Y3 M4j. Can find one tenth of a shape or set of objects by dividing by 10

Commissioned by The PiXL Club Ltd.
June 2019

Teachers' Notes

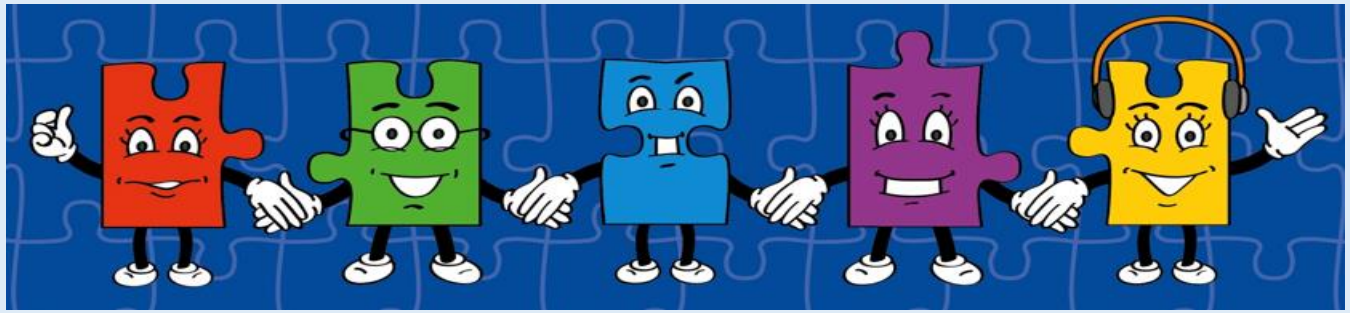
- The PiXL therapies can be taught to a whole class or a target group. Year 3-5 therapies are designed to take approximately 30-40 minutes. However, this is flexible: it may be that only part of the therapy is taught or it could, of course, be adapted or extended.
- Each therapy begins with a LORIC activity 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 **initiative** skills before you begin the therapy.

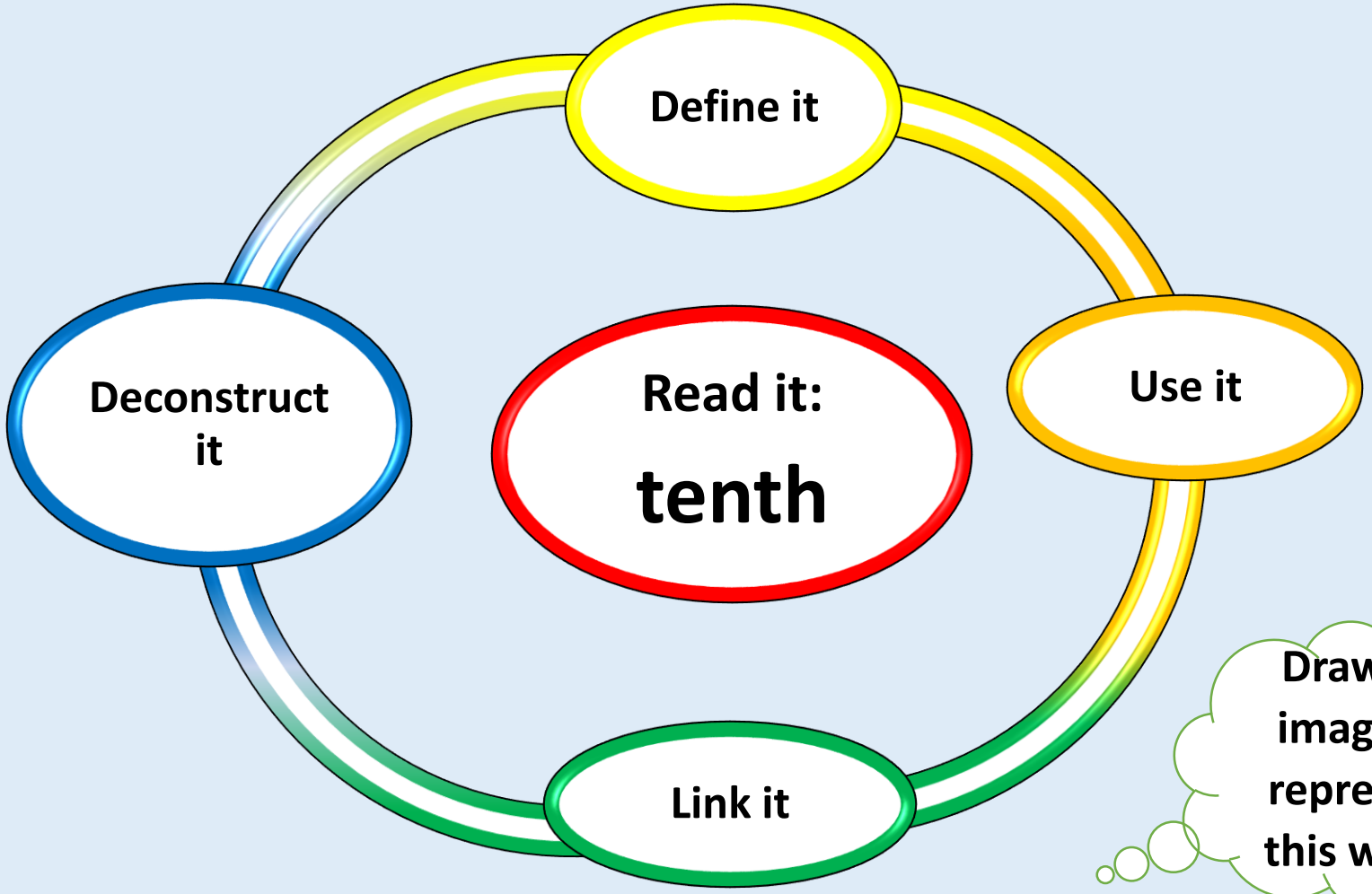
How many ways can you fold a square piece of paper into quarters, making sure each part is equal?

Vocabulary activity

divide

tenth

equal parts



Draw an image to represent this word.

Teach (Revision)

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

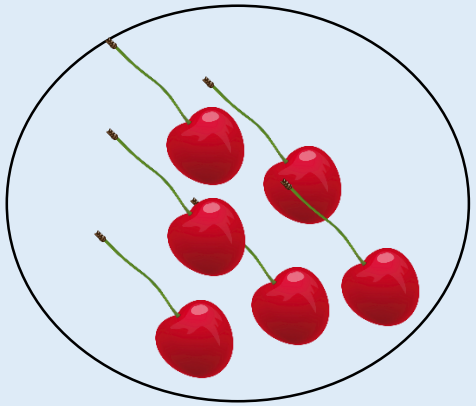
What does **equal parts** mean?

Teach (Revision)

What does **whole** mean?

This football is the whole.

This circle is the whole.



These 6 cherries are the whole.

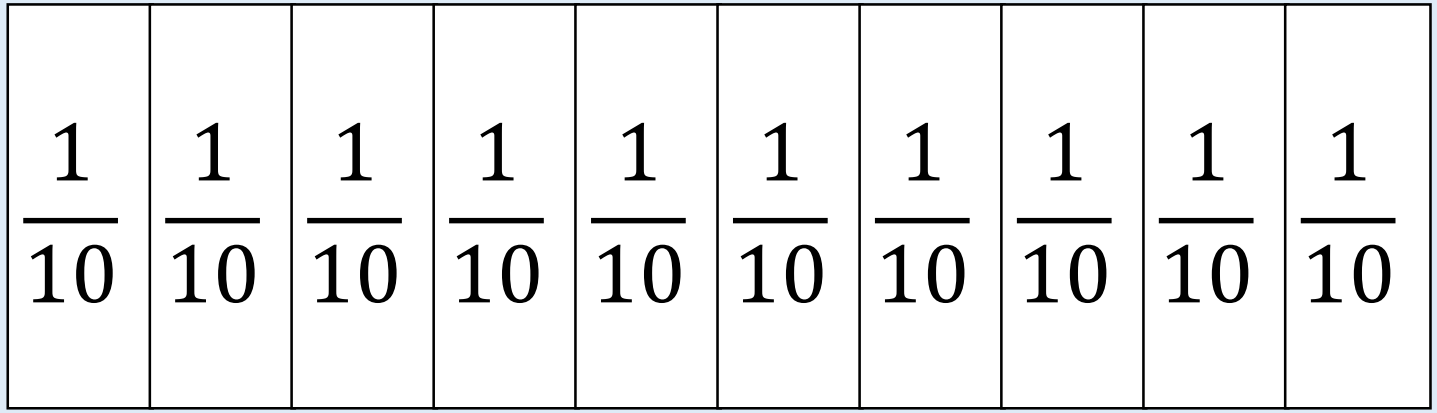
1

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.**



Model

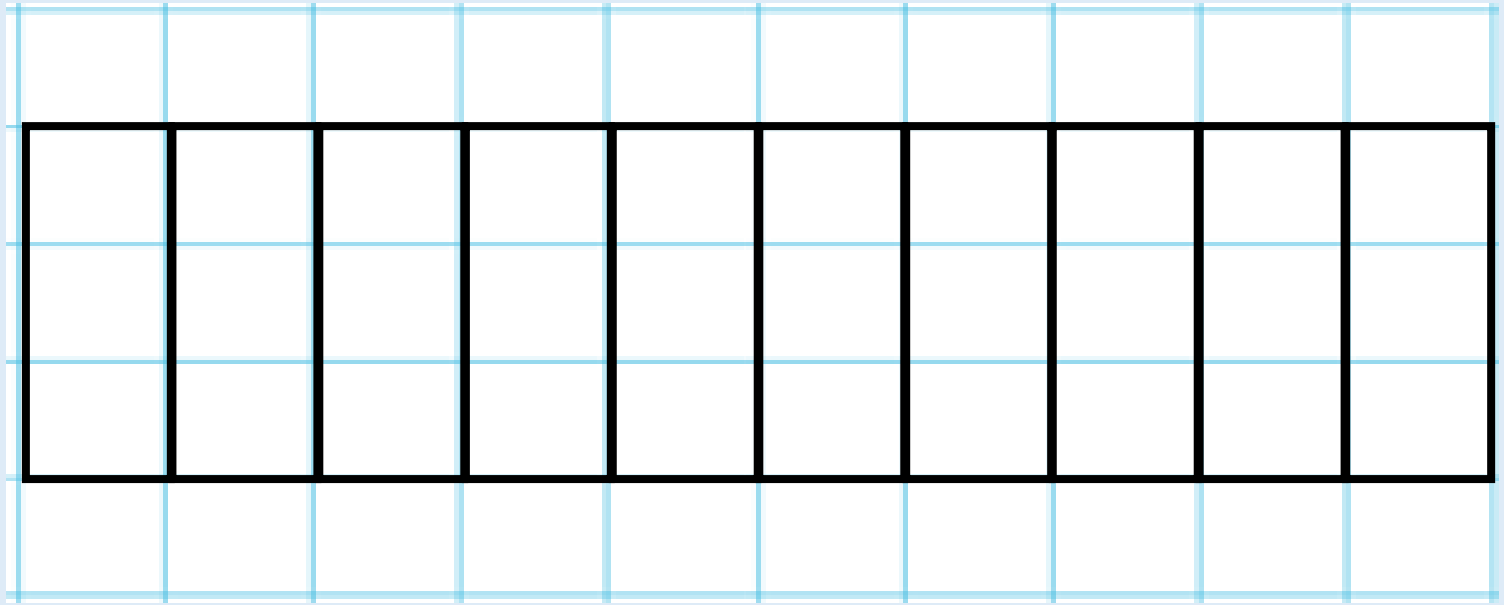
Make sure there are exactly **ten parts.**

Also check that each part is **equal.**

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

Model

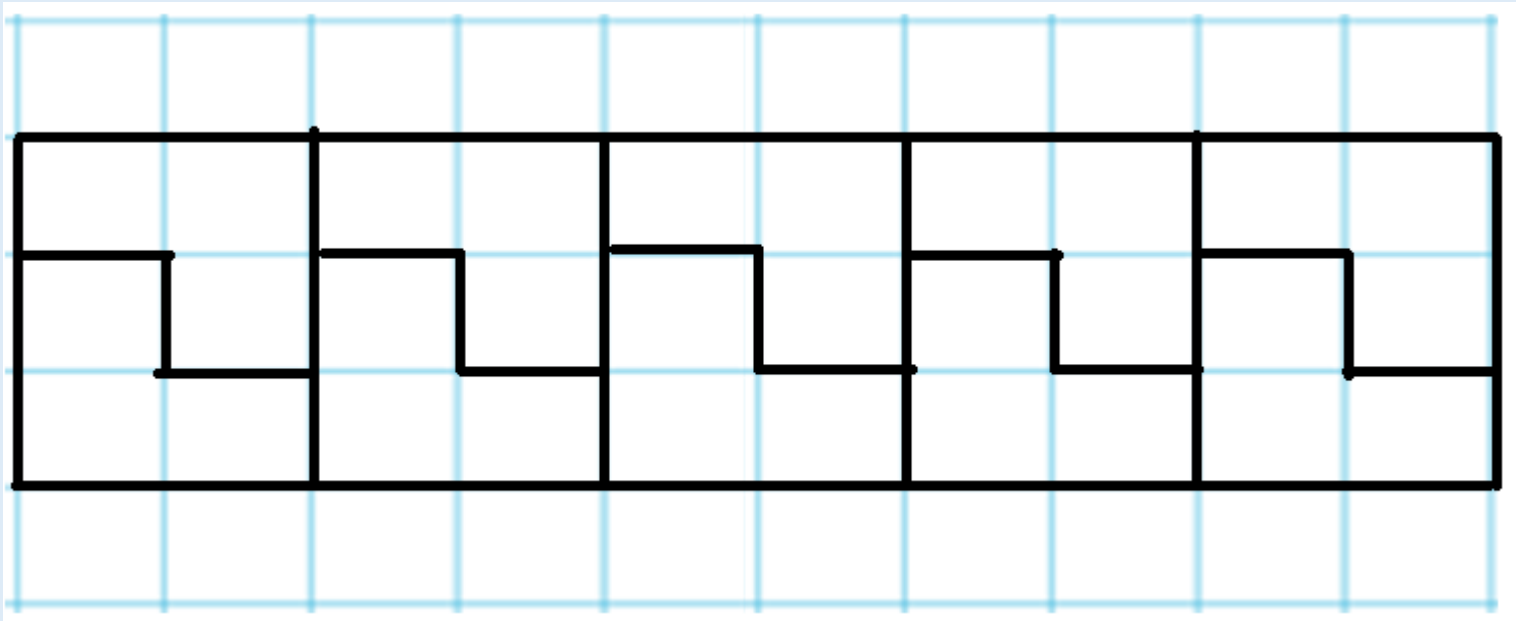
If you have squared paper, this can help you to make sure the parts are **equal.**



Here, you can see that the ten parts are equal as each part covers three squares.

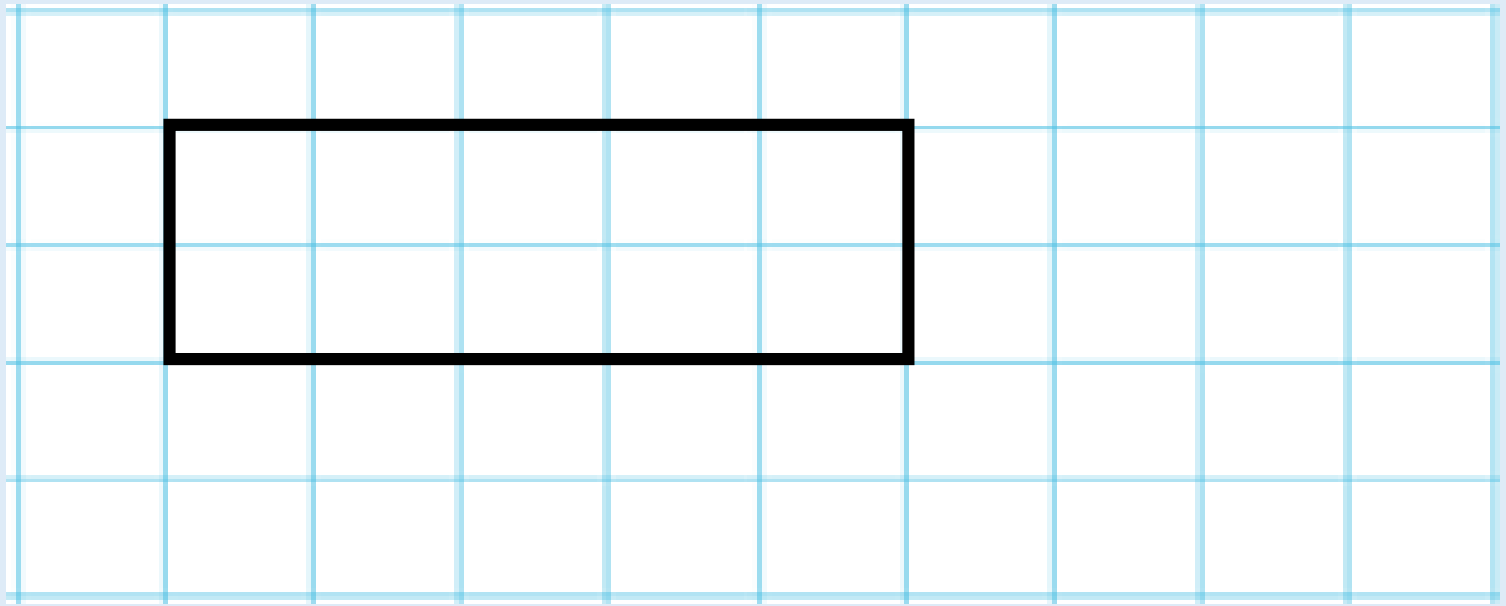
Model

Squared paper can also help you to find more creative ways to divide your shape into tenths. Simply make sure you have **ten equal parts.**



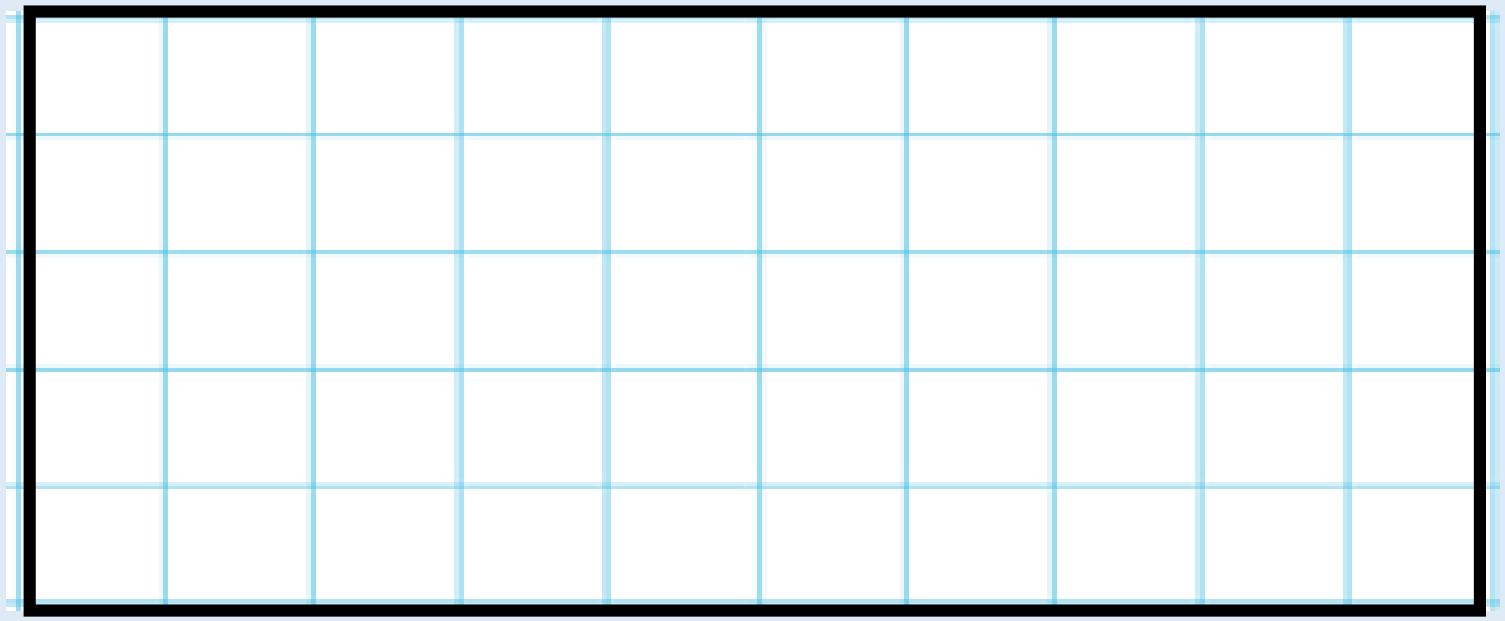
Apply

Find $\frac{1}{10}$ of the shape.



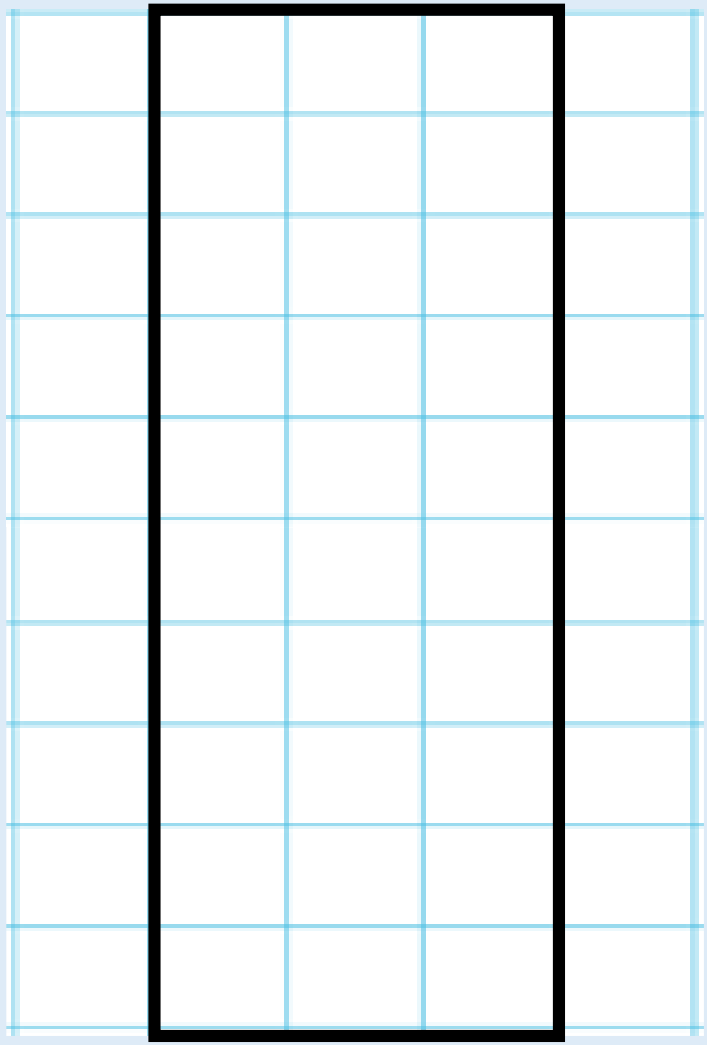
Apply

Find $\frac{1}{10}$ of the shape.



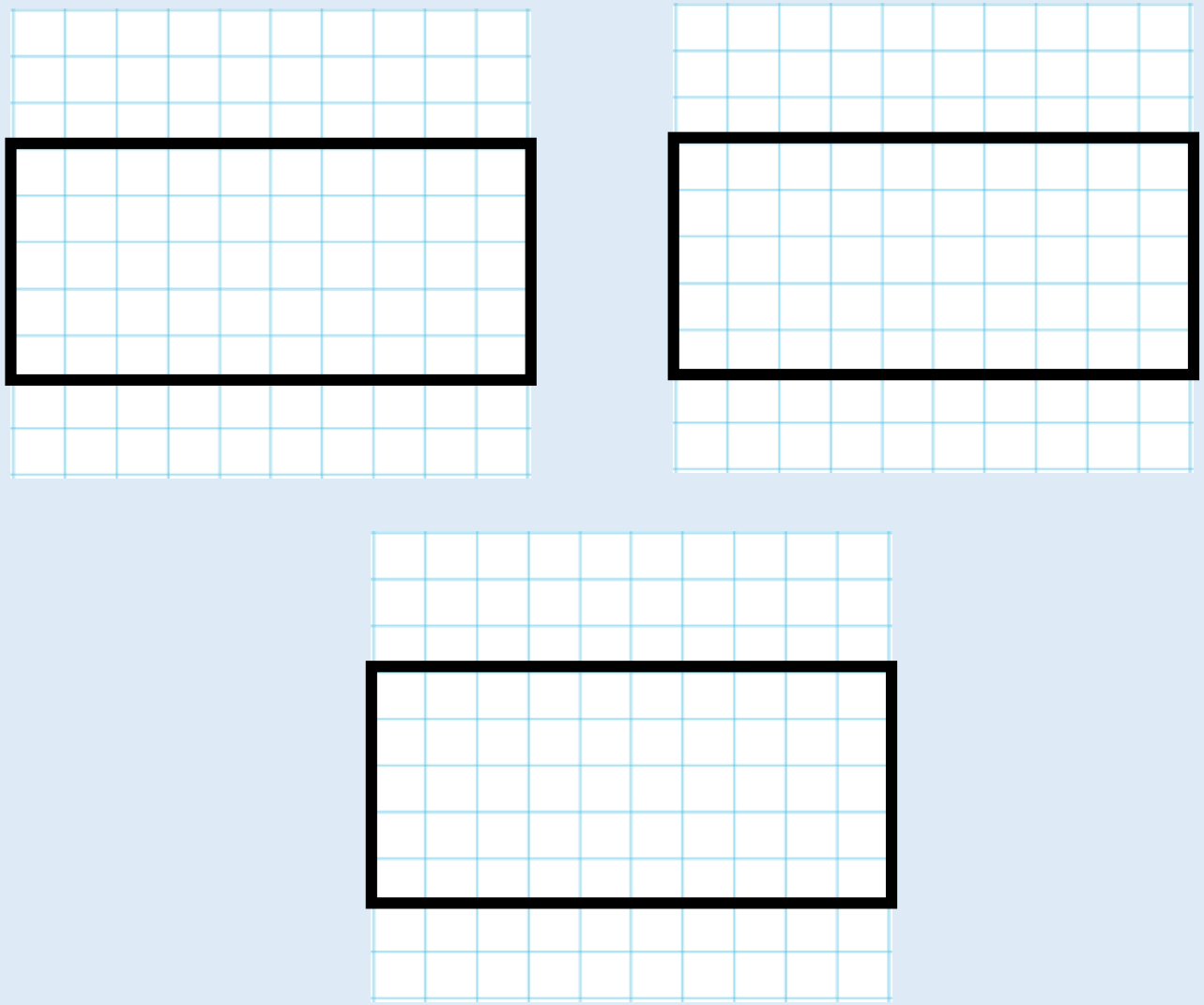
Apply

Find $\frac{1}{10}$ of the shape.



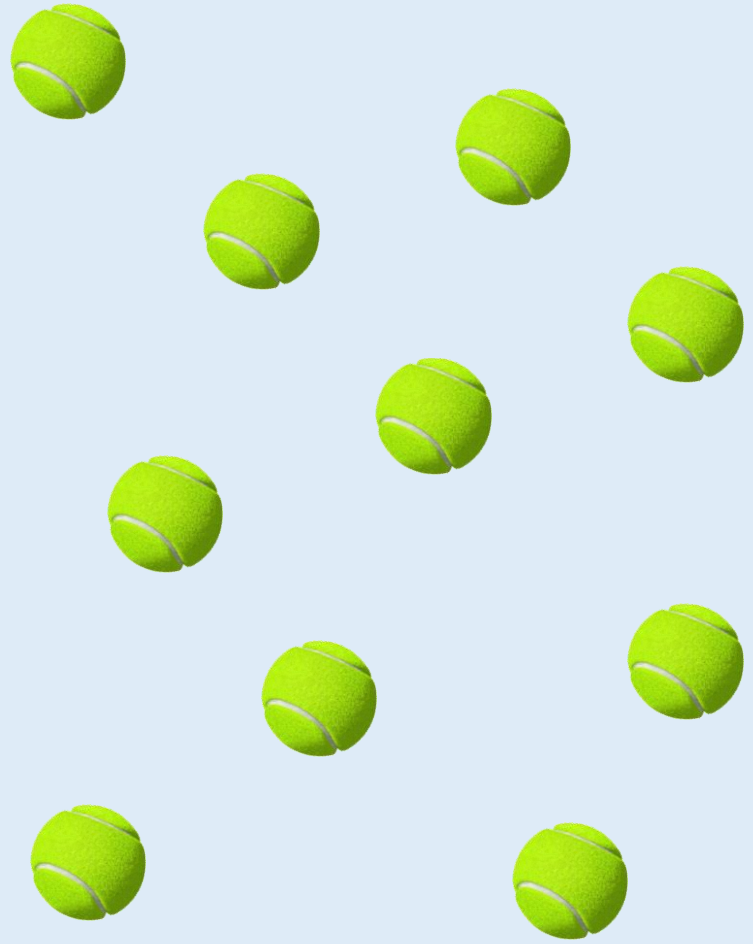
Apply

How many ways can you find $\frac{1}{10}$ of the shape?



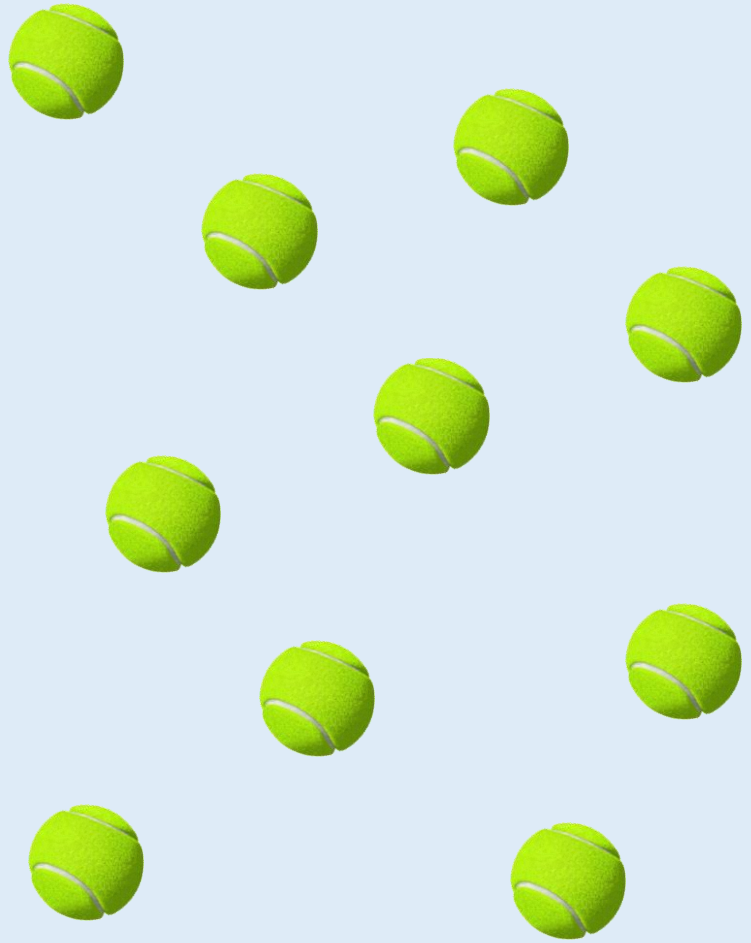
Model

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



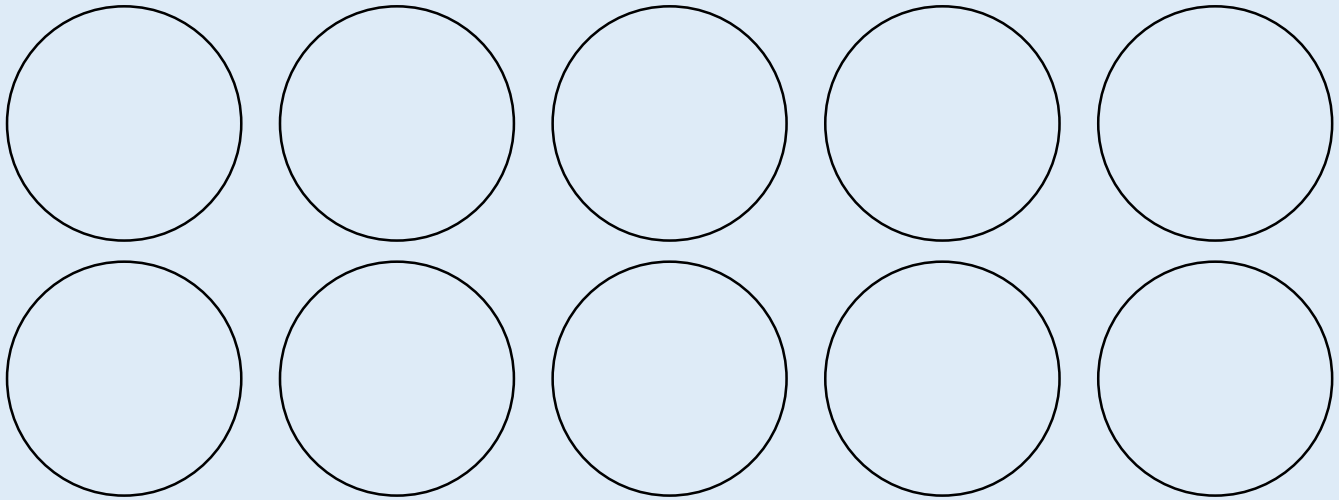
Model

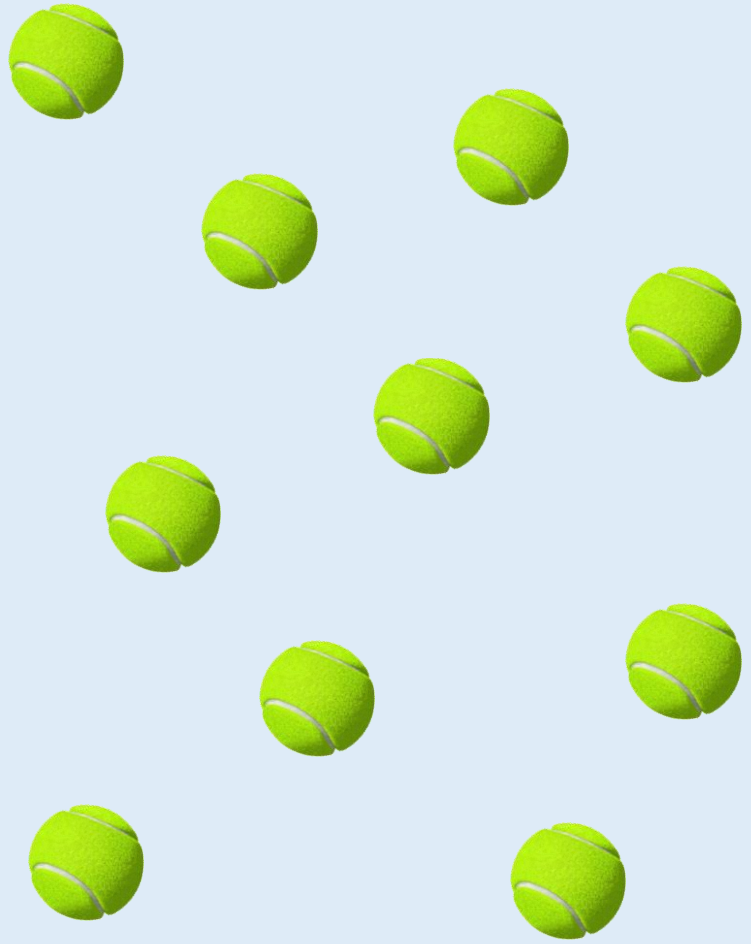
Here, we need to share these tennis balls into **ten equal parts.**



Model

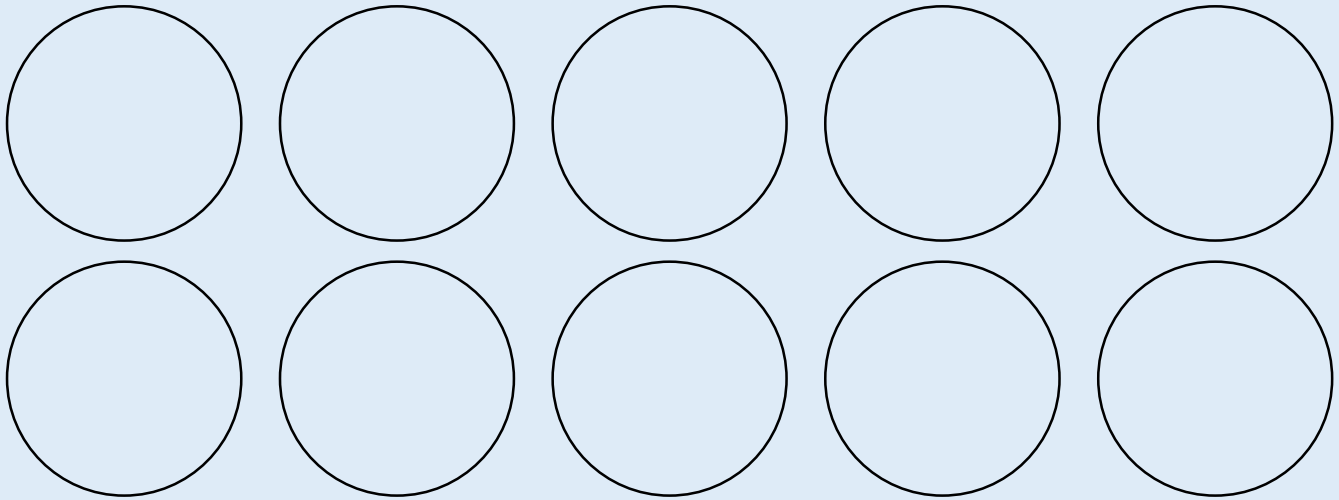
First, I draw **ten** circles.
These could be ten piles on the table if I have the objects in front of me.

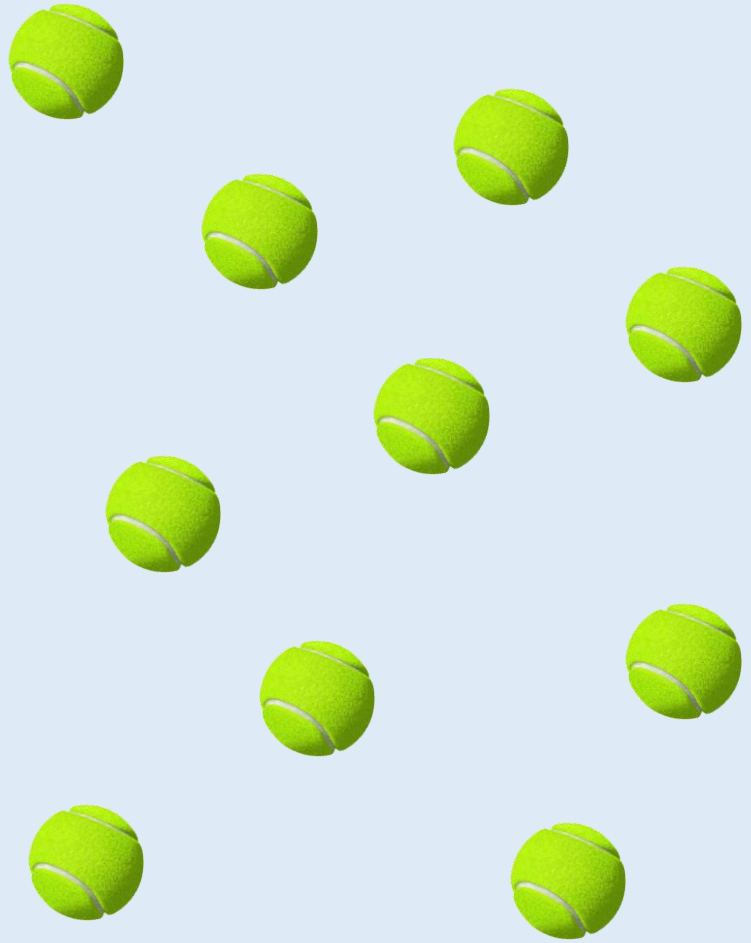




Model

Then, I share the objects **equally** between the **ten parts** to find **tenths.**



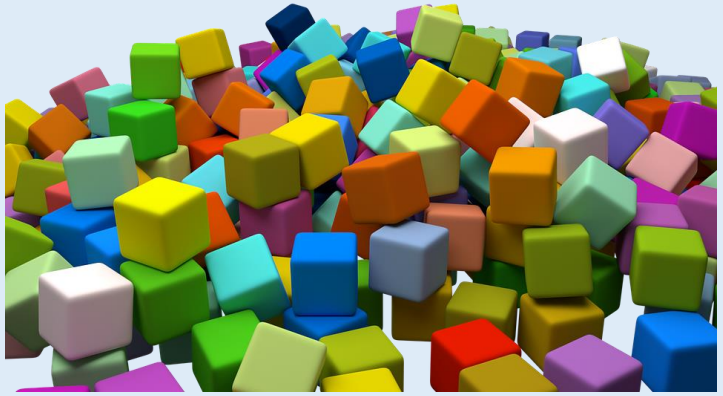


Apply

Provide children with several groups of objects (divisible by 10) from around the classroom and ask them to find one tenth of each set.

Find $\frac{1}{10}$ of each set of objects.

Make sure each of your **ten parts** are **equal.**



Apply and Evaluate

Discuss how you would find $\frac{1}{10}$ of these different wholes.
Is this a difficult task for any of these examples?
Explain why.