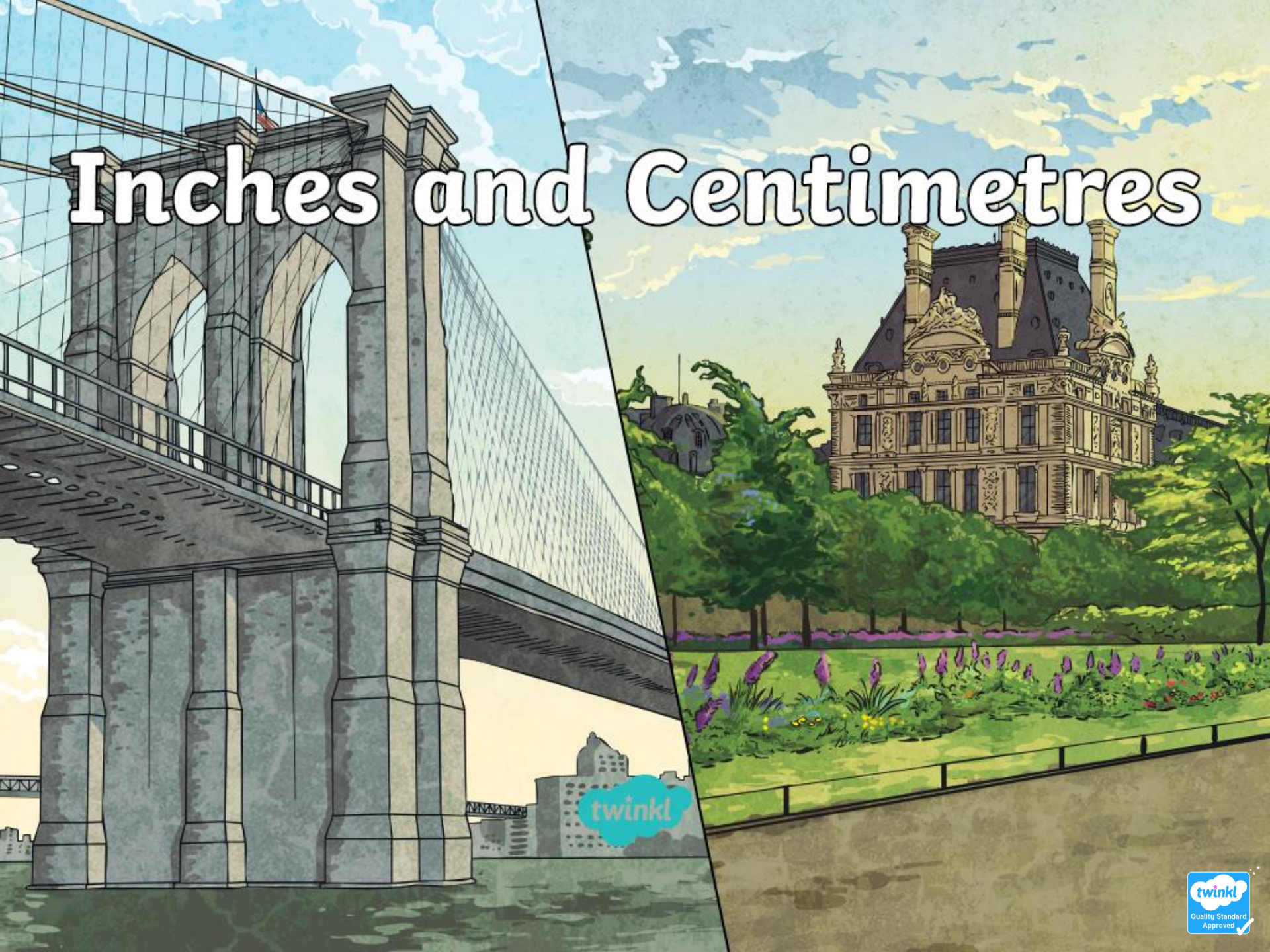


Inches and Centimetres



Measurements of Length



Here are some units of measurement.
Can you order the units from smallest to largest?
Sort them into units that measure length and units that do not.

The units that have been shaded green
are units of length.

The units shaded purple are
metric units of measurement.

kilometre	ounce	millimetre
gram	foot	inch
mile	metre	kilogram
pint	stone	metre

?

Have you
heard of the
imperial system
of measurement
before?

The units shaded orange are
imperial units of measurement.

The units that have been shaded turquoise
are units of mass, volume or capacity.

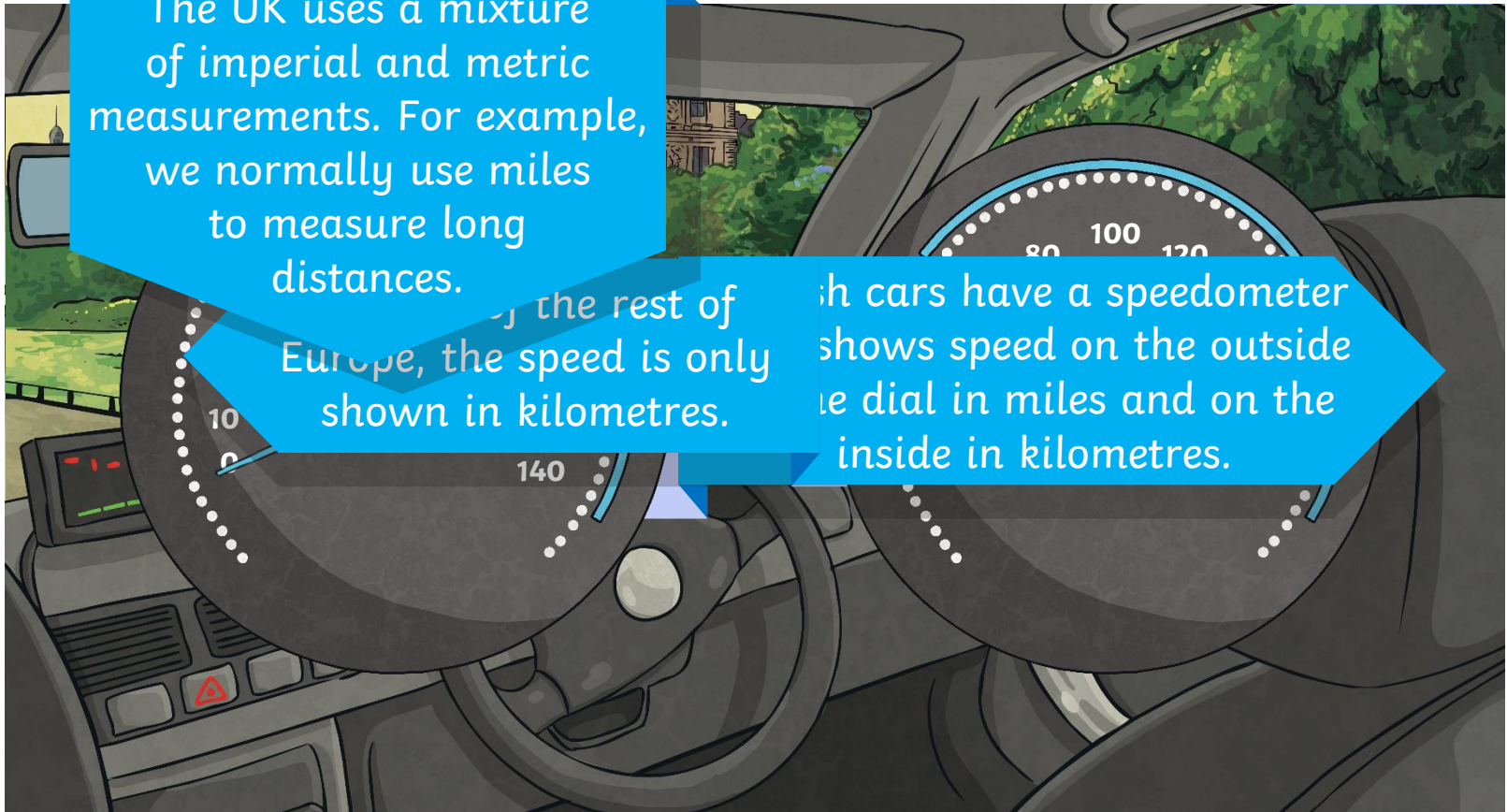
Introducing Imperial Measurements

There are two main systems of measurement in use
– the metric system and the imperial system.

The UK uses a mixture of imperial and metric measurements. For example, we normally use miles to measure long distances.

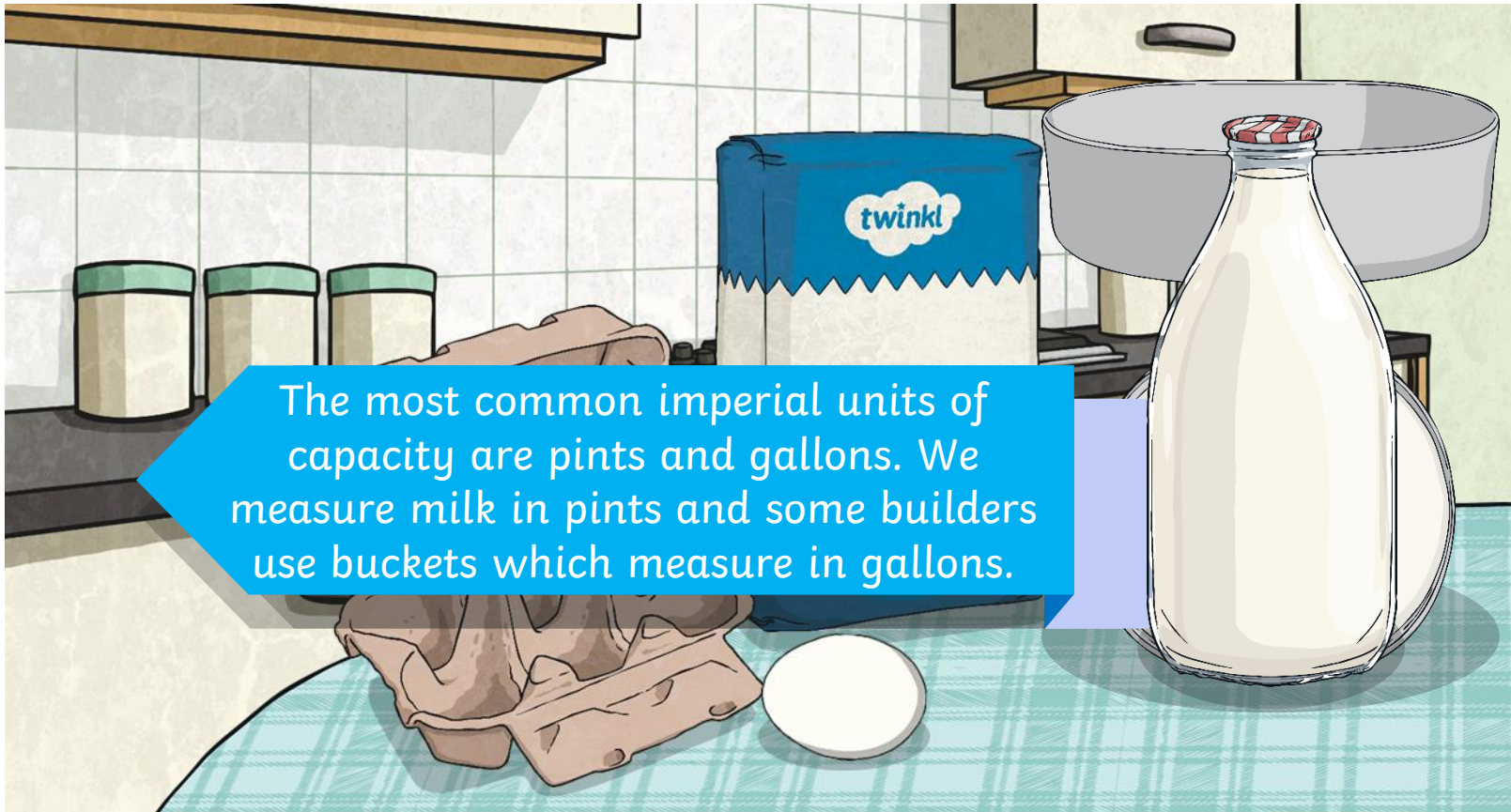
distances. In the rest of Europe, the speed is only shown in kilometres.

Most cars have a speedometer that shows speed on the outside dial in miles and on the inside in kilometres.



Introducing Imperial Measurements

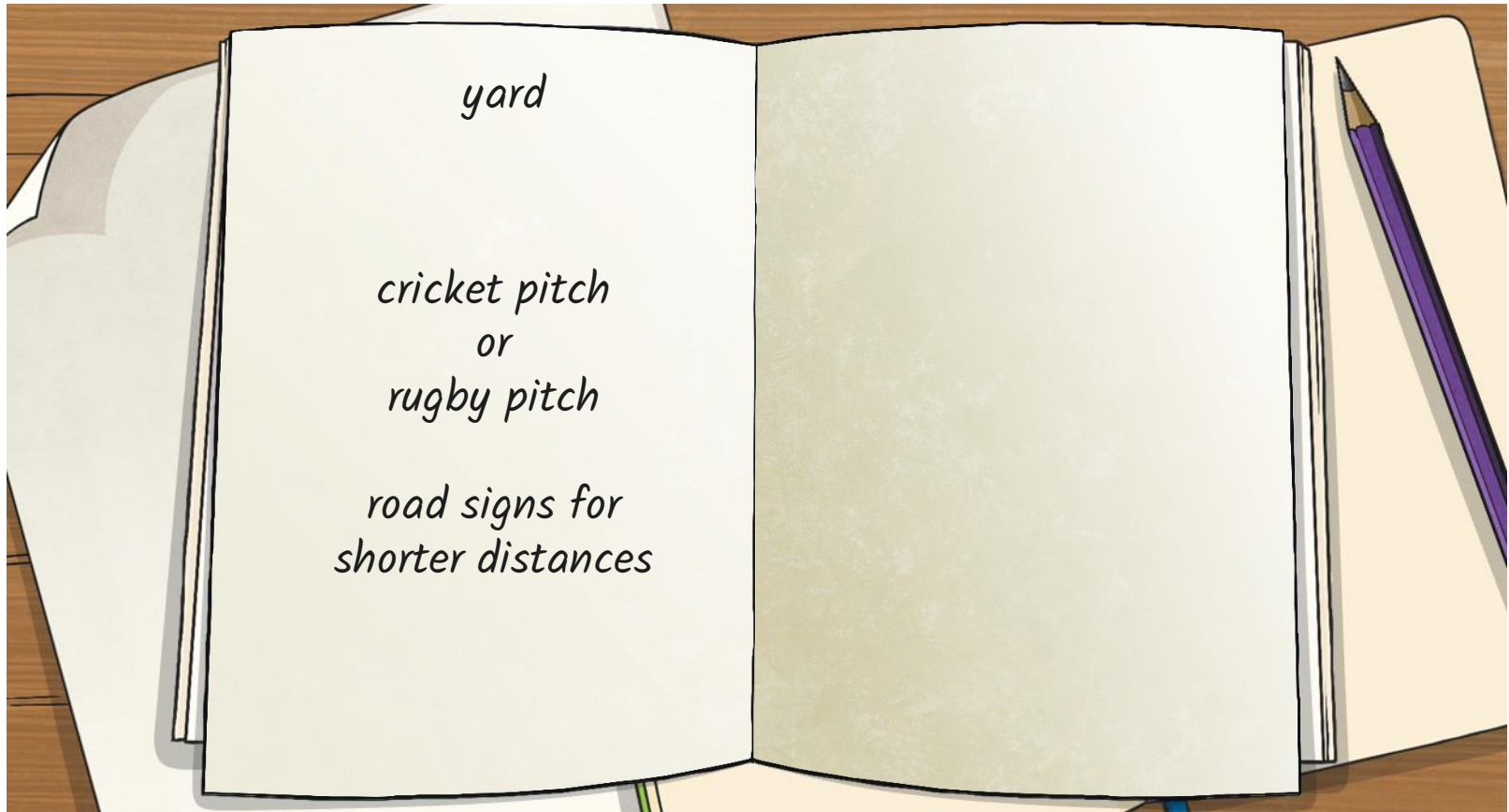
Which are the most common metric units of capacity?
Millilitres and litres.



The most common imperial units of capacity are pints and gallons. We measure milk in pints and some builders use buckets which measure in gallons.

Introducing Imperial Measurements

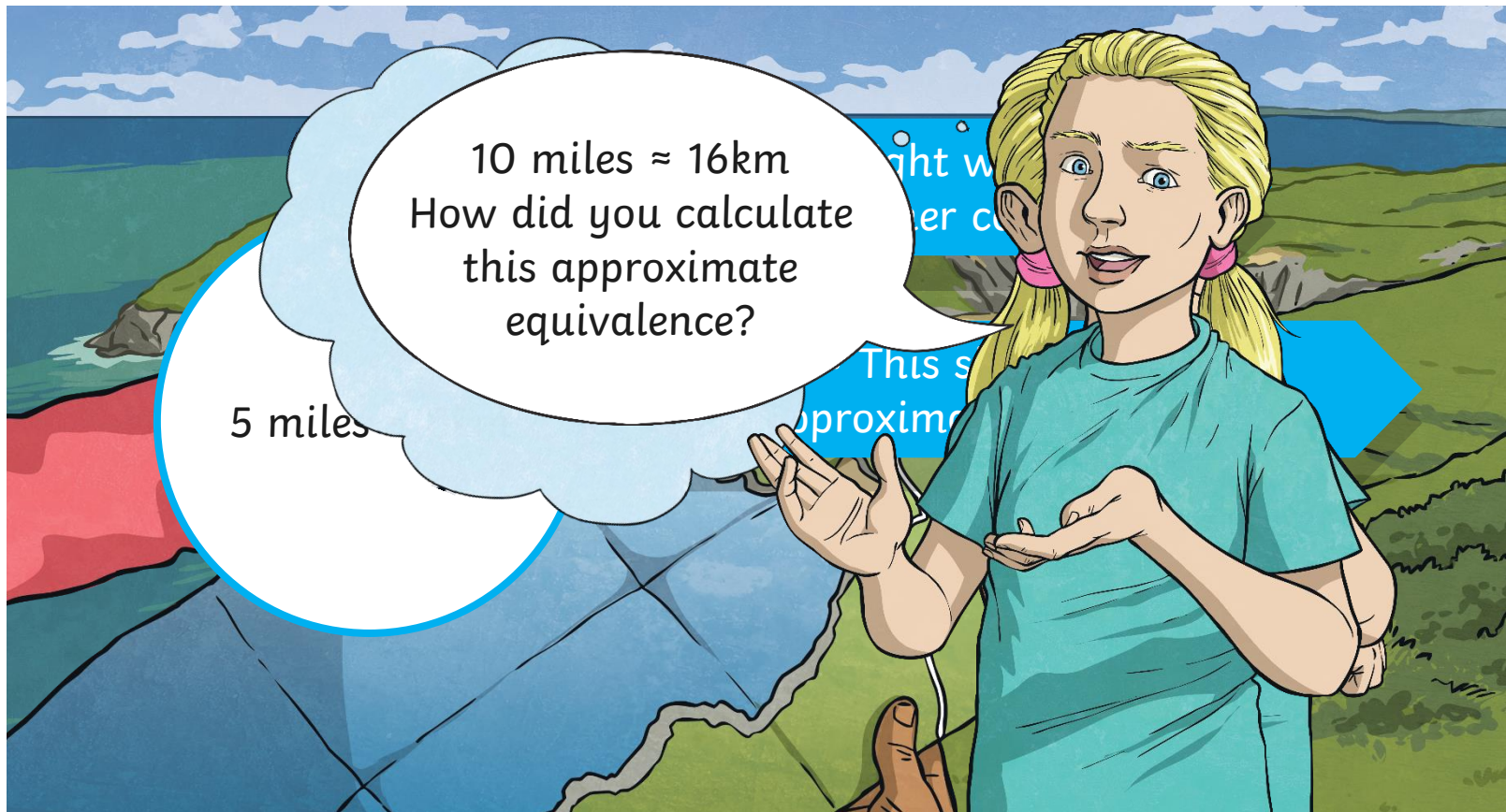
Have you heard of any of these imperial units of length before?



Miles and Kilometres



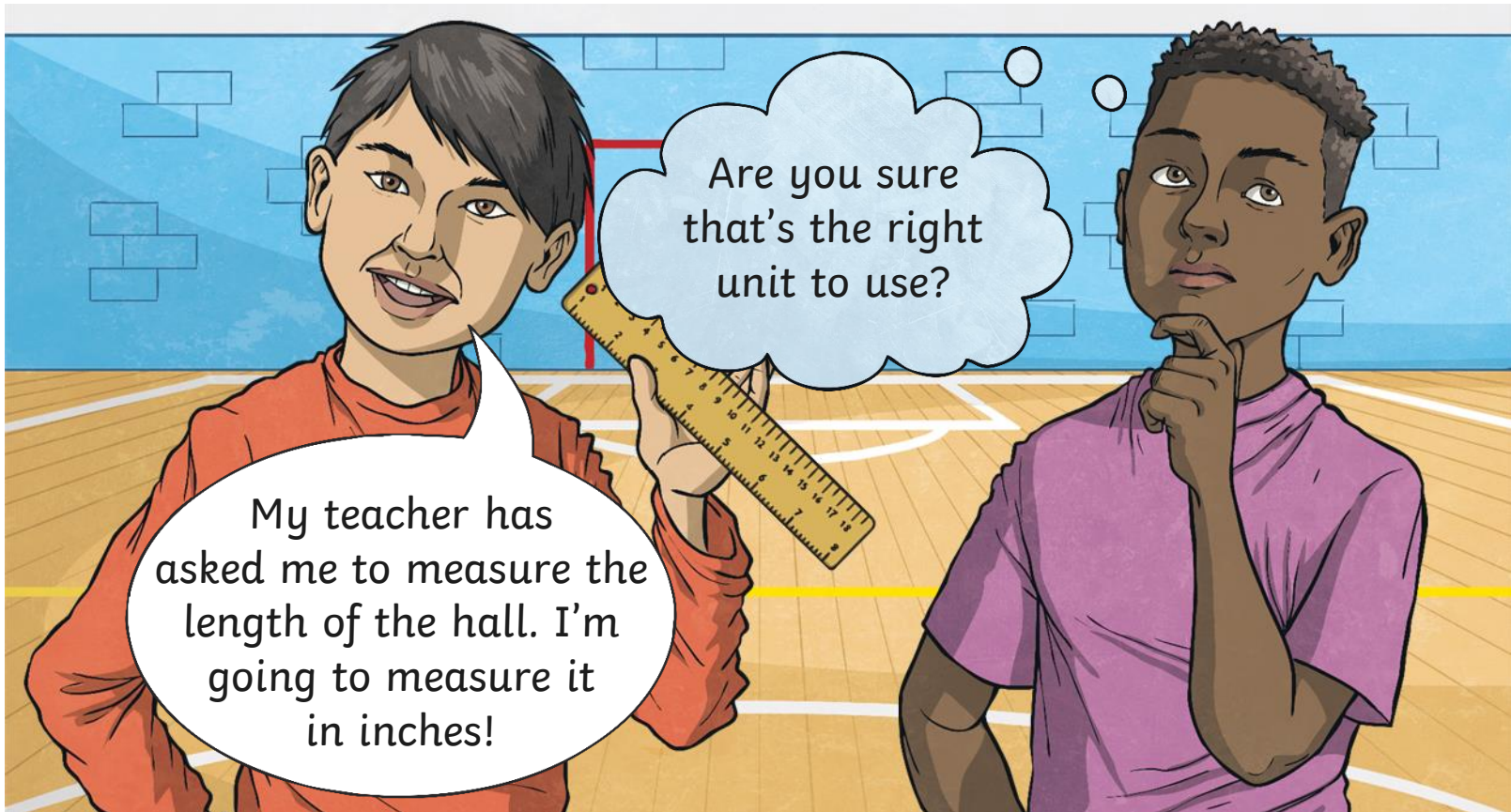
Sometimes we need to convert between imperial and metric units.



Inches and Centimetres



Many rulers show measurements in both centimetres and inches.



Inches and Centimetres



Look at your ruler.

How many centimetres are approximately equal to one inch?

When you measure the same object using two different units of measurement, you should see that the measurement recorded in cm is two and a half times larger than the measurement written in inches.

$2\frac{1}{2}$ centimetres (or 2.5cm) are approximately equal to one inch.

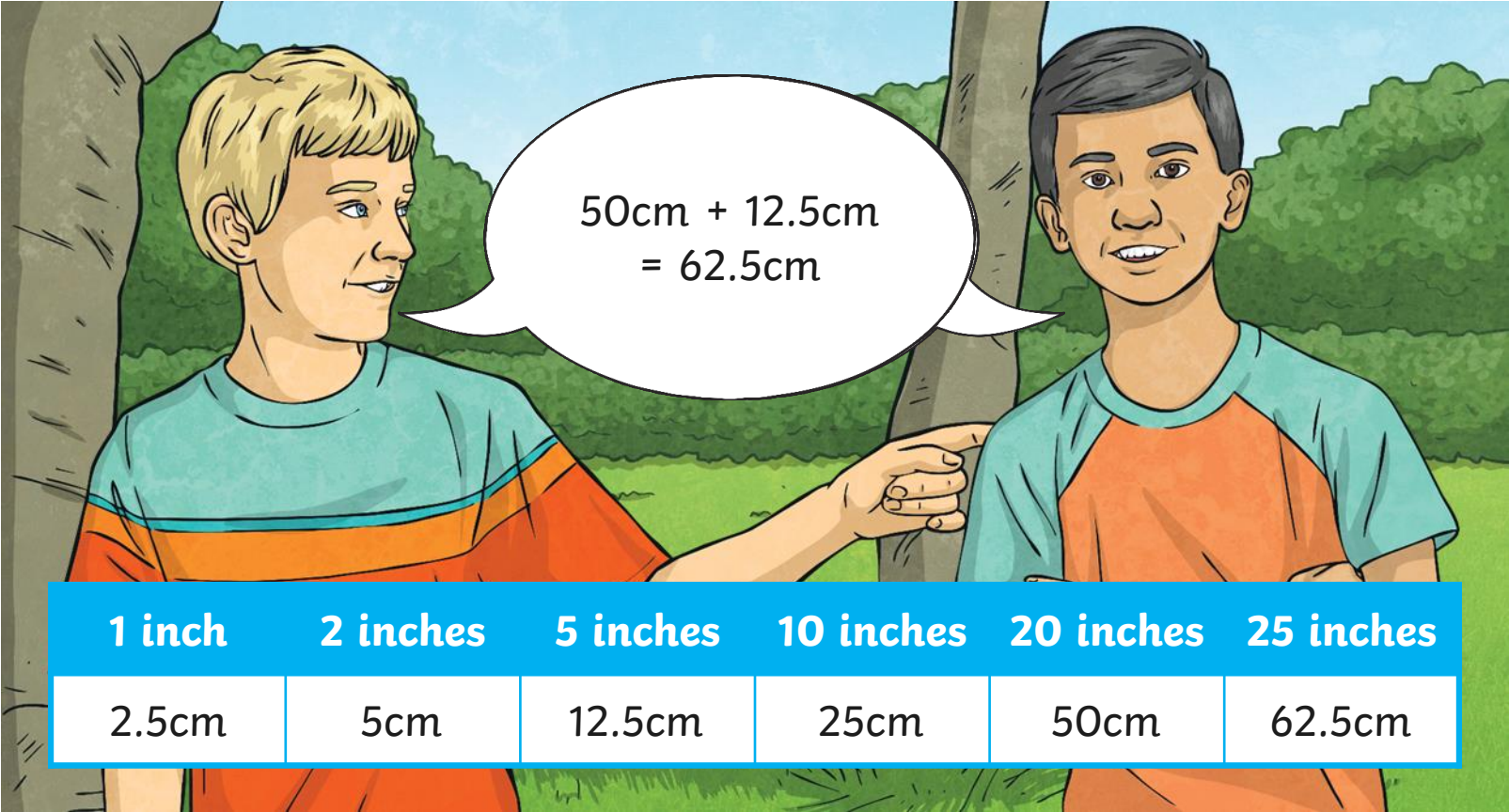
Can you prove that an inch is two and a half times larger than a centimetre?

pen
rubber

Converting between Inches and Centimetres



1 inch \approx 2.5cm



$50\text{cm} + 12.5\text{cm}$
 $= 62.5\text{cm}$

1 inch	2 inches	5 inches	10 inches	20 inches	25 inches
2.5cm	5cm	12.5cm	25cm	50cm	62.5cm

Converting between Inches and Centimetres



Convert from centimetres to inches to complete this table.

Click each box in the table to reveal the answer underneath.

1cm	2cm	4cm	5cm
0.4 inches			
10cm	12cm	20cm	31cm

Solving Seedling Problems



Class 5B grew seedlings as part of their science topic.

1 inch \approx 2.5cm

1cm \approx 0.4 inches

Halfway through the term, Mr Leonard asked half the class to measure the height of their seedlings.

and half

Now you can put the original measurements in order.

First, convert the measurements to the same unit.

He challenged the class to order the measurements of some of the seedlings from shortest to tallest.

3.2 inches

2 inches

2.87 inches

Shortest

Tallest

Solving Seedling Problems



At the end of the term, the seedlings had grown taller. Mr Leonard challenged the class to order the measurements of four more seedlings.

1 inch \approx 2.5cm
1cm \approx 0.4 inches

Which measurements will you convert?

10cm 4 inches	2 inches 5cm	17.5cm 7 inches	6 inches 15cm
Shortest			Tallest

Solving Seedling Problems



As part of their science topic, Class 5B measured how much their seedlings grew throughout the term.

1 inch \approx 2.5cm
1cm \approx 0.4 inches

Convert the measurements so they are all in the same units.
4 inches \approx 10cm

Haydar is right.
His seedling grew the most.

Sophia's seedling grew from 3cm to 12cm tall.

Haydar's seedling grew from 2 inches to 6 inches tall.

Haydar thinks that his seedling grew more than Sophia's.

Is he right?

Centimetres, Feet and Inches

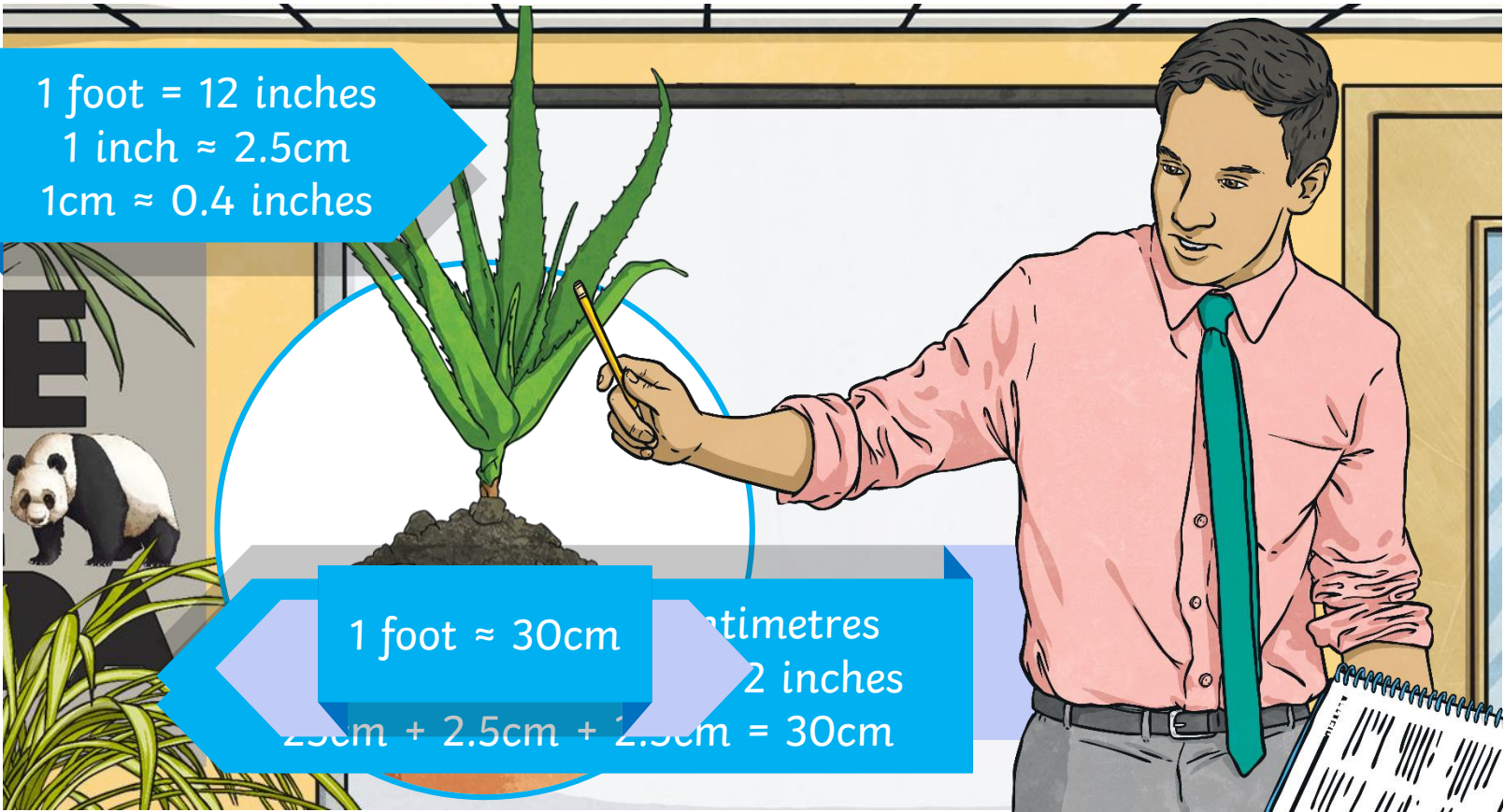


Mr Leonard's seedling grew to be 1 foot tall.
How tall is this in cm?

1 foot = 12 inches
1 inch \approx 2.5cm
1cm \approx 0.4 inches

1 foot \approx 30cm Centimetres
2.5cm + 2.5cm + 2.5cm = 30cm

12 inches



Centimetres, Feet and Inches



Mr Leonard's husband grew a plant that was 2 feet and 5 inches tall!
How tall was the plant in cm?.

Did you use a different method to find the answer?

1 foot = 12 inches
1 inch \approx 2.5cm
1cm \approx 0.4 inches

29 inches is one less than 30 inches. We will find 30 inches in cm and then subtract 2.5cm.

10 inches \approx 25cm
25cm \times 3 = 75cm

75cm - 2.5cm
72.5cm

Centimetres, Feet and Inches



Haydar's younger sister grew a plant that was 45cm tall. How tall was it in feet and inches?

1 foot = 12 inches
1 inch \approx 2.5cm
1cm \approx 0.4 inches

Did you use a different method to find the answer?

How many whole feet and how many inches left over?
1 foot and 6 inches
45cm \approx 1 foot 6 inches

Centimetres, Feet and Inches



By December, Haydar's sister's plant had grown to 65cm. What was the plant's height in feet and inches?

Convert centimetres to inches:
 $65\text{cm} = 60\text{cm} + 5\text{cm}$

$10\text{cm} \approx 4$ inches, so
 $60\text{cm} \approx 24$ inches

$5\text{cm} \approx 2$ inches
 24 inches + 2 inches
 $= 26$ inches

1 foot = 12 inches
1 inch $\approx 2.5\text{cm}$
1cm ≈ 0.4 inches

How many whole feet and how many inches left over?
2 feet and 2 inches
 $65\text{cm} \approx 2$ feet 2 inches

Your turn- Write the answers on a piece of paper.

$$1 \text{ inch} \approx 2.5\text{cm}$$

- 1) For each measurement, choose the method you will use to convert it from inches to centimetres.

double

halve

$\times 10$

add
previous
answers
together

repeated
addition

1 inch	2 inches	4 inches	5 inches	10 inches
2.5cm	cm	cm	cm	cm

$$1 \text{ cm} \approx 0.4 \text{ inches}$$

- 2) For each measurement, choose the method you will use to convert it from centimetres to inches.

double

halve

$\times 10$

add
previous
answers
together

repeated
addition

1cm	2cm	5cm	10cm	15cm
0.4 inches	inches	inches	inches	inches



Units of Length

Class 5B grew seedlings as part of their science topic. Some of the children measured the height of their seedlings in inches and some children measured theirs in centimetres.

- 3) Order the heights of these seedlings from shortest to tallest.
Remember to change the measurements to the same unit to help you find the answer.

4 inches	8cm	7cm
Shortest	←————→	Tallest

- 4) Haroon's seedling measured 4cm when he first measured it. It grew 2 inches.
What was its final measurement? Give your answer in centimetres.
Show how you worked out your answer.
