

Y2 A2 M4e Can understand the relationship between fractions and division and use this to solve problems

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Teachers' Notes

This resource should be used to support A2 Key Marginal pupils for whom you have completed a PLC. It is designed to be delivered as a teaching activity to a small group or individual in order to ensure that a pupil is secure within the Expected Standard for Year 2, as well as providing additional challenge (Think It) to move pupils towards Above Expected standard.

The component parts are:

- Above expected standard therapy
- Above expected standard Show Me tasks
- Think It questions
- Above expected therapy test (separate resource)

Vocabulary activity: Would I lie to you?

DEFINITE IT

True or
false?

Discuss!

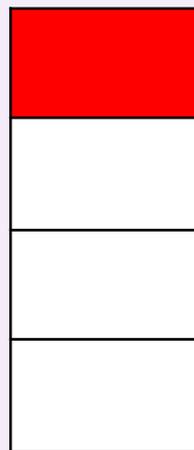
The real meaning of
the word 'fraction' is
a label for a picture.

Fractions and division

Fractions and **division** are closely linked. Fractions can help us understand division more and division can help us solve fraction problems.

A **fraction** tells us how many parts of a whole object or set we have.

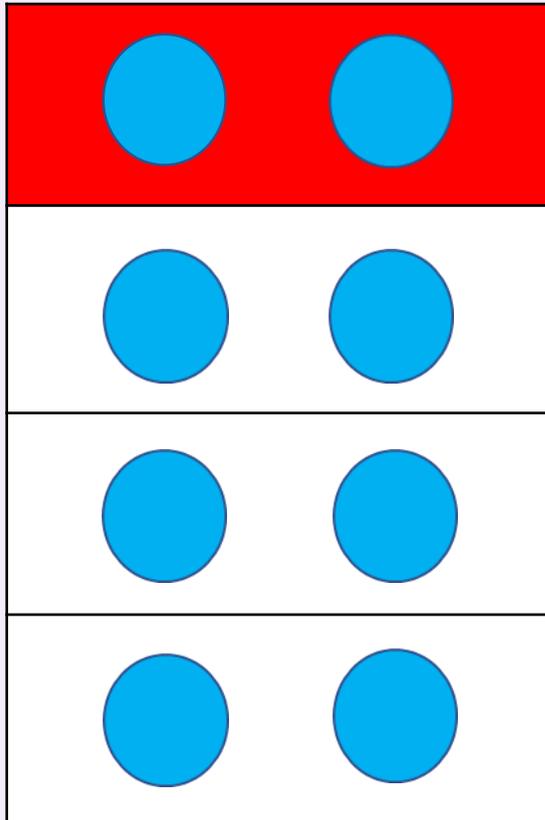
E.g. $\frac{1}{4}$ means that the whole object or set has been divided into 4 equal parts.



Dividing is when a set or number is divided (split or shared) into equal parts.

E.g. dividing by 4 means that the set or number has been divided into 4 equal parts.

Fractions and division



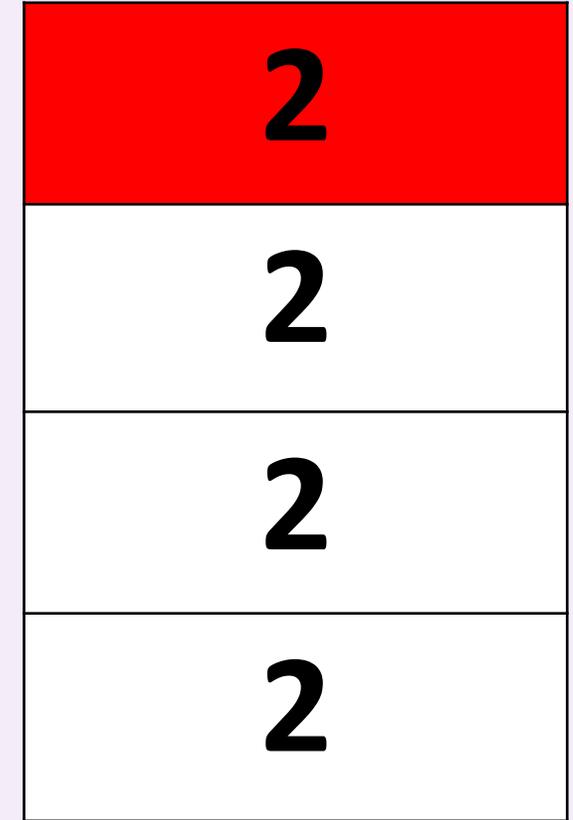
This rectangle has been **divided** into 4. A **fraction** of it is red.

Discuss how these pictures also help us to see that

$$\frac{1}{4} \text{ of } 8 \text{ is } 2$$

and that

$$8 \div 4 = 2.$$



Fractions and division

Here is a shape divided into
6 equal parts.

$\frac{1}{6}$ of the shape is coloured.

	$\frac{1}{6}$	

● ●	● ●	● ●
● ●	● ●	● ●

We can now see 12 circles shared equally
between the 6 parts of the shape. This

shows us that $\frac{1}{6}$ of 12 is 2 and that

$$12 \div 6 = 2.$$

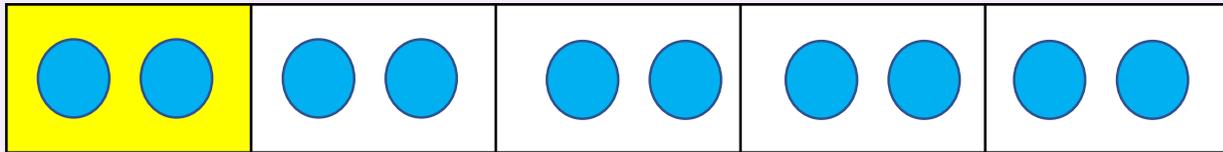
Practise

Use the divided shape to work out the questions. Copy it out and use pictures or objects to help you.

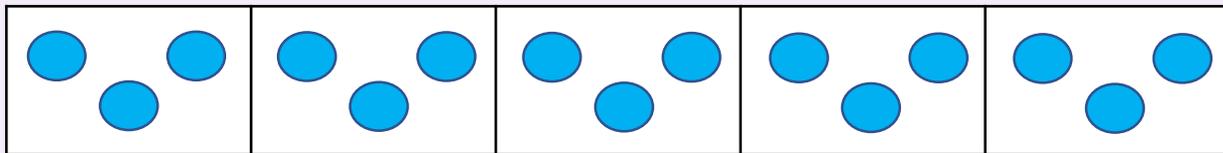


1. What is $\frac{1}{5}$ of 10?
2. What is $15 \div 5$?

How did you do?



1. What is $\frac{1}{5}$ of 10?
Answer: 2



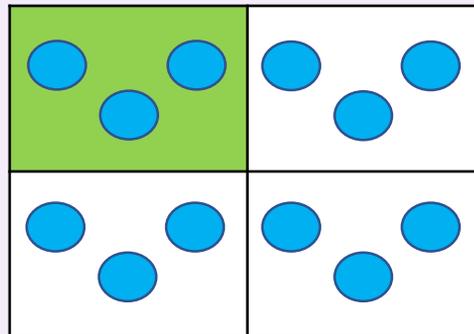
1. What is $15 \div 5$?
Answer: 3

Using division to calculate fractions

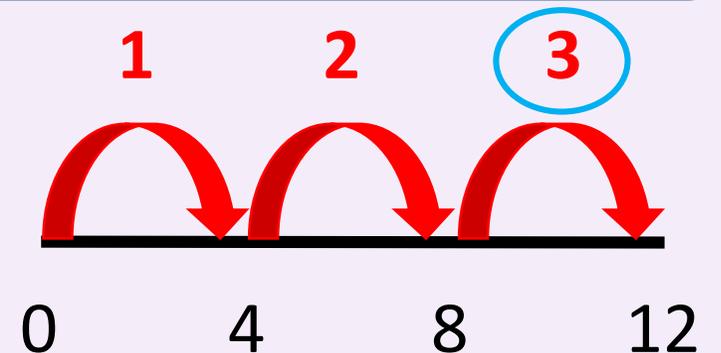
We can use the links between fractions and division to solve different problems.

I have 12 stickers.
I give $\frac{1}{4}$ of them to
my sister. How
many did I give to
her?

The answer is 3.



We can calculate
 $12 \div 4$ to work out the
answer.



Using division to calculate fractions

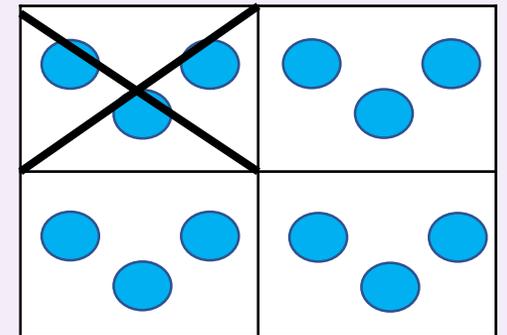
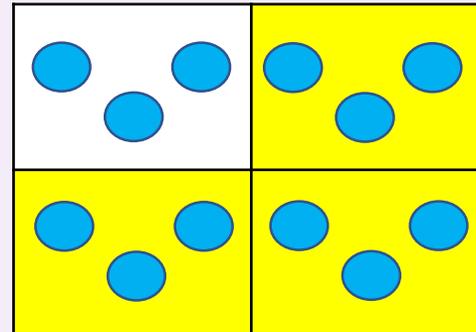
Sometimes you will solve two-step problems.

I have 12 stickers. I give $\frac{1}{4}$ of them to my sister. **How many do I have left?**



This time we can still use pictures or objects to calculate $12 \div 4$. The extra step is to count how many are left after $\frac{1}{4}$ has been taken away.

The answer is 9.



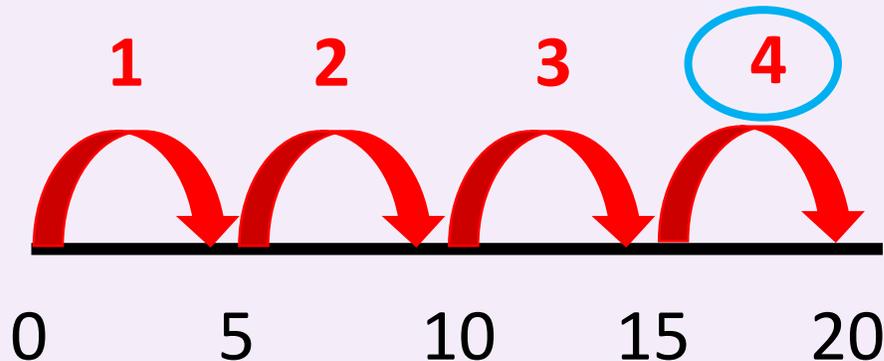
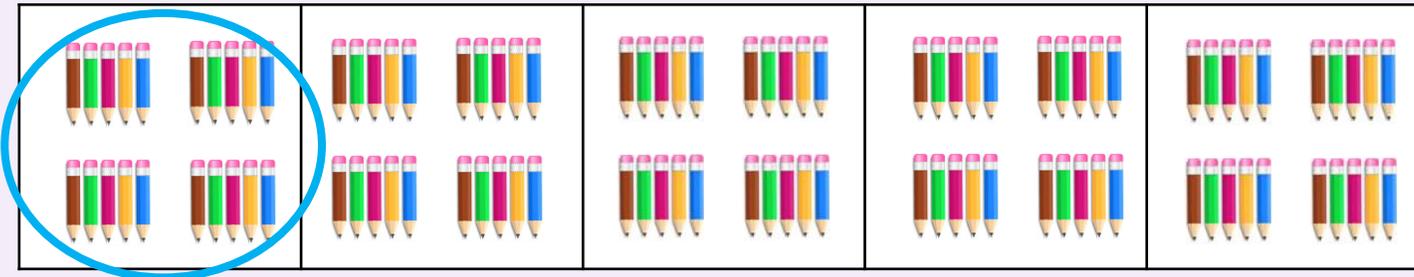
Practise

A shop has 20 packs of coloured pencils. It sells $\frac{1}{5}$ of them. How many packs did it sell?



How did you do?

A shop has 20 packs of coloured pencils. It sells $\frac{1}{5}$ of them.
How many packs did it sell?

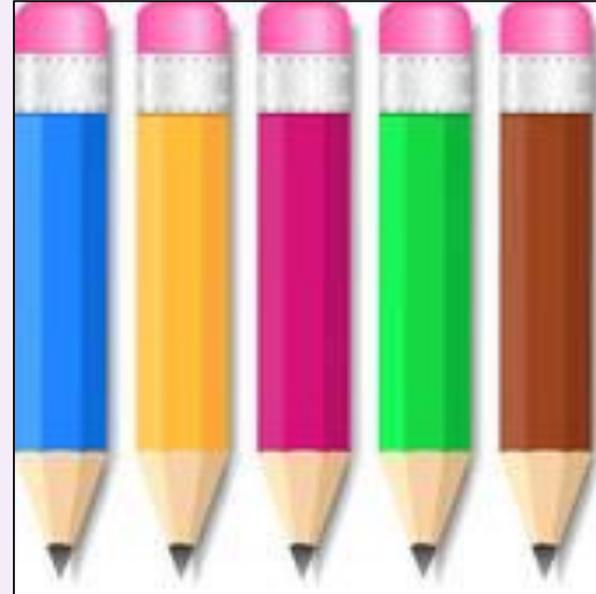


$20 \div 5 = 4$
The answer is '4 packs'.

Practise

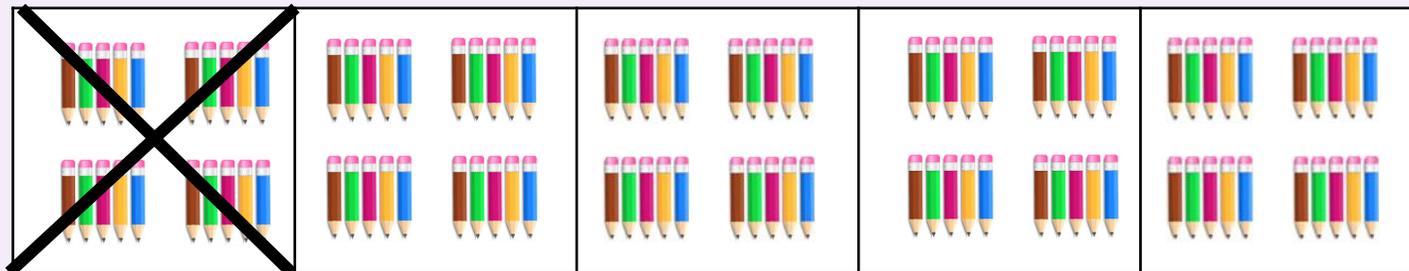
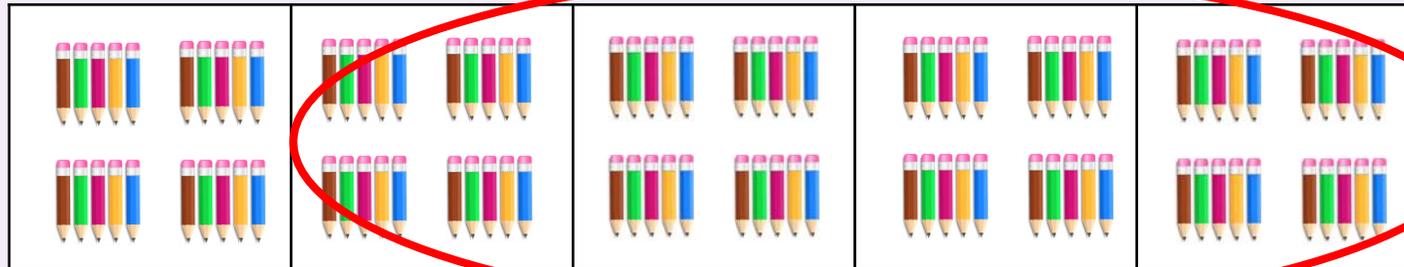
Now try this problem.

A shop has 20 packs of coloured pencils. It sells $\frac{1}{5}$ of them. **How many packs does it have left?**



How did you do?

A shop has 20 packs of coloured pencils. It sells $\frac{1}{5}$ of them.
How many packs does it have left?



The
answer is
'16
packs'.

Reflect/ Remember

- You can work out fractions of numbers by dividing by the number on the bottom of the fraction (the denominator).
- Remember to use pictures or counters to help you. Check that you have equal numbers in each section.

Teacher Guidance

The intention of the Think It section of this resource is to provide greater challenge for pupils who have demonstrated security within the Expected Standard. It is suggested that the Think It questions are best delivered as part of a guided group. In this way, pupils' verbalisation of their reasoning and mathematical processes can provide valuable assessment information, as well as providing a context for probing questions and additional challenge.

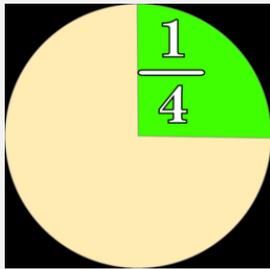
Teacher Guidance

Having worked on the Think It questions, the expectation is the pupil completes the two Show Me tasks independently. The additional A2 therapy test (separate to this resource) is intended to provide a bridge to the Year 3 therapy test format and move pupils towards greater independence.

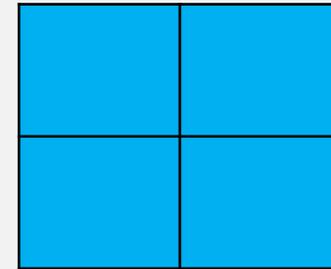
Additional PiXL resources designed to demonstrate a deeper understanding within subjects are:

[The PiXL Progression Ladders](#)
[The PiXL Knowledge Mats – Think It](#)

Is dividing by four always the same as finding a quarter?
Investigate whether your answer is yes or no by working
through different examples.



$$\div 4$$



Then convince me.

21 children are in a class and $\frac{1}{3}$ of them are driven to school.

How many walk to school?



ThinkIT

I bought a bag of grapes. I ate a quarter of the grapes in the bag. I had 9 grapes left over. How many grapes did I buy?



Explain how you know.

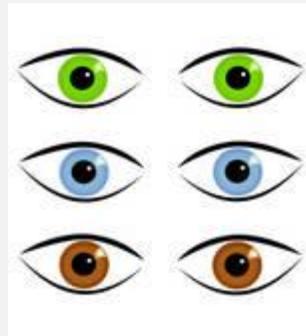
Show Me Tasks

Y2 A2 M4e Can understand the relationship between fractions and division and use this to solve problems

15 children are working together on a science project.

$\frac{1}{5}$ of them have brown eyes.

How many don't have brown eyes?



I had some money and gave a quarter to a charity fun day. I had £6 left. How much did I give to charity?

