minutes solving puzzles.



How many puzzles could Joe and Fatima have solved each? Find 3 possibilities.



PS

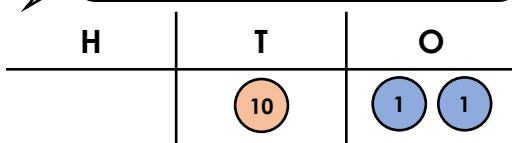
3a. A recipe makes 10 cookies. These are some of the ingredients:

250g butter
420g sugar
140g flour

Lucas says,



To make 1 cookie, I will need 12g of flour.



Is he correct? Prove it.



R

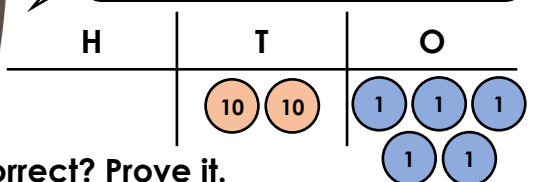
3b. A recipe makes 10 smoothies. These are some of the ingredients:

260g raspberries
120g blueberries
540ml orange juice

Thea says,



To make 1 smoothie, I will need 25g of raspberries.



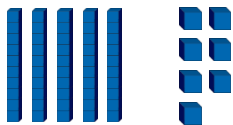
Is she correct? Prove it.



R

Divide by 10

4a. Kelly thinks she has divided 470 by 10 to find the answer below.



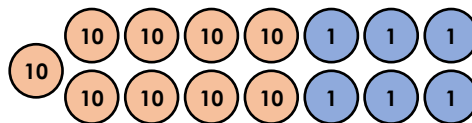
Is she correct?
Explain how you know.



R

Divide by 10

4b. Trent thinks he has divided 960 by 10 to find the answer below.



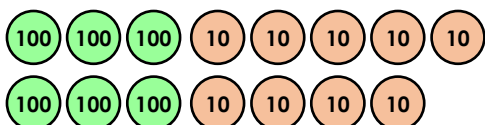
Is he correct?
Explain how you know.



R

5a. Dr Smith and Dr Li are working in the surgery. They take 10 minutes to see each patient.

Altogether they worked for 690 minutes.



How many patients could Dr Smith and Dr Li have seen each? Find 3 possibilities.



PS

5b. Evie and Leo are reading books in the library. They take 10 minutes to read each chapter.

Altogether they read for 340 minutes.



How many chapters could Evie and Leo have read each? Find 3 possibilities.



PS

6a. A recipe makes 10 cupcakes. These are some of the ingredients:

370g flour
250g butter
200g sugar

Jacob says,



To make 1 cupcake, I will need 23g of sugar.



Is he correct? Prove it.



R

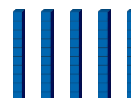
6b. A recipe makes 10 pies. These are some of the ingredients:

390ml stock
250g chopped onion
560g minced beef

Millie says,



To make 1 pie, I will need 50g of minced beef.



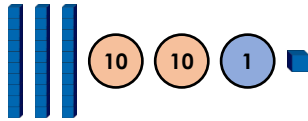
Is she correct? Prove it.



R

Divide by 10

7a. Thomas thinks he has divided 620 by 10 to find the answer below.



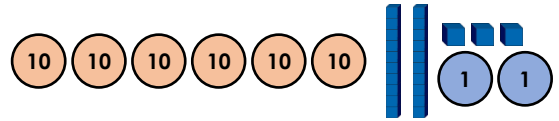
Is he correct?
Explain how you know.



R

Divide by 10

7b. Anna thinks she has divided 850 by 10 to find the answer below.



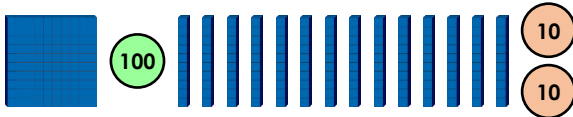
Is she correct?
Explain how you know.



R

8a. Mr Wood and Miss Chung are meeting with parents. Each meeting lasts for 10 minutes.

Altogether they spent 360 minutes in meetings.



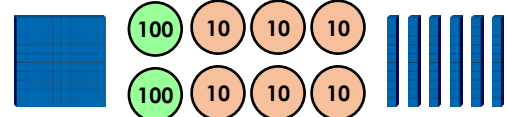
How many meetings could Mr Wood and Miss Chung have had each? Find 3 possibilities.



PS

8b. Miah and Jack are colouring pictures in their books. It takes 10 minutes to colour each picture.

Altogether they colour for 420 minutes.



How many pictures could Miah and Jack have coloured each. Find 3 possibilities.



PS

9a. A recipe makes 10 scones. These are some of the ingredients:

460g flour
240g raisins
250ml milk

Hannah says,

To make 1 scone, I will need 22g of raisins.



Is she correct? Prove it.



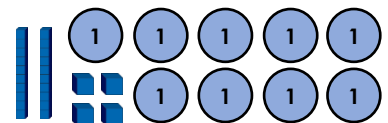
R

9b. A recipe makes 10 flapjacks. These are some of the ingredients:

310g oats
240g butter
270g syrup

Liam says,

To make 1 flapjack, I will need 33g of oats.



Is he correct? Prove it.



R

Reasoning and Problem Solving Divide by 10

Developing

- 1a. Molly is correct because $350 \div 10 = 35$.
2a. Various answers, for example: They ran 21 laps altogether; 7 and 14, 10 and 11, 13 and 8.
3a. Lucas is incorrect because $140 \div 10 = 14$, not 12.

Expected

- 4a. Kelly is incorrect because $470 \div 10 = 47$, not 57.
5a. Various answers, for example: They saw 69 patients altogether; 32 and 37, 24 and 45, 39 and 30.
6a. Jacob is incorrect because $200 \div 10 = 20$, not 23.

Greater Depth

- 7a. Thomas is incorrect because $620 \div 10 = 62$, not 52.
8a. Various answers, for example: They had 36 meetings; 12 and 24, 15 and 21, 20 and 16.
9a. Hannah is incorrect because $240 \div 10 = 24$, not 22.

Reasoning and Problem Solving Divide by 10

Developing

- 1b. Harry is incorrect because $870 \div 10 = 87$, not 78.
2b. Various answers, for example: They solved 15 puzzles altogether; 10 and 5, 6 and 9, 2 and 13.
3b. Thea is incorrect because $260 \div 10 = 26$, not 25.

Expected

- 4b. Trent is correct because $960 \div 10 = 96$.
5b. Various answers, for example: They read 34 chapters altogether; 15 and 19, 20 and 14, 9 and 25.
6b. Millie is incorrect because $560 \div 10 = 56$, not 50.

Greater Depth

- 7b. Anna is correct because $850 \div 10 = 85$.
8b. Various answers, for example: They coloured 42 pictures altogether; 22 and 20, 18 and 24, 31 and 11.
9b. Liam is incorrect because $310 \div 10 = 31$, not 33.