

# Understand the denominators of unit fractions

## Notes and guidance

Children begin this block by exploring the denominators of unit fractions. From Year 2, they know about halves, quarters and thirds and they now look at fractions with other denominators.

Children understand that a fraction can be seen as part of a whole and that to find a unit fraction, they divide the whole into equal parts. They then identify the role of the denominator, appreciating that this shows how many equal parts the whole has been divided into. This step explores unit fractions only, with the focus being on the denominator. Non-unit fractions are covered later in the block.

It is important that children are exposed to non-standard representations that they may be less familiar with, for example a square split into four equal parts by diagonal lines from the vertices.

## Things to look out for

- Children may count only the shaded or non-shaded areas of diagrams to find the denominator.
- Children may not realise the importance of equal parts.
- Children may not realise that different diagrams can be used to represent the same fraction.

## Key questions

- Is the diagram split into equal parts? How many equal parts are there?
- How many parts are shaded?
- What is the denominator of the fraction? How do you know?
- Why is the denominator of this fraction \_\_\_\_\_?
- Can you draw a different diagram to show the same fraction?
- If the shape has not been divided equally, can you find a fraction?

## Possible sentence stems

- The shape is split into \_\_\_\_\_ equal parts.  
The denominator is \_\_\_\_\_  
The fraction that is shaded is  $\frac{1}{\square}$

## National Curriculum links

- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators

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## Key learning



Give children a map of Europe. Tell them that Europe is the whole. Ask children to identify the parts and get them to answer using the stem sentence.

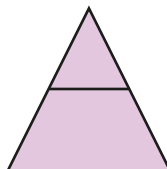
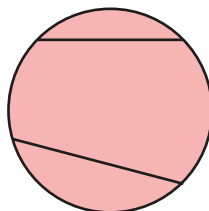
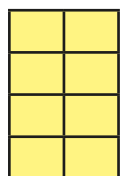
Europe is the whole. \_\_\_\_\_ is a part of the whole.

- Tommy is identifying fractions.

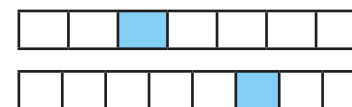
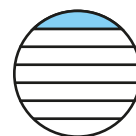


To find a fraction, I need to split the whole into equal parts.

Which shapes have been split into equal parts?



- Which shapes have  $\frac{1}{7}$  shaded?



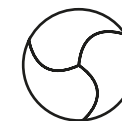
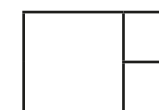
- Complete the sentences for each shape.



The denominator is \_\_\_\_\_ because the whole is divided into \_\_\_\_\_ equal parts.

The fraction shaded is \_\_\_\_\_

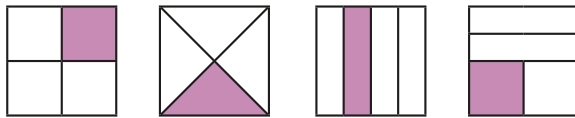
- Which shapes have been split into thirds?



# Understand the denominators of unit fractions

## Reasoning and problem solving

Which shapes show  $\frac{1}{4}$ ?

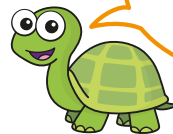


How do you know?

Find another way to show  $\frac{1}{4}$

All the diagrams represent  $\frac{1}{4}$  as all the shapes have been split into 4 equal parts.

Tiny is looking at these bar models.



One part of each bar is shaded. They all show the same fraction.

Do you agree with Tiny?  
Explain your answer.

No

Aisha and Scott have folded two pieces of ribbon.

Aisha has folded her ribbon into 2 equal parts.

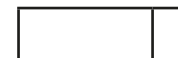
Scott has folded his ribbon into 5 equal parts.

Parts of their ribbons are hidden.

Aisha



Scott



Whose ribbon is longer?

How do you know?

Scott's ribbon is longer.