Divide a 1- or 2-digit number by 100

Notes and guidance

Building on their learning from the multiplication and division block and the earlier steps in this block, in this small step children divide 1-and 2-digit numbers by 100

Children should build numbers using place value counters and use exchanges to support their understanding. Once confident working with place value counters, they could move to using place value charts and recognise that dividing a number by 100 moves all the counters two places to the right. Exploring the difference between moving two places for 100 and one place for 10 is important at this stage.

Things to look out for

- Children may move just one of the digits rather than all of them.

- Children may move the digits one place instead of two places.

- Children may move the decimal point two places as well as the digits and so keep the original number.

- Children may spot "tricks" that work for some questions and they should be reminded that these do not work in all cases, so are not a reliable method.

Key questions

- What exchanges can you make?

- How can you use a place value chart to show dividing a number by 100?

- How is dividing by 100 similar to/different from dividing by 10?

- What happens to a number when you divide it by 100?

- Does the decimal point ever move?

- If you divide by 10 twice, what do you notice?

Possible sentence stem§s

- To divide something by _____ , split it into _____ equal parts.

- When dividing a number by 100, move all the digits _____ places to the _____

National Curriculum links

- Recognise and write decimal equivalents of any number of tenths or hundredths

- Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Divide a 1- or 2-digit number by 100

Key learning

- Rosie uses a place value chart to divide 21 by 100

  She divides it first by 10, and then by 10 again.

T	O	Tths	Hths
●●	●		

$\div 10$

T	O	Tths	Hths
	●●	●	

$\div 10$

T	O	Tths	Hths
		●●	●

$21 \div 10 = 2.1$
$2.1 \div 10 = 0.21$
So $21 \div 100 = 0.21$

  Use Rosie's method to work out the divisions.

  | $26 \div 100$ | $52 \div 100$ | $4 \div 100$ |

  | $35 \div 100$ | $78 \div 100$ | $9 \div 100$ |

  What do you notice about the divisions and the answers?

- Here is a 2-digit number on a place value chart.

T	O	Tths	Hths
7	2		

  ▶ Complete the sentences.

    When dividing by 100, move the digits two places to the _____

    $72 \div 100 =$ _____

  ▶ Use this method to fill in the missing numbers.

    $82 \div 100 =$ _____

    _____ $= 93 \div 100$

    $0.23 =$ _____ $\div 100$

- Write <, > or = to complete the statements.

  $99 \div 100$ ◯ $100 \div 100$

  $86 \div 100$ ◯ $26 \div 10$

  $4 \div 10$ ◯ $50 \div 100$

  $24 \div 6$ ◯ $40 \div 100$

Divide a 1- or 2-digit number by 100

Reasoning and problem solving
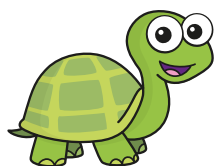
Is the statement true or false?

When you divide any whole 2-digit number by 100, there will be a zero in the ones column.

Explain your answer.

True

Tiny is working out $45 \div 100$

The answer is 40.05 because the 5 moves two places to the right.

Do you agree with Tiny?

Explain your answer.

No

Fill in the missing numbers.

$62 \div \text{\_\_\_\_\_} = 0.62$

$\text{\_\_\_\_\_} \div 100 = 0.62$

$\text{\_\_\_\_\_} \div 10 = 6.2$

$\text{\_\_\_\_\_} \div 10 = 2.4$

$\text{\_\_\_\_\_} \div 10 = 0.24$

$\text{\_\_\_\_\_} \div 100 = 0.24$

100

62

62

___

24

2.4

24

I can see patterns.

What patterns can Ron see?