Reasoning and Problem Solving
Step 12: Divide by 10, 100 and 1,000

National Curriculum Objectives:

Mathematics Year 5: (5C6b) Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
Mathematics Year 5: (5F10) Solve problems involving number up to three decimal places

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Calculate 2 missing functions. Includes up to 4-digit numbers with 1 decimal place. With visual support.
Expected Calculate 3 missing functions. Includes up to 6-digit numbers with 3 decimal places.
Greater Depth Calculate 4 missing functions. Includes up to 7-digit numbers with 4 decimal places.

Questions 2, 5 and 8 (Reasoning)
Developing Use understanding of dividing by 10, 100 and 1,000 to explain whether an answer is correct. Includes 1 decimal place. With visual support.
Expected Use understanding of dividing by 10, 100 and 1,000 to explain who has the correct answer. Includes up to 3 decimal places.
Greater Depth Use understanding of dividing by 10, 100 and 1,000 to explain who has the correct answer. Includes up to 4 decimal places and multiple steps.

Questions 3, 6 and 9 (Problem Solving)
Developing Use understanding of dividing by 10, 100 and 1,000 to solve a simple word problem. With visual support.
Expected Use understanding of dividing by 10, 100 and 1,000 to solve a word problem.
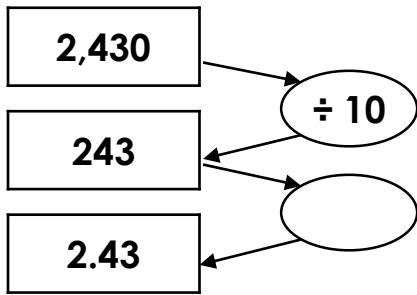**Greater Depth** Use understanding of dividing by 10, 100 and 1,000 to solve a multi-step word problem.

More Year 5 Decimals resources.

Did you like this resource? Don't forget to review it on our website.

classroomsecrets.co.uk

1a.
Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 2,430 |
| 243 |
| 2.43 |

(÷ 10)

Th	H	T	O •	Tths	Hths	Thths
			•			

D PS

1b.
Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 5,210 |
| 5.21 |
| 0.521 |

Th	H	T	O •	Tths	Hths	Thths
			•			

D PS

2a.
Aiden thinks he has shown 232 divided by 100.

Th	H	T	O •	Tths	Hths

Th	H	T	O •	Tths	Hths

Is he correct? Explain why.

D R

2b.
Mila thinks she has shown 4,343 divided by 100.

Th	H	T	O •	Tths	Hths

Th	H	T	O •	Tths	Hths

Is she correct? Explain why.

D R

3a.
A group of friends win £1,325 on the lottery.

If there are 10 friends in the group, how much money will they each get?

Th	H	T	O •	Tths

D PS

3b.
Tom drove 1,452km across the UK.

He split the journey into 10 equal parts. How long was each part of the journey?

Th	H	T	O •	Tths

D PS

Divide by 10, 100 and 1,000

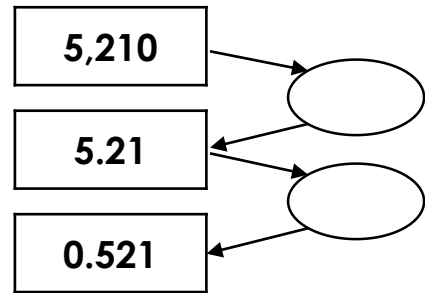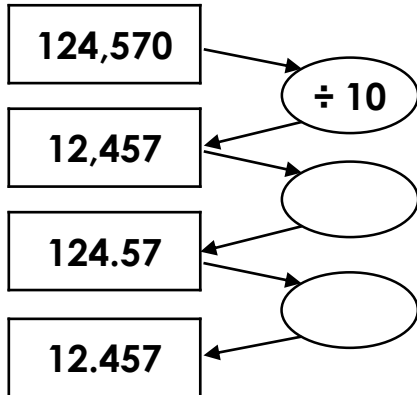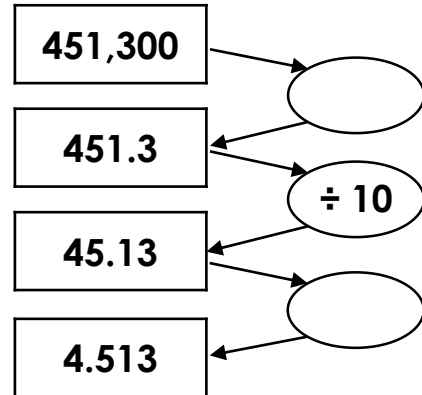**4a.** Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 124,570 |
| 12,457 |
| 124.57 |
| 12.457 |

÷ 10

5a. Logan says,

369 divided by 1,000 equals 0.369.

Milly says,

369 divided by 10 three times equals 0.369.

Who is correct? Explain why.

6a. Bobby wants to buy a long lasting battery for his remote control car.

Duraflex batteries come in a pack of 1,000 that last for 1,265 hours in total.

Everlasting batteries come in a pack of 100 that last for 216 hours total.

Which company sells the longest lasting battery?

4b. Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 451,300 |
| 451.3 |
| 45.13 |
| 4.513 |

÷ 10

5b. Charlie says,

2.5 divided by 100 equals 0.025.

Jorelle says,

25 divided by 10 two times equals 0.025.

Who is correct? Explain why.

6b. Martin's school needs more glue sticks.

The Glue Shop is selling boxes of 100 glue sticks for £135.

Sticky Fingers is selling boxes of 1,000 glue sticks for £1,050.

Which shop is offering the best deal for the school?

7a. Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 1,334,500 |
| 133,450 | ÷ 10 |
| 1,334.5 |
| 133.45 |
| 1.3345 |

GD · PS

7b. Complete the missing functions by deciding whether these numbers have been divided by 10, 100 or 1,000.

| 1,560,000 |
| 1,560 |
| 156 | ÷ 100 |
| 1.56 |
| 0.0156 |

GD · PS

8a. Alex says,

> 1,400,552 divided by 10 and then by 100 equals 1,400.552.

Layla says,

> 1,400,552 divided by 1,000 equals 1,400.552.

Who is correct? Explain why.

GD · R

8b. Carter says,

> 6.9 divided by 1,000 equals 0.069.

Chloe says,

> 6.9 divided by 100 and then by 10 equals 0.0069.

Who is correct? Explain why.

GD · R

9a. Flaky Corn ship 2,565,450kg of cornflakes to two warehouses every month.

John's warehouse packages it into 1,000 boxes, which he distributes to 100 shops.

Tracy's warehouse packages it into 100 boxes, which she distributes to 100 shops.

Whose warehouse distributes the most cornflakes per shop?

GD · PS

9b. Juicy Co. makes 1,678 litres of juice.

The Big Bottle company buy one 100th of the juice and package it into 100 bottles.

Drink 'n' Go buy one 10th of the juice and package it into 10 bottles.

Which company sells the biggest bottle of juice?

GD · PS

Reasoning and Problem Solving
Divide by 10, 100 and 1,000

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Developing

1a. ÷ 100

2a. Aiden is correct, the place value grid shows 2.32.

3a. Each friend will get £132.50.

Expected

4a. ÷ 100 and ÷ 10

5a. They are both correct as dividing by 10 three times is the same as dividing by 1,000.

6a. Everlasting batteries last longest at 2.16 hours each.

Greater Depth

7a. ÷ 100, ÷10 and ÷ 100

8a. Alex and Layla are both correct as dividing by 10 and then 100 is equal to dividing by 1,000.

9a. Tracy's warehouse distributes more. John's warehouse distributes 25.6545kg, whereas Tracy distributes 256.545kg per shop.

Developing

1b. ÷ 1,000 and ÷ 10

2b. Mila is incorrect, the place value grid is showing 434.3 not 43.43.

3b. Each part of Tom's journey is 145.2km.

Expected

4b. ÷ 1000 and ÷ 10

5b. Charlie is correct. Jorelle is incorrect as dividing by 10 two times is 0.25.

6b. Sticky fingers glue is the best deal at £1.05 per stick.

Greater Depth

7b. ÷ 1,000, ÷ 10 and ÷ 100

8b. Chloe is correct. Carter is incorrect as his answer should be 0.0069.

9b. Drink 'n' Go sell the biggest bottle of juice at 16.78 litres.