Year 5: Week 3, Day 4
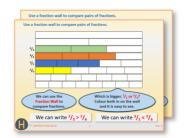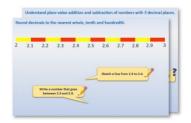## Short division (3-digit numbers)

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. If possible, watch the **PowerPoint presentation** with a teacher or another grown-up.

   OR start by carefully reading through the **Learning Reminders**.

2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or Hot (harder)!
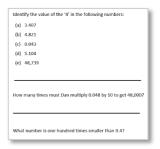   Check the answers.

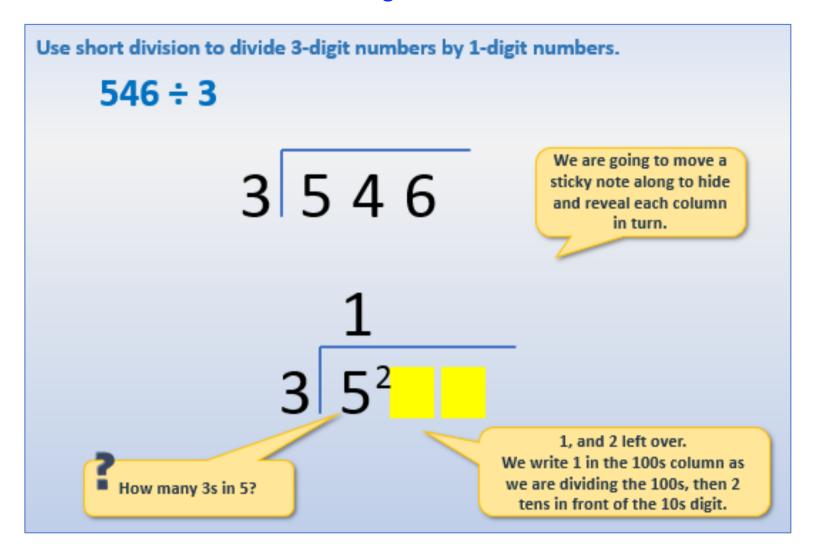3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**

4. Have I mastered the topic? A few questions to **Check your understanding**.
   Fold the page to hide the answers!

Learning Reminders

Use short division to divide 3-digit numbers by 1-digit numbers.

546 ÷ 3

$$3 \overline{)5\ 4\ 6}$$

We are going to move a sticky note along to hide and reveal each column in turn.

$$3 \overline{)5^2\ \ \ } = 1$$

? How many 3s in 5?

1, and 2 left over. We write 1 in the 100s column as we are dividing the 100s, then 2 tens in front of the 10s digit.

Learning Reminders

Use short division to divide 3-digit numbers by 1-digit numbers.

8. We write 8 in the 10s column as we are dividing the 10s.

$$1\,8$$
$$3\,|\,5\,^2\!4$$

? How many 3s in 24?

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Learning Reminders

Practice Sheet Mild
Division practice

1. $369 \div 3$

2. $448 \div 4$

3. $575 \div 5$

4. $378 \div 3$

5. $672 \div 6$

6. $898 \div 8$

7. $791 \div 7$

8. $643 \div 3$

9. $857 \div 4$

10. $563 \div 5$

11. $691 \div 6$

12. $936 \div 9$

Challenge

Without working them out, which of these do you think will have a remainder? Does your partner agree?

$933 \div 4$ $801 \div 3$ $696 \div 8$ $676 \div 5$

Now try them out! Were you right?

Practice Sheet Hot
Division problems

Set out and solve these calculations:

1. $233 \div 4$ 2. $547 \div 8$ 3. $451 \div 7$ 4. $628 \div 9$

Solve these word problems:

5. Some pizzas are cut into 8 slices. How many pizzas are needed for 572 slices?

6. 7 children fit into a minibus. How many minibuses are needed to take 322 children on a trip?

7. 9 friends share out 534 marbles. How many marbles does each child get? How many are left over?

8. Stickers come in packets of 6. If I need 370 stickers to give out at my party how many packets should I buy?

Now make up two problems, each involving one of these calculations:

9. $546 \div 6$

10. $428 \div 8$

Challenge

Which numbers between 1 and 12 will NOT divide evenly into 504 (i.e. with no remainder)?

Practice Sheet Answers

Division practice (mild)

1. $369 \div 3 = 123$
2. $448 \div 4 = 112$
3. $575 \div 5 = 115$
4. $378 \div 3 = 126$
5. $672 \div 6 = 112$
6. $898 \div 8 = 112$ r2
7. $791 \div 7 = 113$
8. $643 \div 3 = 214$ r1
9. $857 \div 4 = 214$ r1
10. $563 \div 5 = 112$ r3
11. $691 \div 6 = 115$ r1
12. $936 \div 9 = 104$

Challenge

$933 \div 4 = 233$ r1 and $676 \div 5 = 135$ r1

Division problems (hot)

1. $233 \div 4 = 58$ r1
2. $547 \div 8 = 68$ r3
3. $451 \div 7 = 64$ r3
4. $628 \div 9 – 69$ r7
5. 72 pizzas
6. 46 minibuses
7. 59 marbles per child. Three are left over.
8. 62 packets

Challenge

5, 10 and 11 will not divide evenly into 504.
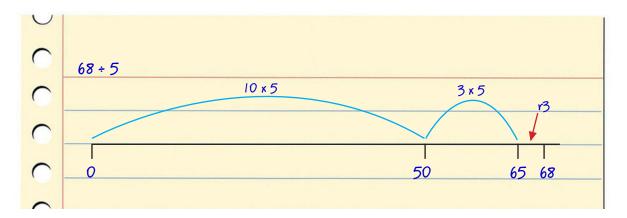
Things you will need:
- A pencil

'Chunking' on a number line is an important stepping-stone when learning to divide.
Look at the example at the bottom of the page for 68 ÷ 5.
See how we hop in large 'chunks' of 5 (the divisor) along the line to get as close as possible to 68...?

What to do:

- Choose a division to work out – some will give remainders but a few won't!
- Calculate the answer using 'chunking' on a number line.
- Repeat at least four more times.
- Score 1 point for each correct answer but 10 points for each remainder!

| 68 ÷ 5 | 48 ÷ 3 | 65 ÷ 4 | 92 ÷ 5 | 68 ÷ 4 |

| 50 ÷ 3 | 71 ÷ 4 | 80 ÷ 5 | 51 ÷ 3 |

68 ÷ 5

10 x 5   3 x 5   r3

0   50   65 68

S-t-r-e-t-c-h:
Work out 67 ÷ 3, 92 ÷ 4 and 107 ÷ 5. Hint: the answers are bigger than 20!

Learning outcomes:
- I can use chunking to divide, giving answers between 10 and 20, with remainders.
- I am beginning to use chunking to divide, giving answers between 20 and 30, with remainders.

Check your understanding
Questions

(i)   Is the answer to 234 ÷ 3 three times the answer to 234 ÷ 9?

(ii)   Use short division to answer both calculations.

Was your answer to (i) correct?

Which of these divisions will have answers less than 100? How can you tell?
Use short division to calculate the answers to each.

536 ÷ 4   367 ÷ 5   629 ÷ 7   545 ÷ 3

Fold here to hide answers

Check your understanding
Answers

(i)   Is the answer to 234 ÷ 3 treble the answer to 234 ÷ 9?

(ii)   Use short division to answer both calculations.

Answers are 78 and 26 respectively.

Was your answer to (i) correct? It was if you said yes – since 3 is a third of 9, dividing the same number by 3 **does** give an answer 3 times as big.

Which of these divisions will have answers less than 100? How can you tell?
Use short division to calculate the answers to each.

536 ÷ 4 = 134   367 ÷ 5 = 73 r 2   629 ÷ 7 = 89 r 6   545 ÷ 3 = 181 r 2

367 ÷ 5 and 629 ÷ 7 will have answers less than 100, because the divisor does not 'go into' the first digit.