Y3 M4i. Can recognise that tenths arise from dividing an object into ten equal parts

Commissioned by The PiXL Club Ltd.
June 2019

Teachers' Notes

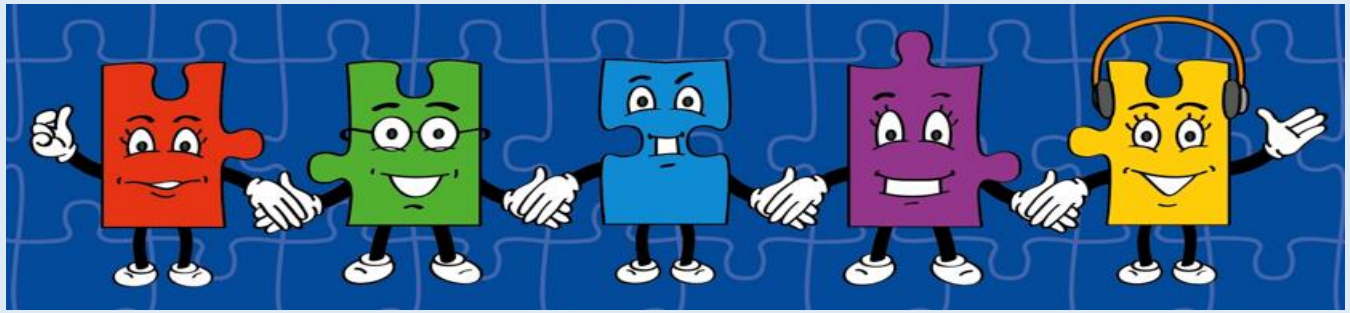
- The PiXL therapies can be taught to a whole class or a target group. Year 3-5 therapies are designed to take approximately 30-40 minutes. However, this is flexible: it may be that only part of the therapy is taught or it could, of course, be adapted or extended.
- Each therapy begins with a LORIC activity to develop relevant learning behaviours.
- This is followed by a vocabulary task, which uses the PiXL 5-phase approach to teach key mathematical vocabulary. Further resources to develop vocabulary can be found in the Whole School area.
- Each therapy adopts the 'Teach, model and apply' process with opportunities for pupils to demonstrate the taught skill independently.
- Problem solving and reasoning activities are an integral part of each therapy.

Progress across amber – the 4-stage model

The three therapy tests which accompany this resource can be used to revisit the taught skill to check that the pupil is able to perform it independently and consistently.

A	A child has successfully completed a therapy test independently, following a set of therapy sessions.
A	A child has successfully completed a therapy test independently, a period after the relevant therapy sessions – we would advise about 2 weeks.
DA	A child has successfully applied their knowledge or skill in an unfamiliar context. This may be application across the curriculum or in a problem.
G	A pupil has successfully re-visited the skills at a later point, and applies these in an unfamiliar context or problem, or across the curriculum.

LORIC task



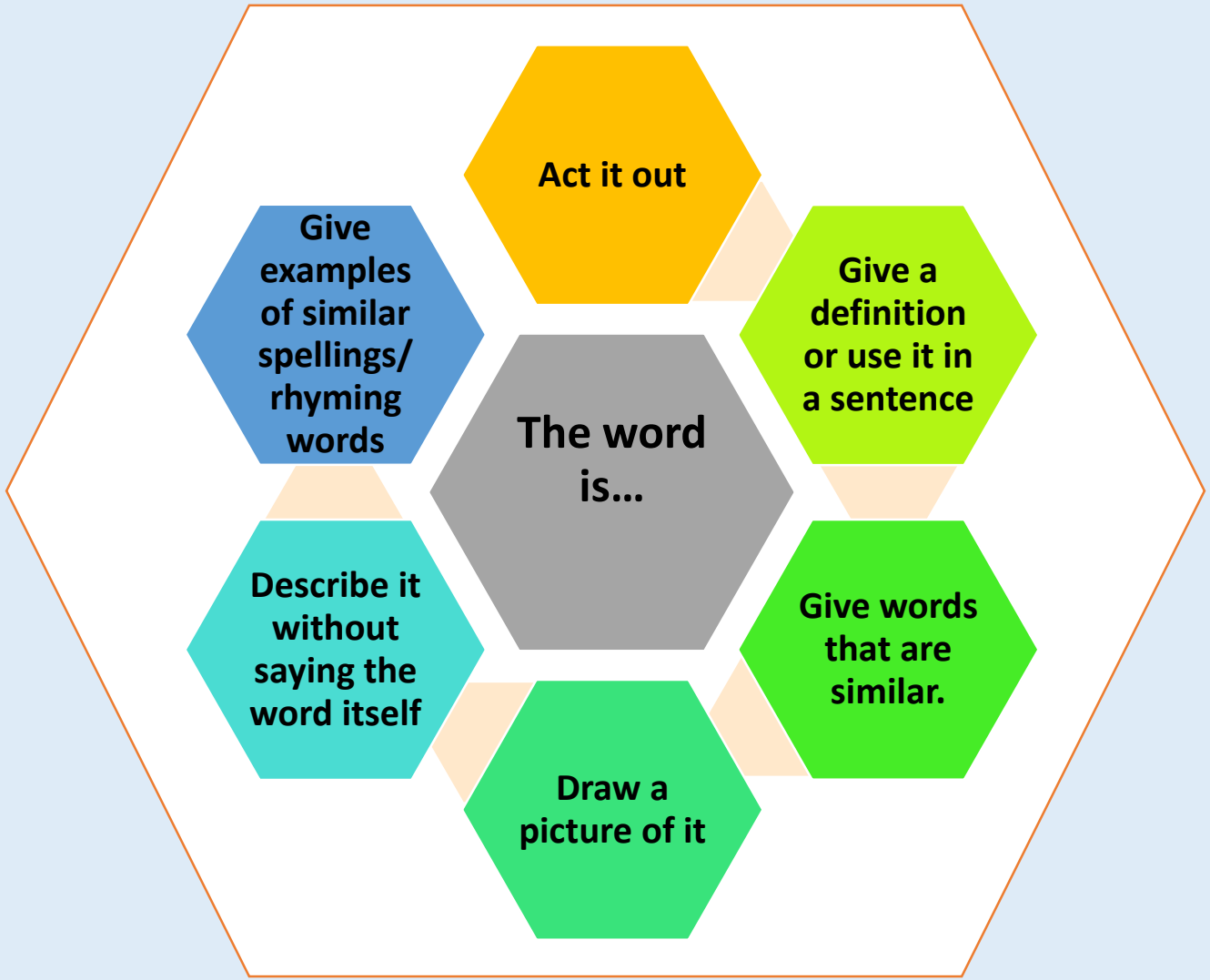
Use this activity to help children develop their **resilience** skills before you begin the therapy.

You have 2 minutes to find 15 things in the room that you could split into half (two **equal** parts). Make a list of the objects you find.

Vocabulary activity

tenth

equal parts



Choose a word and spin the spinner.

Teach

$\frac{1}{10}$ is the same as finding one of **ten equal parts** of a whole.

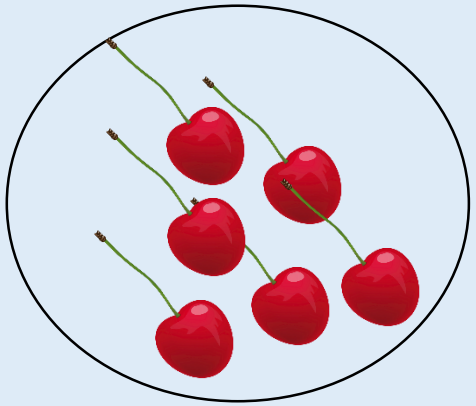
What does **equal parts** mean?

Teach

What does **whole** mean?

This football is the whole.

This circle is the whole.



These 6 cherries are the whole.

1

This number is the whole

A whole is a thing that is **complete in itself**. A whole can be a shape, an object, a set of objects or a number.

Model

If we are finding $\frac{1}{10}$ of a shape, we divide the **whole** shape into **ten equal parts.** Each part is called **one tenth.**

$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

Model

We can also label tenths as 0.1.

The one is in the **tenths column**.

Ones	Tenths
0	1

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.

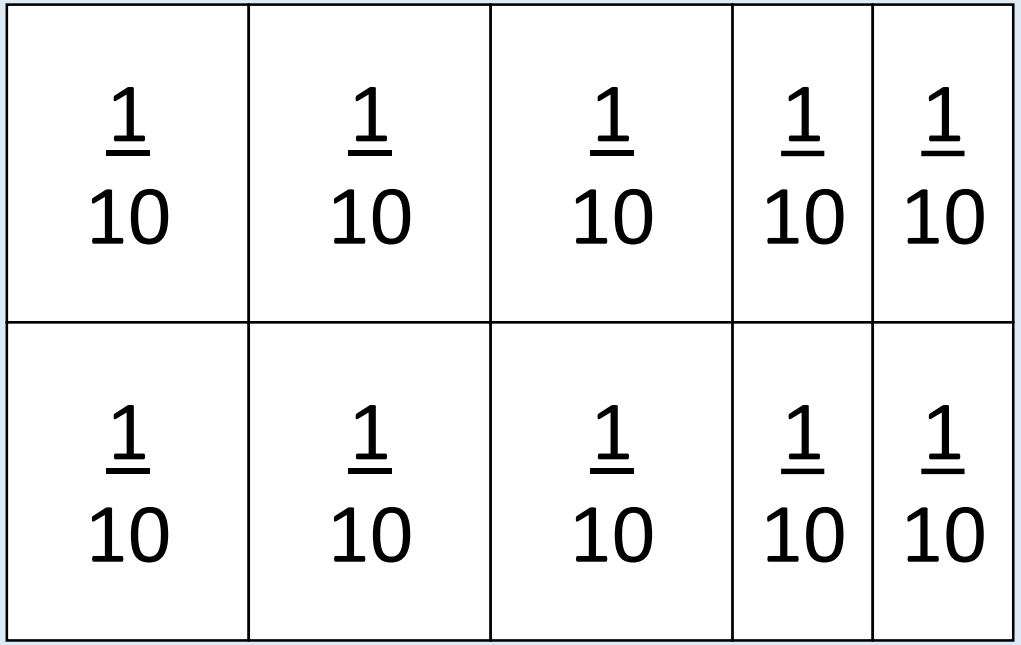
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.



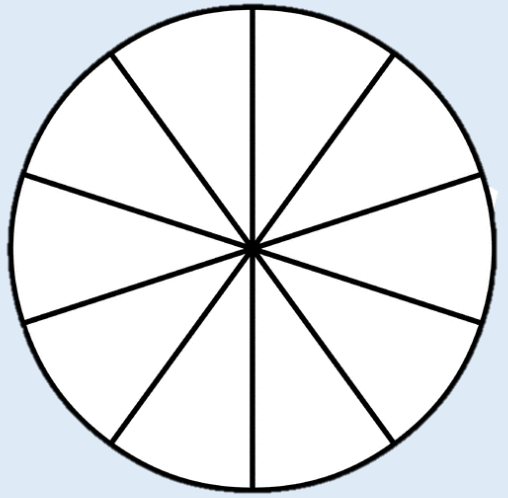
No, the shape is not in tenths because the parts are not equal.

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.

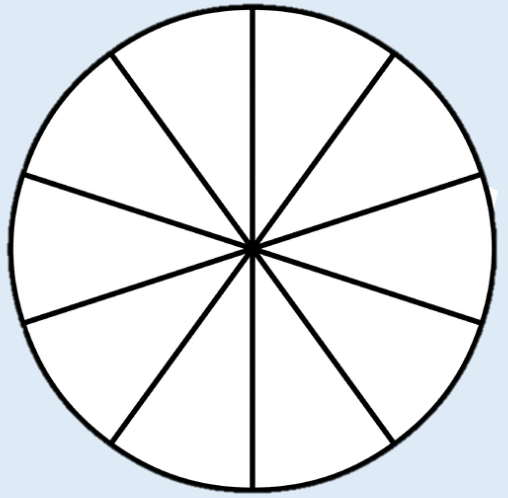


Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.



Yes, the shape is in tenths because it has been divided into ten equal parts.

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.

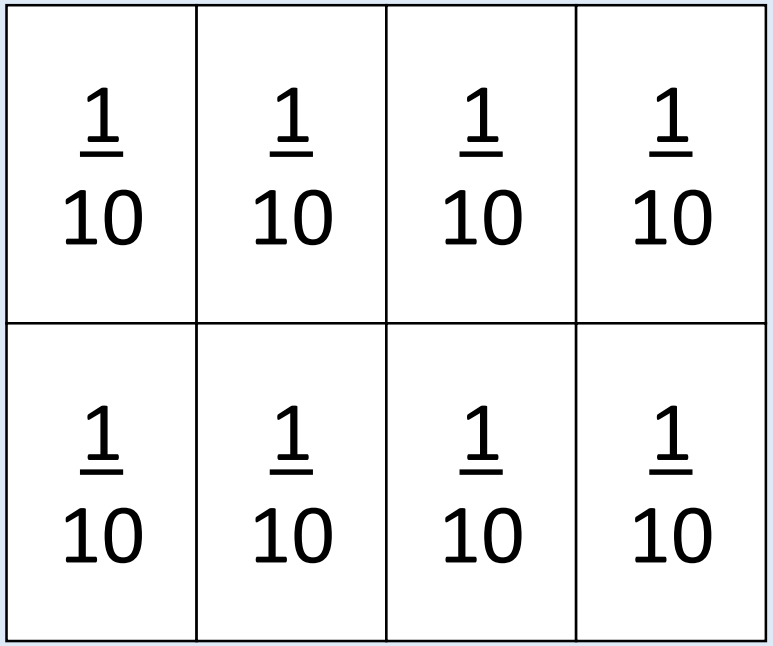
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.



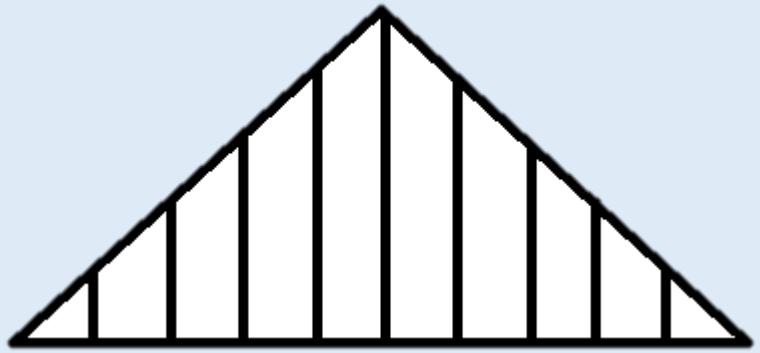
No, the shape is not in tenths because even though the parts are equal, there are not ten parts.

Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.

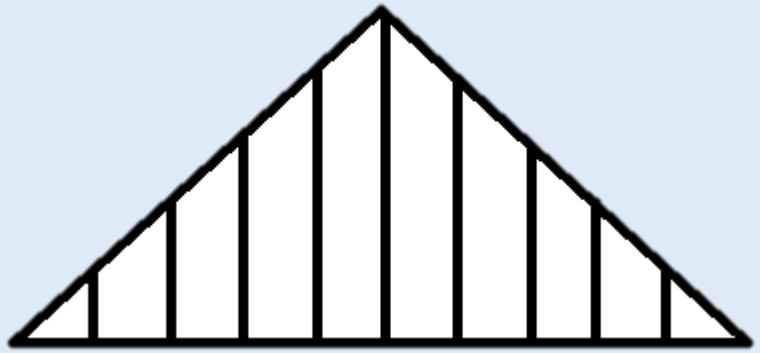


Apply

Has this shape been split into **tenths?**

Check that it has **ten equal parts.**

Explain your answer.



No, the shape is not in tenths because even though there are ten parts, they are not equal.

Model

If we want **more than one** tenth, we can **add** tenths together.

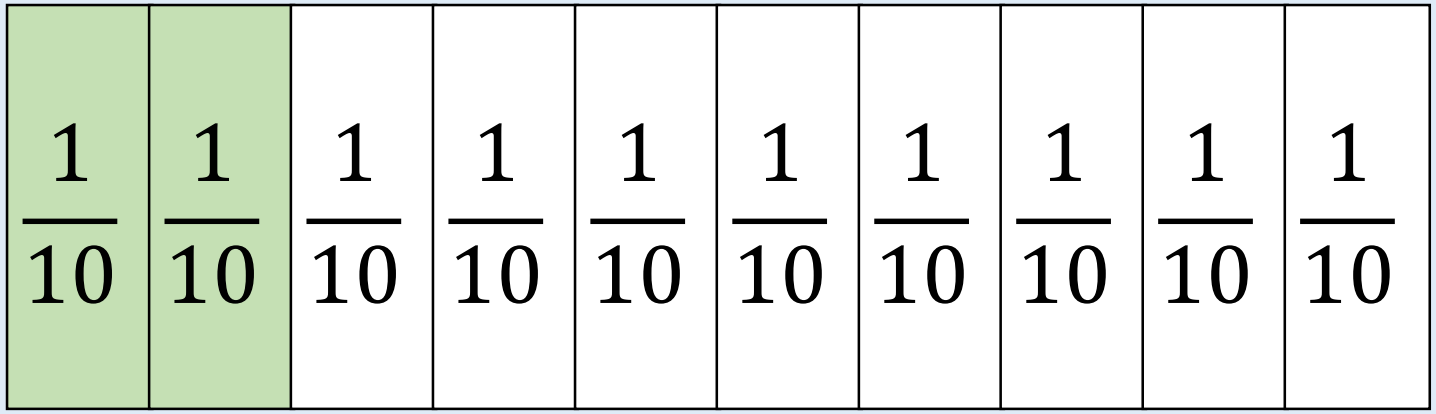
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$

This is one tenth or $\frac{1}{10}$.

We can also call this 0.1.

Model

If we want more than one tenth, we can add tenths together.

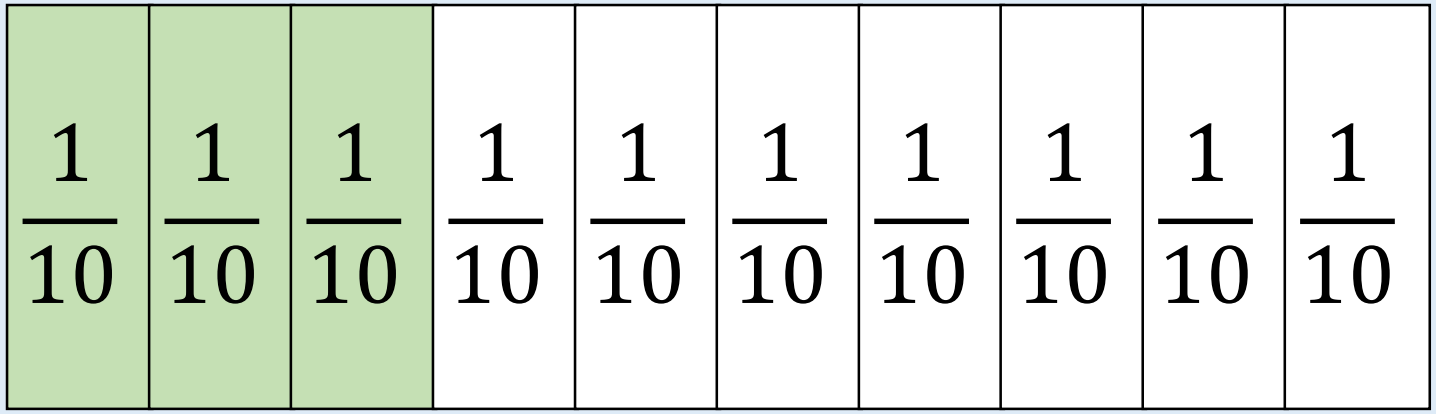


This is two tenths or $\frac{2}{10}$.

We can also call this 0.2.

Model

If we want more than one tenth, we can add tenths together.

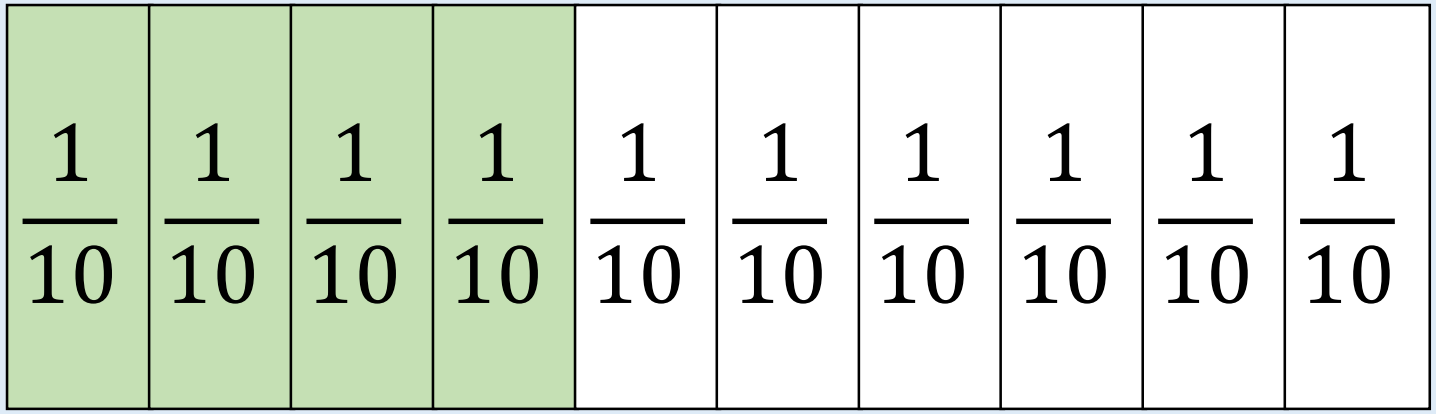


This is three tenths or $\frac{3}{10}$.

We can also call this 0.3.

Model

If we want more than one tenth, we can add tenths together.

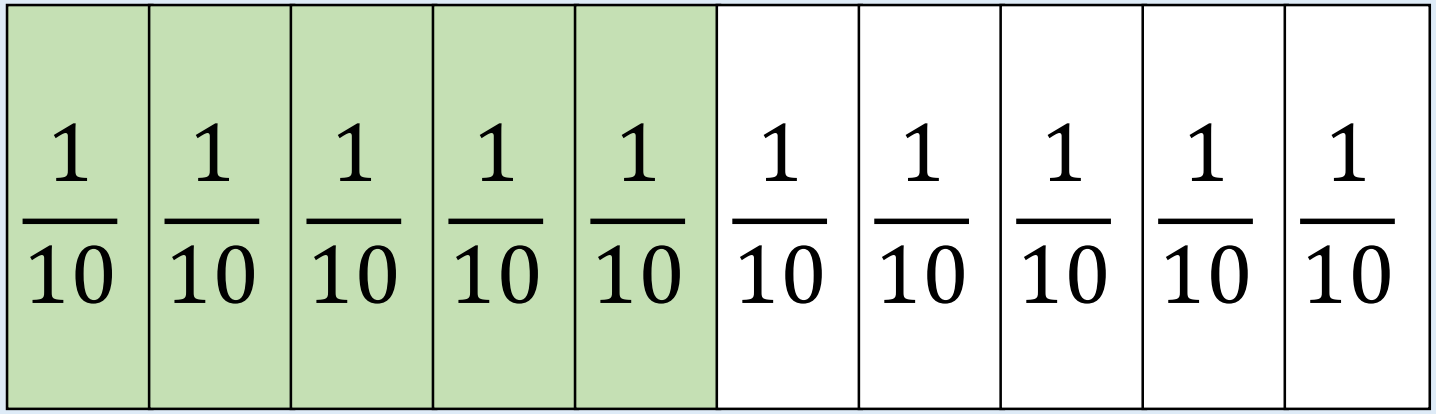


This is four tenths or $\frac{4}{10}$.

We can also call this 0.4.

Model

If we want more than one tenth, we can add tenths together.

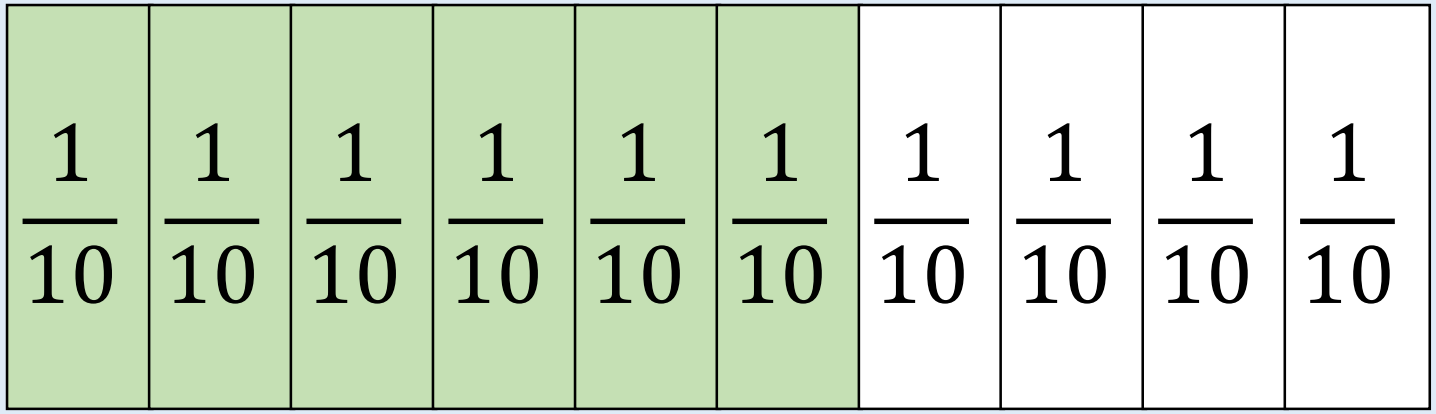


This is five tenths or $\frac{5}{10}$.

We can also call this 0.5.

Model

If we want more than one tenth, we can add tenths together.

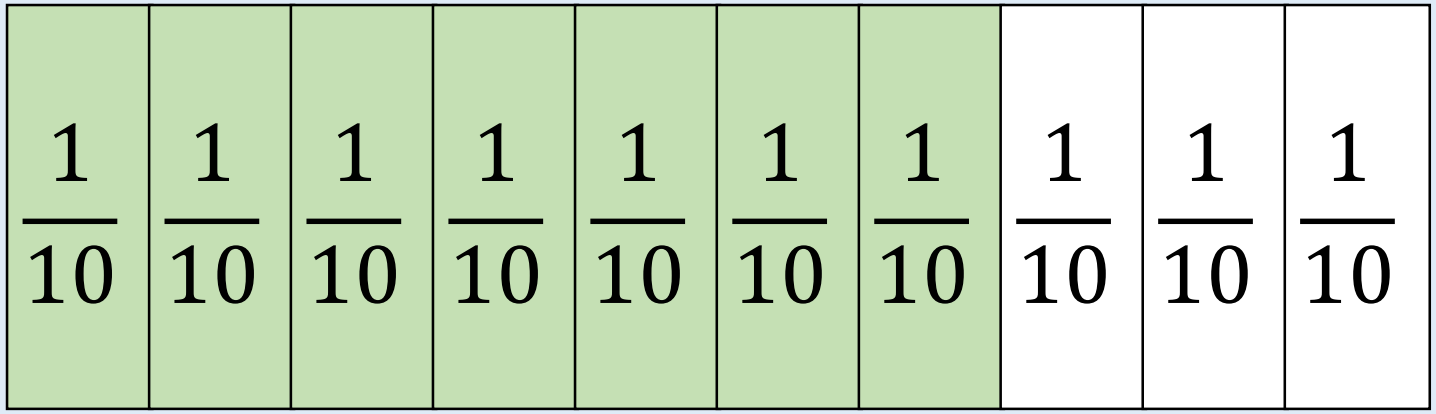


This is six tenths or $\frac{6}{10}$.

We can also call this 0.6.

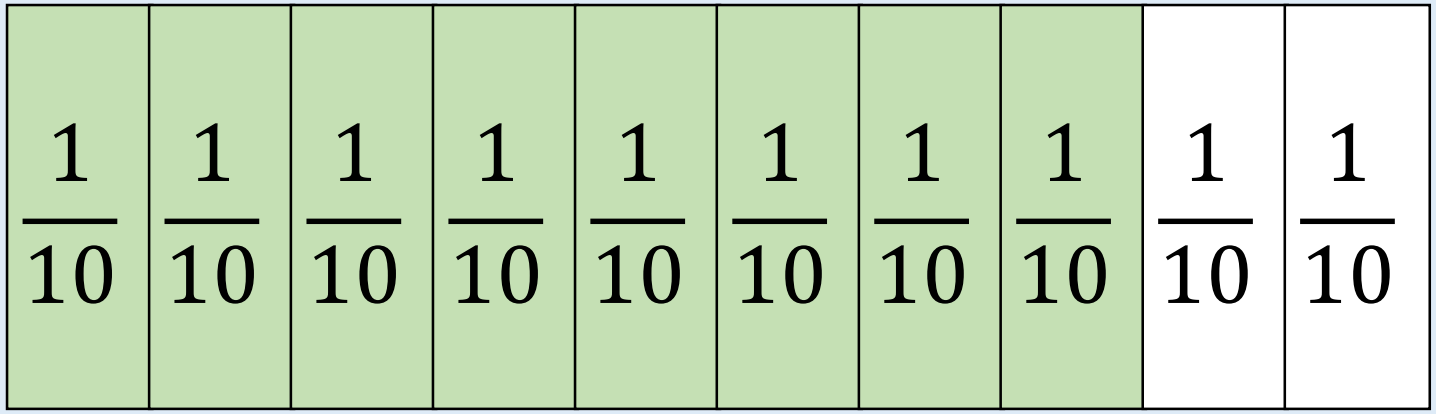
Apply

How many tenths are there? Give your answer as a fraction and a decimal.



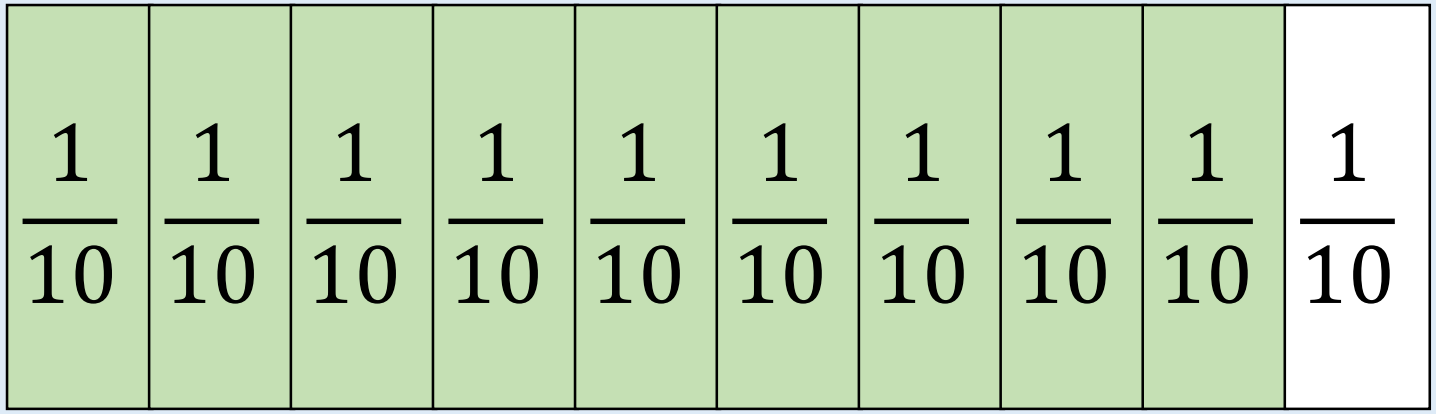
Apply

How many tenths are there? Give your answer as a fraction and a decimal.



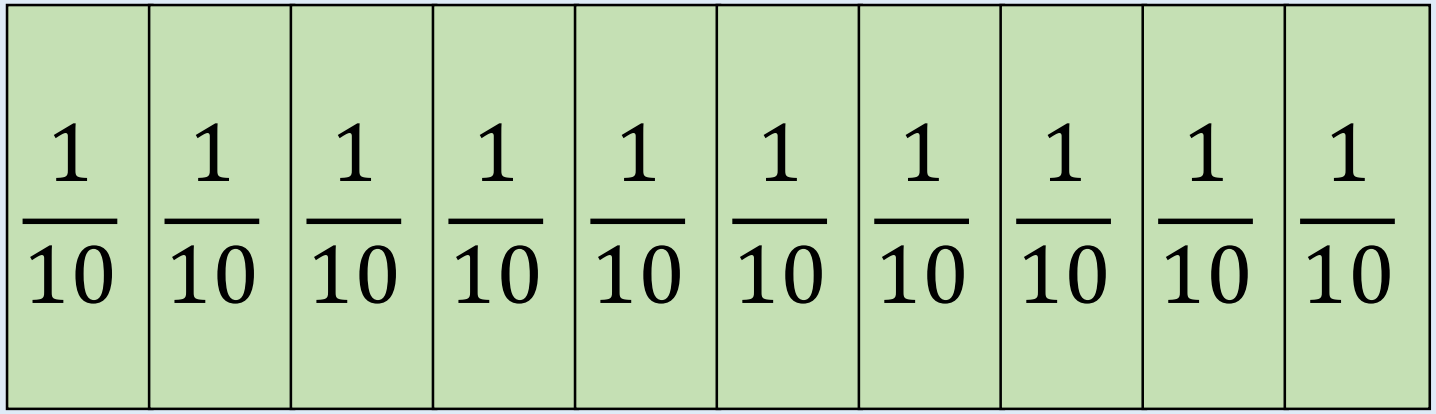
Apply

How many tenths are there? Give your answer as a fraction and a decimal.



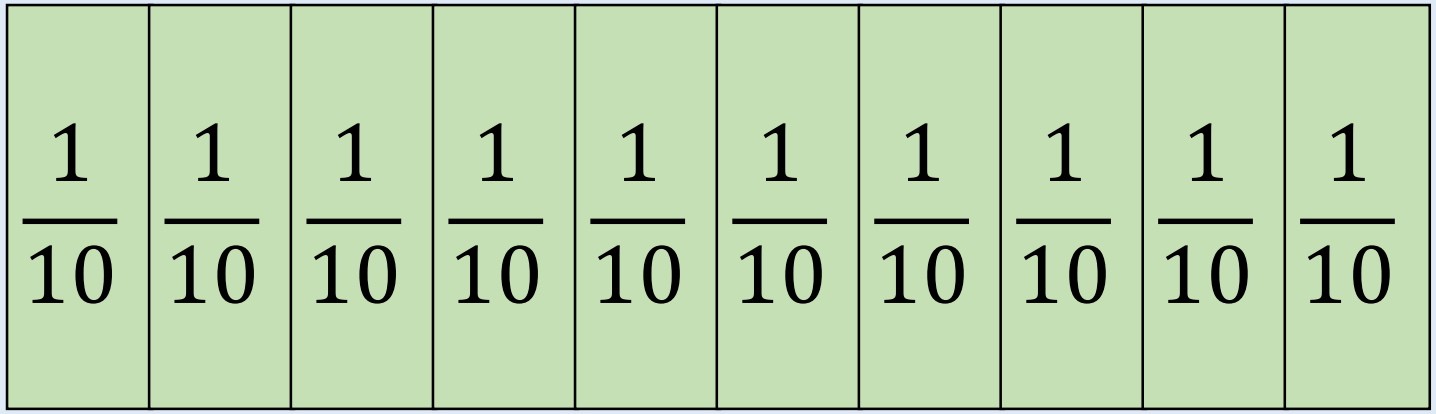
Apply

How many tenths are there? Give your answer as a fraction and a decimal.



Apply

How many tenths are there? Give your answer as a fraction and a decimal.

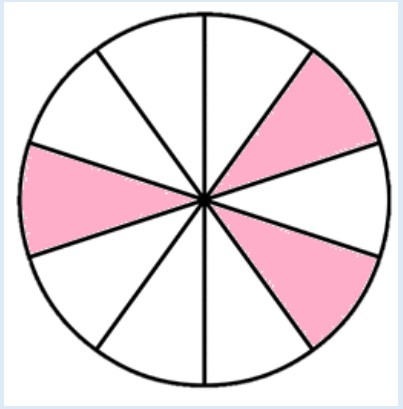


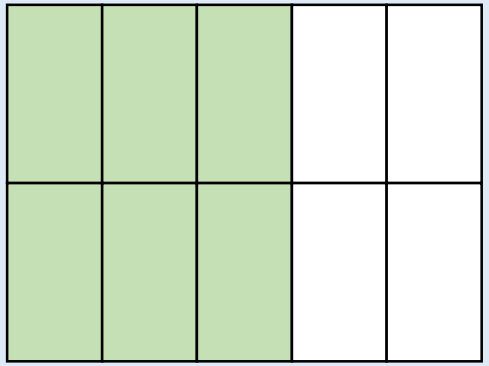
This is ten tenths or $\frac{10}{10}$.

We can also call this 1.

Apply

Link the shape to the fraction.





$\frac{3}{10}$

$\frac{6}{10}$

$\frac{5}{10}$

Challenge: Can you convert each fraction into a decimal?

Apply

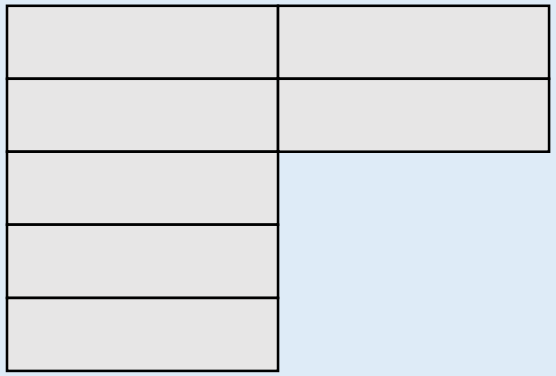
Ben says he has taken $\frac{6}{10}$ of the string.

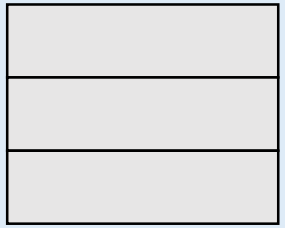
Is he correct? Explain your answer.

Apply

Hannah says she has cut away $\frac{2}{10}$ of the paving slab.

Is she correct? Explain your answer.





Apply

Sarah says if she cuts away $\frac{3}{10}$ of the wood, there will be $\frac{9}{10}$ left.

Is she correct? Explain your answer.

Evaluate

Explain to your partner:

What is a tenth?