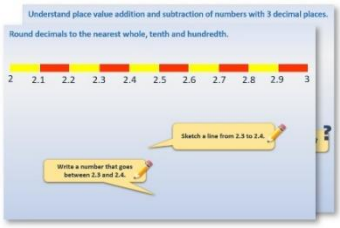
Week 15, Day 2

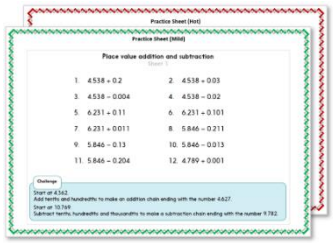
Revise finding non-unit fractions of amounts

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

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



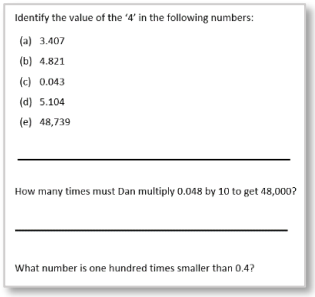
2. Tackle the questions on the **Practice Sheet**.
   There might be a choice of either Mild (easier) or Hot (harder)!
   Check the answers.



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

4. Think you've cracked it? Whizzed through the Practice Sheets?
   Have a go at the **Investigation**…

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



Learning Reminders

Revise finding non-unit fractions of amounts.

We can use times tables facts to find fractional amounts.

To find $^1/_5$ of 45 is the same as dividing 45 by 5.

45 ÷ 5 = 9.

Remember, to find a non-unit fraction, we first find $^1/_5$, then multiply by the number of fifths.

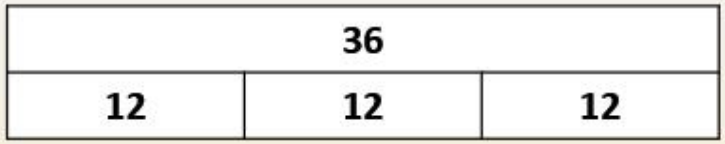
We know $^1/_5$ of 45 = 9.
To find $^3/_5$ of 45 multiply 9 by 3.
$^3/_5$ of 45 = 27.

Learning Reminders

Revise finding non-unit fractions of amounts.

What is $^2/_3$ of 36?

We can sketch a bar model to help.

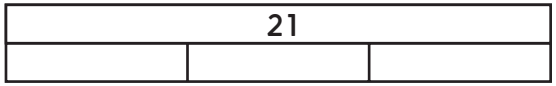


Dividing 36 by 3 and finding a $^1/_3$ will give the same answer!

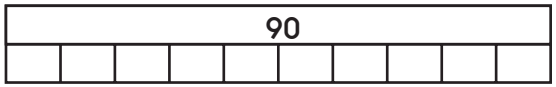
$^1/_3$ of 36 = 12.
$^2/_3$ of 36 = 2 × 12 = 24.

Practice Sheet Mild

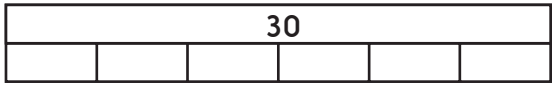
Find fractions of amounts



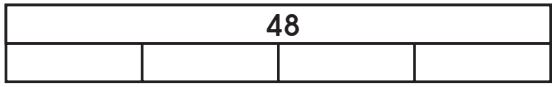
1. $\frac{1}{3}$ of 21 $\frac{2}{3}$ of 21



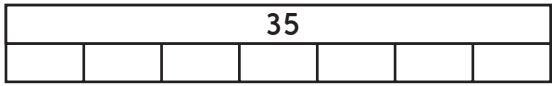
2. $\frac{1}{10}$ of 90 $\frac{7}{10}$ of 90



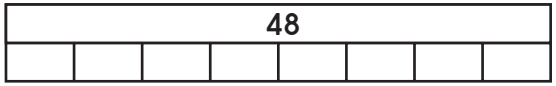
3. $\frac{1}{6}$ of 30 $\frac{5}{6}$ of 30



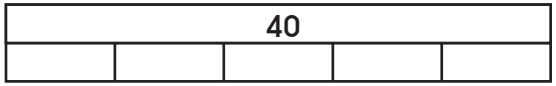
4. $\frac{1}{4}$ of 48 $\frac{3}{4}$ of 48



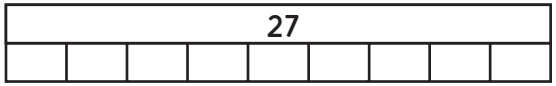
5. $\frac{1}{7}$ of 35 $\frac{3}{7}$ of 35



6. $\frac{1}{8}$ of 48 $\frac{5}{8}$ of 48



7. $\frac{1}{5}$ of 40 $\frac{4}{5}$ of 40



8. $\frac{1}{9}$ of 27 $\frac{4}{9}$ of 27

Make up your own fraction facts for 24.

Practice Sheet Hot

Find fractions of amounts

1. $\frac{2}{3}$ of 27

2. $\frac{7}{10}$ of 90

3. $\frac{5}{6}$ of 42

4. $\frac{3}{4}$ of 48

5. $\frac{3}{7}$ of 35

6. $\frac{5}{8}$ of 48

7. $\frac{4}{5}$ of 55

8. $\frac{4}{9}$ of 27

9. $\frac{5}{7}$ of 56

10. $\frac{3}{9}$ of 81

Challenge

Find the missing numbers:

$\frac{\square}{10}$ of 10 = 7

$\frac{3}{\square}$ of 32 = 12

$\frac{5}{7}$ of $\square$ = 55

$\frac{5}{\square}$ of 16 = 16

Practice Sheets Answers

Find fractions of amounts (mild)

1. $\frac{1}{3}$ of 21 is 7 — $\frac{2}{3}$ of 21 is 14
2. $\frac{1}{10}$ of 90 is 9 — $\frac{7}{10}$ of 90 is 63
3. $\frac{1}{6}$ of 30 is 5 — $\frac{5}{6}$ of 30 is 25
4. $\frac{1}{4}$ of 48 is 12 — $\frac{3}{4}$ of 48 is 36
5. $\frac{1}{7}$ of 35 is 5 — $\frac{3}{7}$ of 35 is 15
6. $\frac{1}{8}$ of 48 is 6 — $\frac{5}{8}$ of 48 is 30
7. $\frac{1}{5}$ of 40 is 8 — $\frac{4}{5}$ of 40 is 32
8. $\frac{1}{9}$ of 27 is 3 — $\frac{4}{9}$ of 27 is 12

Find fractions of amounts (hot)

1. $\frac{2}{3}$ of 27 is 18
2. $\frac{7}{10}$ of 90 is 63
3. $\frac{5}{6}$ of 42 is 35
4. $\frac{3}{4}$ of 48 is 36
5. $\frac{3}{7}$ of 35 is 15
6. $\frac{5}{8}$ of 48 is 30
7. $\frac{4}{5}$ of 55 is 44
8. $\frac{4}{9}$ of 27 is 12
9. $\frac{5}{7}$ of 56 is 40
10. $\frac{3}{9}$ of 81 is 27

Challenge

Find the missing numbers:

$\frac{7}{10}$ of 10 = 7

$\frac{3}{8}$ of 32 = 12

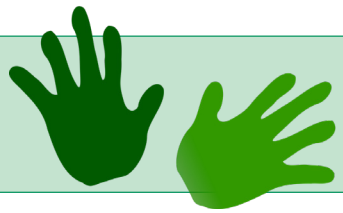
$\frac{5}{7}$ of 77 = 55

$\frac{5}{5}$ of 16 = 16

A Bit Stuck?
Fraction experiment

Work in pairs

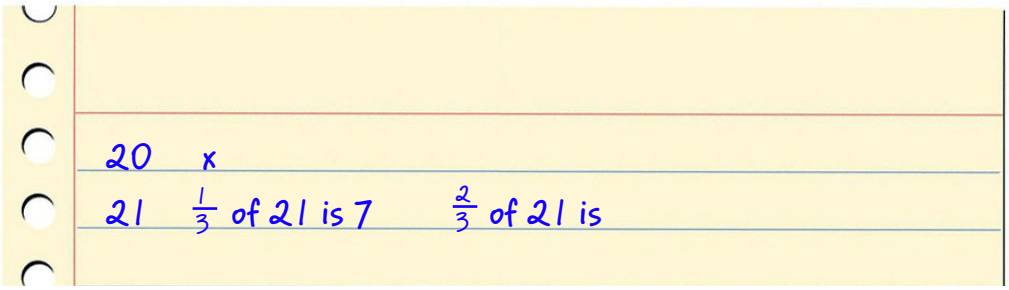
Things you will need:
- 30 counters/cubes/pennies/pieces of pasta etc.
- A3 paper



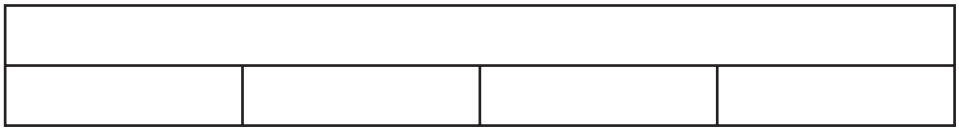
What to do:

- Your challenge is to find out which numbers between 20 and 30 can be split into three equal parts.
- Draw a BIG bar model on your paper.

- Place a number of counters in the top section.
  Try to split them equally between the three lower sections.
  You are splitting the number into thirds.
- For each number that works, write fraction statements:
  $\frac{1}{3}$ of ☐ is ☐ and $\frac{2}{3}$ of ☐ is ☐.



- Repeat, this time finding which numbers can be split into four equal parts on the bar model.



S-t-r-e-t-c-h:
Draw bar models to show quarters of 24 and 28.

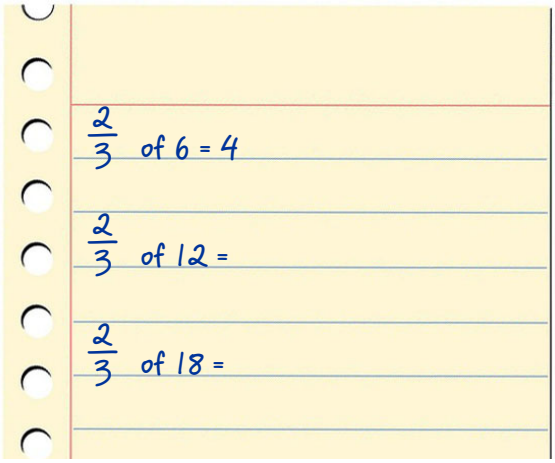
Learning outcomes:
- I can find unit-fractions and related non-unit fractions of amounts using the bar model to help.
- I am beginning to recognise which numbers can be split into 3 or 4 equal groups.

Investigation
Fancy fraction answers

1. Calculate the following:

$\frac{2}{3}$ of 6 $\frac{2}{3}$ of 12 $\frac{2}{3}$ of 18

Can you predict the next answer?
Carry on until $\frac{2}{3}$ of 72 so that you have found $\frac{2}{3}$ of all the numbers in the 6 times table. Keep a record of your answers.



2. Now calculate $\frac{2}{3}$ of 9, $\frac{2}{3}$ of 18, $\frac{2}{3}$ of 27 and each number in the 9 times table up until you can predict the next answer each time.

3. Now calculate $\frac{2}{3}$ of 12, $\frac{2}{3}$ of 24 and each number in the 12 times table up until you can predict the next answer each time.

4. Next calculate $\frac{2}{3}$ of 15, 30, 45...
BUT before you do, look at your answers to questions 1, 2 and 3 on finding $\frac{2}{3}$ of numbers in the 6, 9 and 12 times table. Can you predict what the answers for the 15 times table might be? Now test out your prediction!

What do you think the answers to $\frac{2}{3}$ of numbers in the 18 times table would look like? Why? You could try a different fraction, e.g. $\frac{3}{5}$ of numbers in the 10 times table, the 15, then 20 times table and see if you get a pattern. Or choose your own non-unit fraction. The times table must be a multiple of the denominator.

Check your understanding

Questions

True or false?

$^1/_2 = {}^5/_{10}$

$^2/_3 = {}^3/_6$

$^1/_2 = {}^8/_{14}$

$^3/_5 = {}^9/_{15}$

Find these fractions of £300:

(i) $^1/_5$

(ii) $^1/_{10}$

(iii) $^1/_{20}$

Write the number of tenths and twentieths which equal $^2/_5$.

Estimate which is larger:

$^2/_3$ of 999 $^2/_5$ of 500 $^1/_4$ of 1000

Write your estimate.

Calculate each to check if you were correct.

Answers on next page

Check your understanding

Answers

True or false?

$^1/_2 = {}^5/_{10}$ True.

$^2/_3 = {}^3/_6$ False $^2/_3 = {}^4/_6$.

$^1/_2 = {}^8/_{14}$ False $^1/_2 = {}^7/_{14}$.

$^3/_5 = {}^9/_{15}$ True.

Find these fractions of £300:

(i) $^1/_5$ £60

(ii) $^1/_{10}$ £30

(ii) $^1/_{20}$ £15

Write the number of tenths and twentieths which equal $^2/_5$. $^4/_{10}$ and $^8/_{20}$

Estimate which is larger:

- $^2/_3$ of 999 666
- $^2/_5$ of 500 200
- $^1/_4$ of 1000 250

Calculate each to check if you were correct. $^2/_3$ of 999 is the largest.