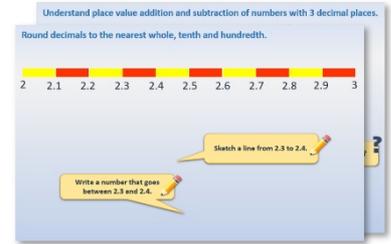


Year 5: Week 2, Day 5

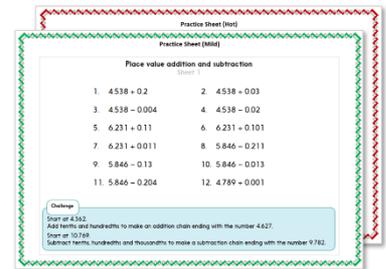
Find non-unit fractions of amounts

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

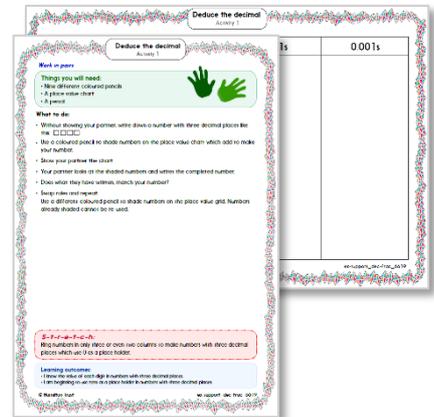
- Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



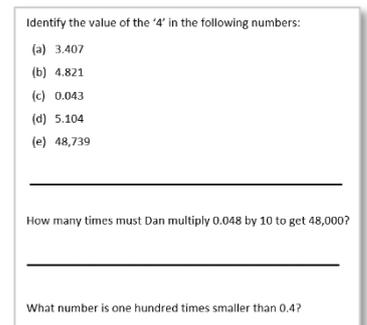
- Tackle the questions on the **Practice Sheet**. There might be a choice of either **Mild** (easier) or **Hot** (harder)! Check the answers.



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



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



Learning Reminders

Use mental division and multiplication strategies to find fractions of amounts.

What other fractions of 150
can we find which give
whole-number answers?

HINT! Finding factors of
150 is helpful...

$$\frac{1}{2} \text{ of } 150 = \underline{\hspace{2cm}}$$

$$\frac{1}{3} \text{ of } 150 =$$

$$\frac{1}{5} \text{ of } 150 =$$

$$\frac{1}{10} \text{ of } 150 =$$

$$\frac{1}{30} \text{ of } 150 =$$

$$\frac{1}{50} \text{ of } 150 =$$

Learning Reminders

Use mental division and multiplication strategies to find fractions of amounts.

$\frac{1}{6}$ of 150

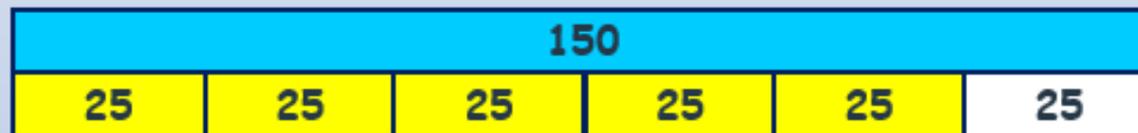
Divide 150 by 6 to find the answer...

$\frac{1}{6}$ of 150 =

$$\begin{array}{r} 25 \\ 6 \overline{) 150} \end{array}$$

So, how could we calculate $\frac{5}{6}$ of 150?

We could multiply **25** by 5, or subtract 25 from 150. Do both to check that you get the same answer...



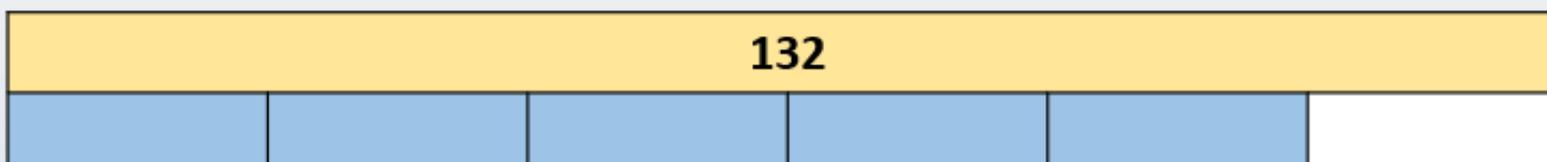
$$\frac{5}{6} \text{ of } 150 = 125$$

Learning Reminders

Find non-unit fractions of amounts.

$\frac{5}{6}$ of 132

Write several sentences to describe a process to calculate this, *then* read the box below.



To find a non-unit fraction of an amount we:

- Look at the denominator of the fraction and divide the whole amount into this number of *parts*. This gives the amount of the unit fraction.
In our example, $\frac{1}{6}$ of 132 = $132 \div 6 = 22$
- Multiply by the numerator – the number of parts – to give the non-unit fraction of the amount.
In our example, $22 \times 5 = 110$
- Check that the answer seems reasonable.

Practice Sheet Mild

Finding fractions of amounts

1. $\frac{1}{10}$ of 240

240									

 $\frac{3}{10}$ of 240
2. $\frac{1}{3}$ of 180

180		

 $\frac{2}{3}$ of 180
3. $\frac{1}{4}$ of 128

128			

 $\frac{3}{4}$ of 128
4. $\frac{1}{5}$ of 150

150				

 $\frac{4}{5}$ of 150
5. $\frac{1}{7}$ of 210

210						

 $\frac{3}{7}$ of 210
6. $\frac{1}{9}$ of 180

180								

 $\frac{4}{9}$ of 180

Practice Sheet Mild

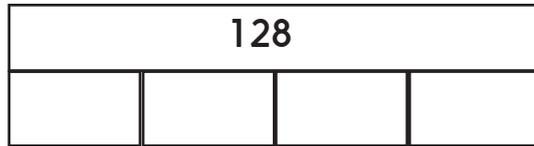
Solving word problems

1. There are 210 children in a school. There are 7 classes with the same number of children in each class. How many are in each class?
2. School dinners cost £2.25 per child per day. How much does it cost a child for one week of dinners?
3. Out of 148 children having school dinners, $\frac{1}{2}$ chose pasta, $\frac{1}{4}$ chose jacket potatoes and the rest chose curry. How many children chose curry?
4. The area of each classroom is 42m^2 . What is the total area of all 7 classrooms?
5. Of the 120 children in KS2, $\frac{3}{4}$ have got their 25m swimming badge. How many have yet to swim far enough to earn their badge?
6. Children are in school $6\frac{1}{4}$ hours each day. How many hours are they in school during one week of five days?
7. A sponsored spell has raised £280 for wet play games. This will be split evenly between the 7 classes. How much will each class get to spend?

Practice Sheet Hot

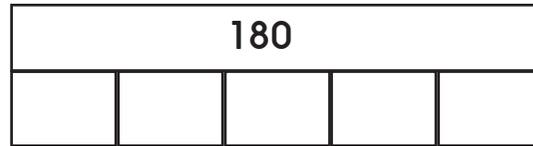
Finding fractions of amounts

1.



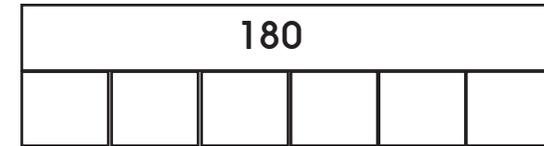
$\frac{3}{4}$ of 128

2.



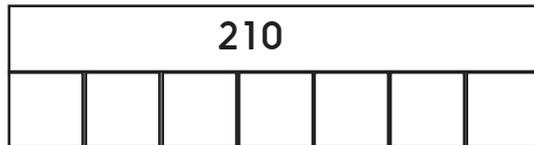
$\frac{2}{5}$ of 180

3.



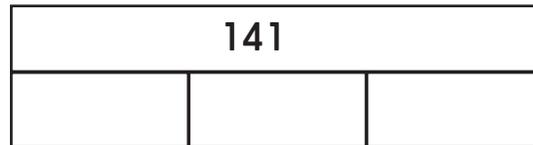
$\frac{5}{6}$ of 180

4.



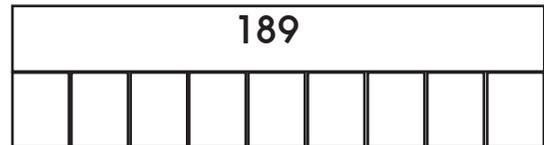
$\frac{6}{7}$ of 210

5.



$\frac{2}{3}$ of 141

6.



$\frac{7}{9}$ of 189

7. $\frac{5}{6}$ of 192

8. $\frac{3}{8}$ of 192

9. $\frac{5}{7}$ of 224

10. $\frac{5}{8}$ of 100

Practice Sheet Hot

Solving word problems

1. There are 208 children in a school. 28 are in reception, the rest are split equally between 6 classes. How many are in each class?
2. School dinners cost £2.25 per child per day. How much does it cost a child for 190 days' dinners?
3. Out of 144 children who have school dinners, $\frac{1}{3}$ chose pasta, $\frac{1}{4}$ chose jacket potatoes and the rest chose curry. How many chose curry?
4. The area of each of the 7 classrooms is 42m^2 . The hall has an area of 70m^2 , and the offices and reception area is 18m^2 . If the whole area of the school is 400m^2 , what is the area of the corridor?
5. Of the 120 children in KS2, $\frac{1}{5}$ have not got a swimming badge yet, half of the rest have got their 25m badge, and the remaining children have their 25m badge and 50m badge. How many children have just one badge so far?
6. Children are in school $6\frac{1}{4}$ hours a day. How many hours are they in school in a term of 60 days?
7. A sponsored spell has raised £343 for wet play games. This will be split evenly between the 7 classes. How much will each class get to spend?

Practice Sheets Answers

Finding fractions of amounts (mild)

- | | | |
|----|-----------------------------|-----------------------------|
| 1. | $\frac{1}{10}$ of 240 is 24 | $\frac{3}{10}$ of 240 is 72 |
| 2. | $\frac{1}{3}$ of 180 is 60 | $\frac{2}{3}$ of 180 is 120 |
| 3. | $\frac{1}{4}$ of 128 is 32 | $\frac{3}{4}$ of 128 is 96 |
| 4. | $\frac{1}{5}$ of 150 is 30 | $\frac{4}{5}$ of 150 is 120 |
| 5. | $\frac{1}{7}$ of 210 is 30 | $\frac{3}{7}$ of 210 is 90 |
| 6. | $\frac{1}{9}$ of 180 is 20 | $\frac{4}{9}$ of 180 is 80 |

Solving word problems (mild)

1. There are 30 children in each class.
2. School dinners cost £11.25 for one week.
3. 37 children chose curry.
4. The total area of all 7 classrooms is 294m².
5. 30 children have not yet got their 25m swimming badge.
6. Children are in school for 3 $1\frac{1}{4}$ hours during one week.
7. Each class will have £40 to spend.

Finding fractions of amounts (hot)

1. $\frac{3}{4}$ of 128 is 96
2. $\frac{2}{5}$ of 180 is 72
3. $\frac{5}{6}$ of 180 is 150
4. $\frac{6}{7}$ of 210 is 180
5. $\frac{2}{3}$ of 141 is 94
6. $\frac{7}{9}$ of 189 is 147
7. $\frac{5}{6}$ of 192 is 160
8. $\frac{3}{8}$ of 192 is 72
9. $\frac{5}{7}$ of 224 is 160
10. $\frac{5}{8}$ of 100 is 62.5

Solving word problems (hot)

1. There are 30 children in each non-reception class.
2. School dinners cost £427.50 for 190 days.
3. 60 children chose curry.
4. The area of the corridor is 18m².
5. 48 children have one swimming badge so far.
6. Children are in school for 375 hours during one term.
7. Each class will have £49 to spend.

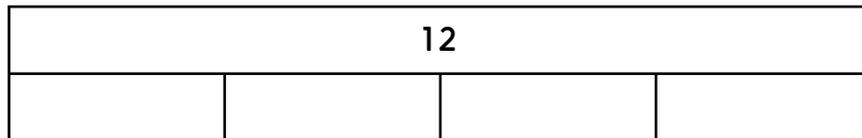
A Bit Stuck? Fraction facts

Use this activity to support learning for both today and tomorrow (Week 2 Day 5)

Work in pairs, but write your answers on your own sheet

What to do:

- Work out what number needs to go in each empty section of the bar model. Then write a list of fraction facts to go with each.

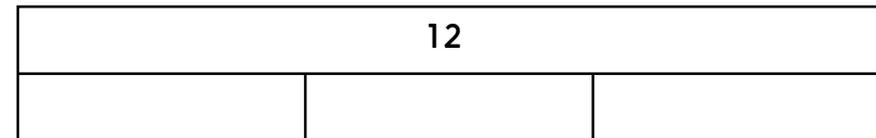


$\frac{1}{4}$ of 12 is

$\frac{1}{2}$ of 12 is

$\frac{3}{4}$ of 12 is

$\frac{4}{4}$ of 12 is



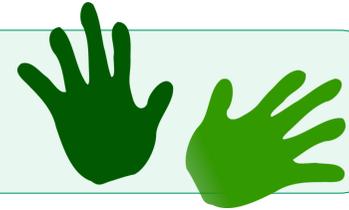
$\frac{1}{3}$ of 12 is

$\frac{2}{3}$ of 12 is

$\frac{3}{3}$ of 12 is

Things you will need:

- A pencil



- Choose at least four other bar models. Work out what number needs to go in each empty section of the bar model. Then write a list of fraction facts to go with each.

S-t-r-e-t-c-h:

Draw your own bar models to show $\frac{1}{3}$ s of 15 and $\frac{1}{4}$ s of 28.

Learning outcomes:

- I can use bar models to find $\frac{1}{3}$ s, $\frac{1}{4}$ s and $\frac{1}{5}$ s of numbers.
- I am beginning to draw my own bar models to find fractions of amounts.

A Bit Stuck? Fraction facts

24

24			

21

21		

40

40			

30

30		

32

32			

24

24		

15

15				

30

30				

25

25				

A Bit Stuck?
Fraction facts



A Bit Stuck?
Fraction facts

The image contains a large grid of 136 green stars arranged in 8 rows and 17 columns. Each star is enclosed in a dashed rectangular border, and small scissors icons are placed at the corners of these dashed boxes to indicate where to cut. The stars are intended to be used as manipulatives for learning fraction facts.

Check your understanding

Questions

Draw a bar diagram to represent each problem.

- $\frac{1}{3}$ of 153
- $\frac{4}{6}$ of 612
- $\frac{7}{12}$ of 72

Now find each answer.

Find $\frac{3}{5}$ of each of: (a) 105 (b) 205 (c) 305

Use the pattern to predict the answer to $\frac{3}{5}$ of 405.
Check your answer.

Fold here to hide answers:

Check your understanding

Answers

Draw a bar diagram to represent each problem.

- i. $\frac{1}{3}$ of 153 = **51**

153		
51	51	51

- ii. $\frac{4}{6}$ of 612 = $4 \times 102 =$ **408**

612					
102	102	102	102	102	102

- iii. $\frac{7}{12}$ of 72 = $7 \times 6 =$ **42**

72											
6	6	6	6	6	6	6	6	6	6	6	6

Find $\frac{3}{5}$ of each of ...

(a) 105 **63** (b) 205 **123** (c) 305 **183**

Use the pattern to predict the answer to $\frac{3}{5}$ of 405. **243**
As the numbers increase by 100, the answers increase by 60 which is $\frac{3}{5}$ of 100.