

Y2 A2 Mathematics therapy

Commissioned by The PiXL Club Ltd.
November 2019

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Y2 A2 M4c Can write a fraction represented in a shape or set of

objects $(\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4})$



= Teacher Notes



Teacher Information

The A2 version of this therapy is intended to support teachers in ensuring 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:

- Expected standard therapy
- Expected standard Show Me tasks
- Think It questions
- Above Expected Show Me tasks (within this therapy)
- Above Expected therapy test (separate resource)



How to use this resource

The A2 resources are flexible in their use. However, some suggestions are:

- a) If needed, the Expected Standard therapy could be delivered, followed by the Show Me tasks. If a pupil demonstrates security, they could move on to the Think It section in the next session.
- b) Deliver only the Expected Standard Show Me tasks to check on security then move straight on to the Think It section (should pupils be able to perform the taught skill independently and consistently).
- c) Should there already be sufficient evidence of security within the Expected Standard, it may be appropriate to move straight to the Think It section.



Teacher Information

- Children should be able to explain what a numerator and denominator are and understand a fraction is part of a whole before completing this therapy.
- You will need some squared paper, sorting rings and objects you can sort into sets such as counters, fruit, shapes etc.

What is a Fraction?

A fraction is a part of a whole. Below is a sphere, it is the whole. If I split the sphere into four **equal** parts, we call each part a quarter (each part is a fraction).

In Maths we write a quarter like this:



$$\frac{1}{4}$$



What is a Fraction?

There are lots of different fractions but they are all written with one number above a line and one number below that line. Each of these numbers has a name. The top number is called a numerator and the bottom number is called a denominator.

1

numerator

The number of parts of the whole.

4

denominator

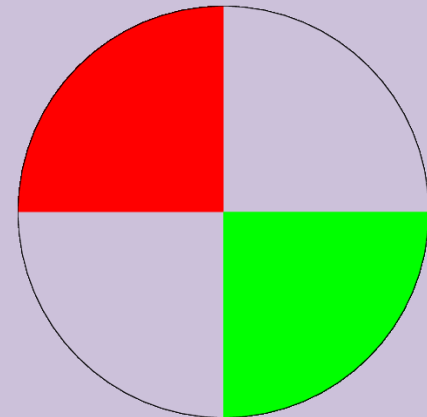
How many equal parts the whole has been divided into.

Writing Fractions

Write the fraction that has a numerator of 2 and a denominator of 4. Can you say what this fraction is? Can you draw this fraction?

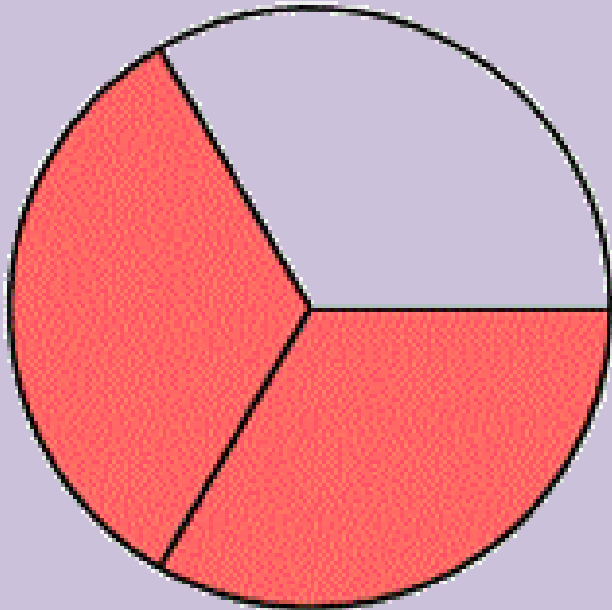
$$\frac{2}{4}$$

This is two quarters. I could draw it in many ways.



Writing Fractions of Shapes

To write a fraction of a shape we need to find the numerator and denominator. The numerator is the number of parts shaded and the denominator is the total number of parts the shape has been divided into.



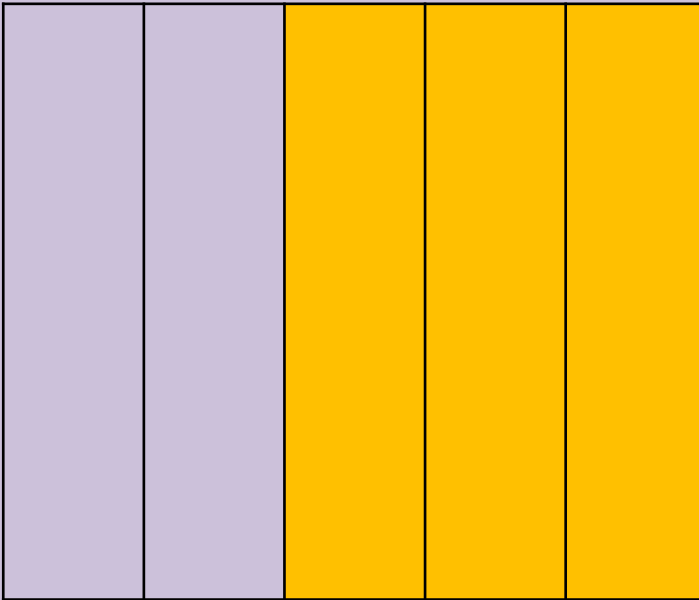
$$\frac{2}{3}$$

2 parts are shaded.

The shape is divided into 3 equal parts.

Practise

Write the fraction for this shape.

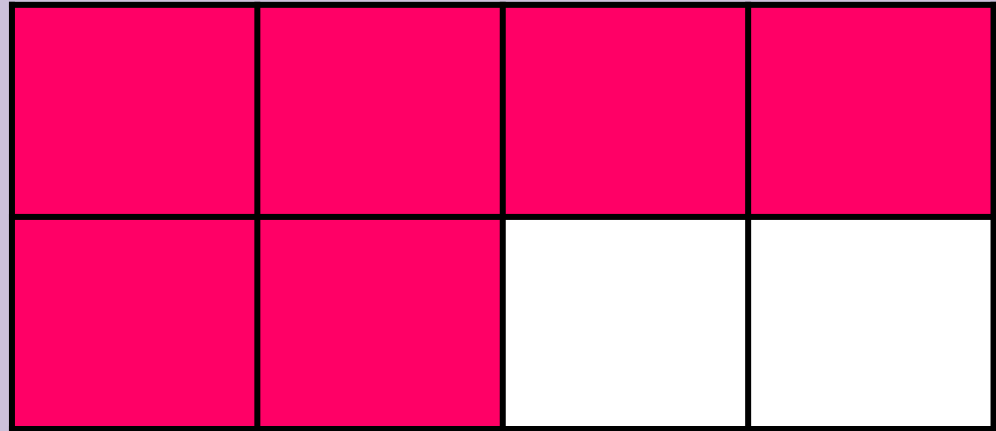


$$\frac{3}{5}$$

Practise

Get a piece of paper and fold it in half (the edges must meet exactly). Then fold it in half again. Then fold it in half again. Unfold the paper. Colour 6 parts. Write the fraction that you have shaded.

$$\frac{6}{8}$$

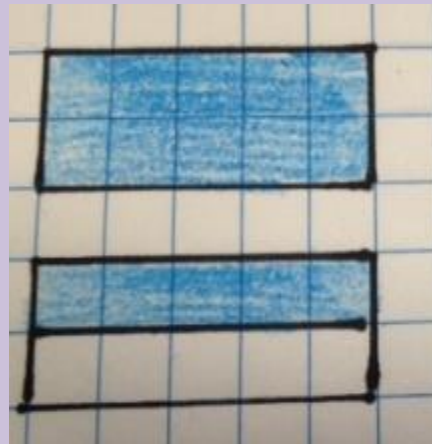


The denominator is 8 as the whole has been folded into 8 equal parts. The numerator is 6 as six parts have been shaded.

Writing Fractions



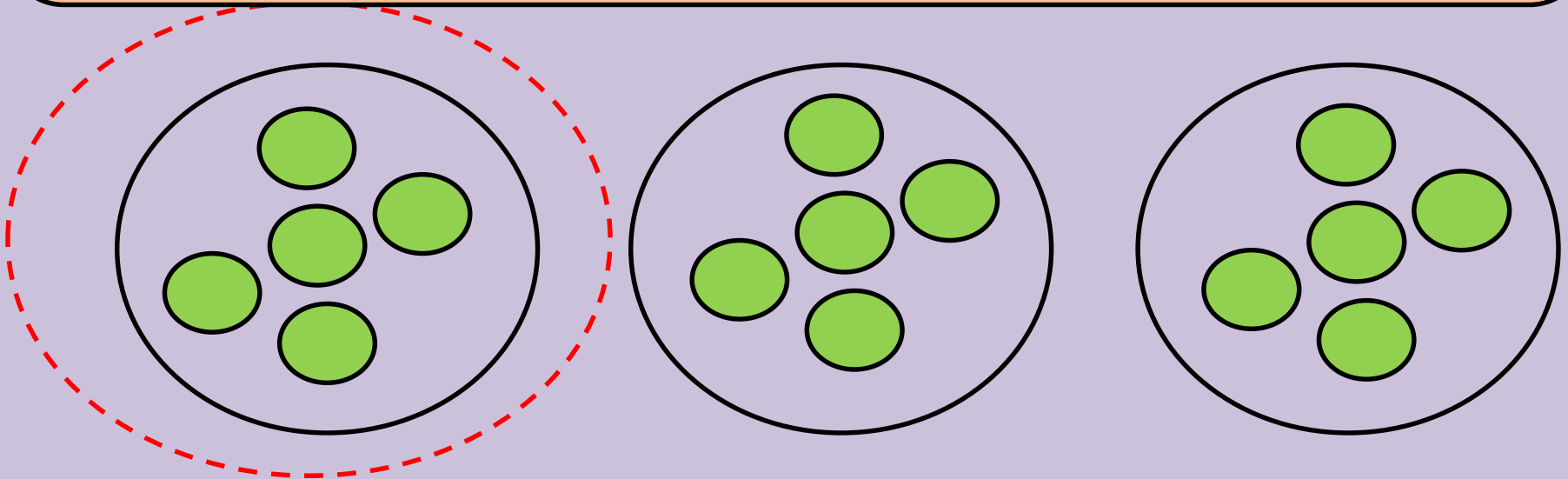
Give children some squared paper and ask them to cut out various sized rectangles using the lines on the paper as a guide. Colour some of the squares inside their rectangles. Write the fraction for their shaded part of their rectangles.



Writing Fractions

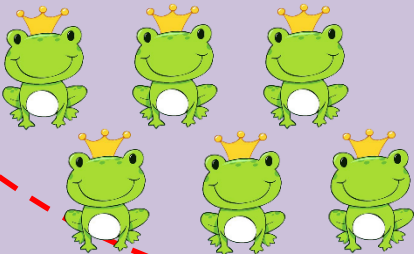
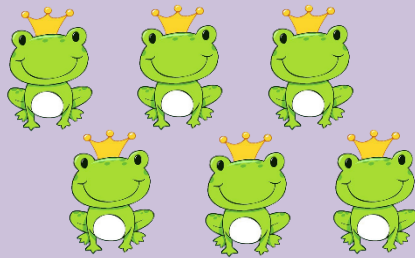
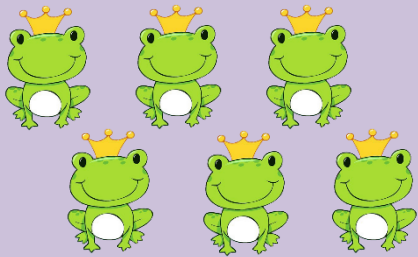
These counters have been shared out equally. Write the fraction that represents the part circled in red.

The whole has been divided into three equal parts so the denominator is 3. Only one part is circled in red so the numerator is 1. Therefore the fraction is $\frac{1}{3}$.

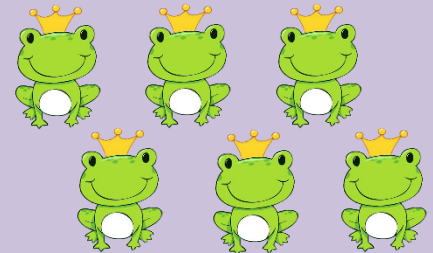


Writing Fractions

Write the fraction that represents the part circled in red.



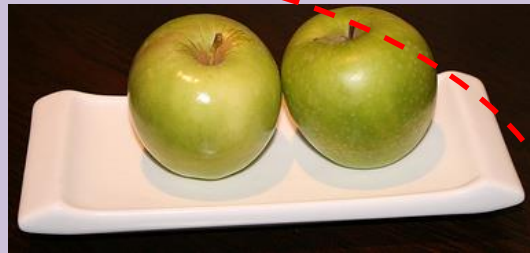
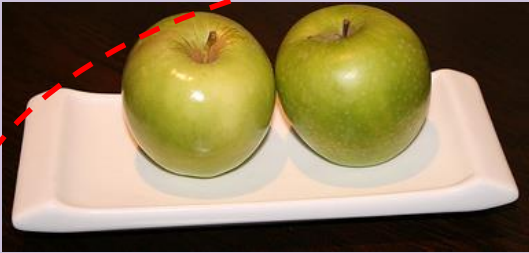
$$\frac{3}{4}$$



Practise



Put out sets of objects divided into various fractions and place some of the parts within a circle (such as a sorting circle). Ask the children to write the fraction represented in the sorting circle.





Show Me Tasks

Once the therapy has been delivered you can use Show Me Tasks to demonstrate that the skill is now secure. They are not intended to be completed all at once and ideally should be done in intervals of a few days after the therapy has been delivered. The challenge in the tasks is progressive.

Show Me Tasks

Can write a fraction represented in a shape or set

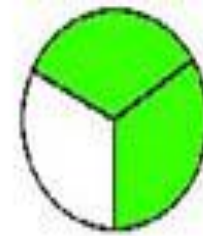
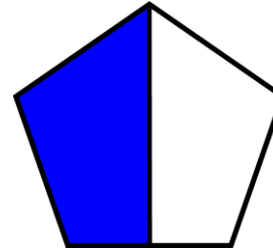
of objects $(\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4})$

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Write the fraction of the shaded part of each shape.



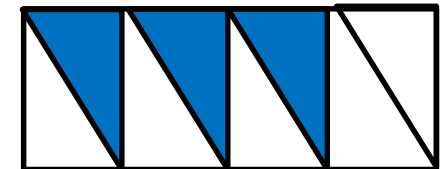
Write the fraction for the plates circled. All of the plates make the whole.



Challenge: Can you think of another fraction that is equivalent to this?

Marco has written this fraction for the shaded part of this shape. Can you explain what his mistake is?

$$\frac{8}{3}$$



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

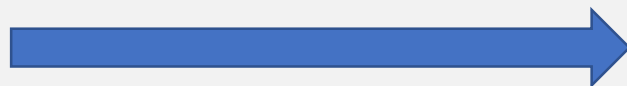
Having worked on the Think It questions, the expectation is the pupil completes the two Show Me tasks independently. The additional A2 therapy test (separate to this resource) is intended to provide a bridge to the Year 3 therapy test format and move pupils towards greater independence.

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

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

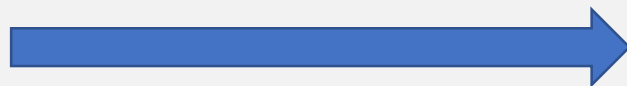
This is a fraction. Can you provide the technical name for each part of the fraction and explain what each number tells you about the fraction?

2

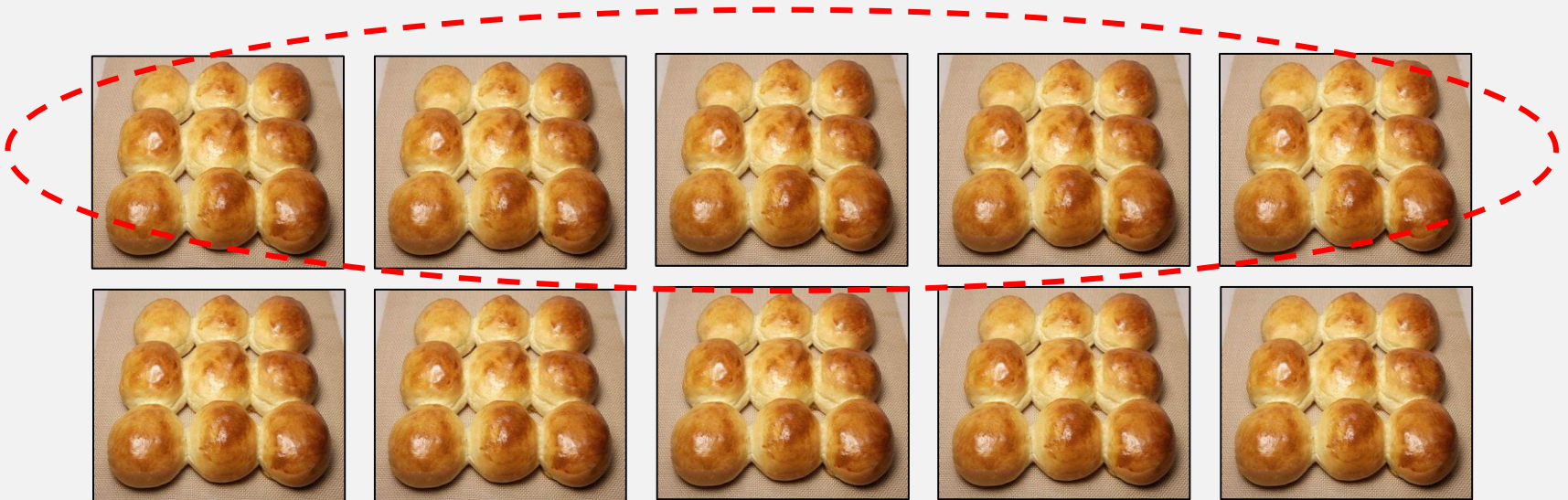


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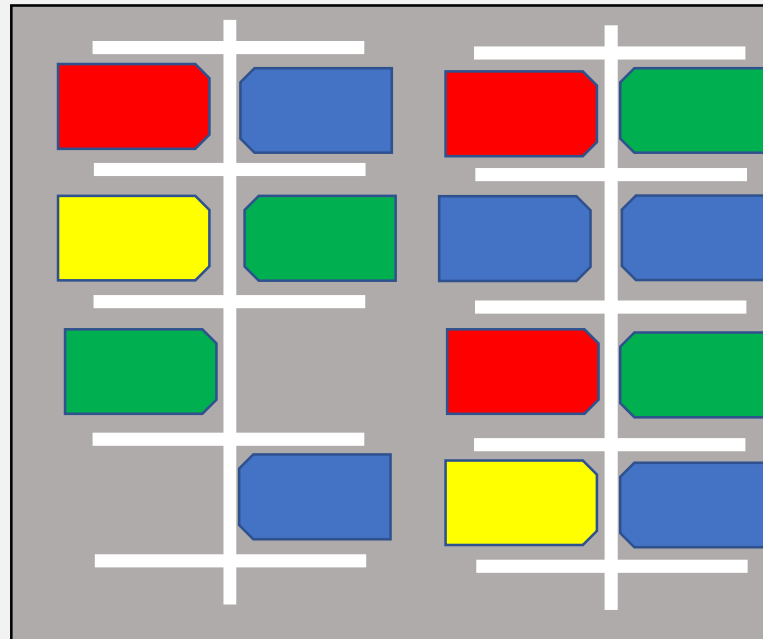
3



Simon says he has circled $\frac{10}{5}$ of the trays of bread rolls. Can you explain what his mistake is?



What fraction of the cars are blue? Now write the fraction for each car colour.

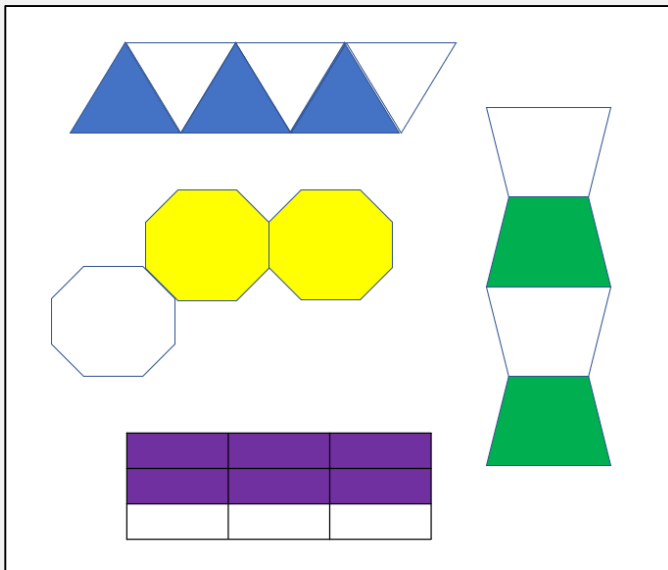


Two more red cars park up. Hazel says the red cars represent $\frac{1}{4}$ of all the cars. Is she correct? Convince me!

Show Me Tasks

Y2 A2 M4c Can write a fraction represented in a shape or set of objects ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$)

Which of these shapes have $\frac{2}{3}$ shaded? Circle them.



Explain your choices.

Usain says he has circled $\frac{3}{4}$ of the groups. Is he correct? Convince me!

