

Divide a 2-digit number by a 1-digit number (1)

Notes and guidance

In this small step, children use their division facts from the Autumn term to build on their knowledge of dividing a 2-digit number by a 1-digit number from Year 3

Initially, children carry out divisions where the tens and ones are both divisible by the number being divided by without any remainders, for example $96 \div 3$ and $84 \div 4$. They then move on to calculations where they need to exchange between tens and ones, for example $96 \div 4$. Place value counters are used to explore the sharing structure of division. Children do not need to use the formal short division method at this stage and may use informal jottings or representations such as a part-whole model to record their working instead.

Things to look out for

- Children may partition the 2-digit number correctly, but then divide the tens as if they are ones, for example $96 \div 3 = 9 \div 3 + 6 \div 3$
- Instead of using their times-tables knowledge, children may revert to less efficient methods such as drawing circles, then drawing dots to share between the circles.
- Children may always partition into tens and ones when other forms of partitioning are more appropriate.

Key questions

- How do you partition a 2-digit number into tens and ones? How else can you partition a 2-digit number?
- Which is the most efficient way to partition the number so you can divide both parts by _____?
- If you cannot share all of the tens equally, what do you need to do?
- How can you represent the division using a part-whole model?

Possible sentence stems

- _____ tens divided by _____ = _____ tens each
- _____ ones divided by _____ = _____ ones each
- I cannot share all of the tens equally, so I need to ...

National Curriculum links

- Recall multiplication and division facts for multiplication tables up to 12×12
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers

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Key learning

- Teddy uses a place value chart to divide 84 by 4

Tens	Ones
10 10	1
10 10	1
10 10	1
10 10	1

84

80 4

↓ ÷ 4 ↓ ÷ 4

20 + 1 = 21

Use Teddy's method to work out the divisions.

69 ÷ 3

88 ÷ 4

96 ÷ 3

- Complete the calculations.

- ▶ $46 \div 2 =$ _____ tens $\div 2$ and _____ ones $\div 2$
 = _____ tens and _____ ones
 = _____
- ▶ $63 \div 3 =$ _____ tens $\div 3$ and _____ ones $\div 3$
 = _____ tens and _____ ones
 = _____

- Eva uses place value counters to work out 96 divided by 4
 First, she divides the tens.
 She has one ten remaining.

Tens	Ones
10 10	
10 10	
10 10	
10 10	

96

80

↓ ÷ 4 ↓ ÷ 4

20 + =

- ▶ What should Eva do with the remaining ten?
 Complete Eva's workings.
- ▶ Use Eva's method to work out the divisions.

84 ÷ 7

78 ÷ 6

96 ÷ 8

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Reasoning and problem solving

Tiny is working out $72 \div 3$



I will need to make an exchange.

Do you agree with Tiny?
Explain your answer.



Yes

Write $<$, $>$ or $=$ to compare the calculations.

$69 \div 3$ ○ $96 \div 3$

$96 \div 4$ ○ $96 \div 3$

$91 \div 7$ ○ $84 \div 6$

$<$
 $<$
 $<$

Kim has 96 sweets.

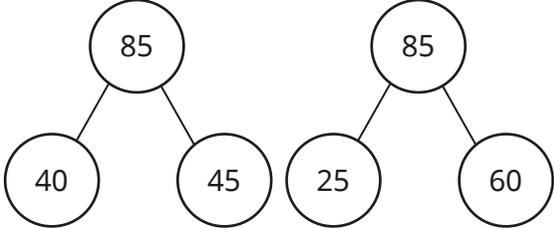
She shares them into equal groups.
She has no sweets left over.

How many equal groups could Kim have shared her sweets into?



1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48 or 96 groups

Here are two ways of partitioning 85 to help work out $85 \div 5$



What other ways could you partition 85 to help with the division?
Which way do you prefer?



multiple possible answers, e.g.
10 and 75
80 and 5
50 and 25