



Maths

Measurement

Need a coherently planned sequence of lessons to complement this resource?

Lesson Breakdown

Below is our suggestion for the most coherent and progressive sequence to teach this area of Plant Maths steps on the White Rose Maths scheme of learning although we have not aimed to mirror the exact order in which the lessons are presented.

Understanding Length and Height (1): Height Comparison
 This lesson teaches children to compare the heights of familiar objects, in height such as tall, short, taller, shorter, tallest and shortest. In this lesson all children are encouraged to compare objects as well as comparing objects with the presentation, activity sheets and our fantastic Diving in Mastery Cards that we have included.

NC Statement: Compare, describe and solve practical problems for lengths and heights.
Lesson Aim: To compare the heights of objects.

Measuring Length and Height (1): Measure Height Using Non-Standard Units
 Allow children to explore measuring the height of objects using non-standard units. The children are encouraged to use the understanding of measuring length and height that they have developed in the previous lesson. The lesson also includes our Diving in Mastery Cards that give opportunities for children to apply their understanding of measuring length and height.

NC Statement: Measure and begin to record lengths and heights.
Lesson Aim: To measure height using non-standard units.

Understanding Length and Height (2): Length Comparisons
 This lesson teaches children to compare the length of various objects, in length including long, longer, longest, short, shorter and shortest. The lesson also includes our Diving in Mastery Cards that give opportunities for children to apply their understanding of measuring length and height.

NC Statement: Compare, describe and solve practical problems for lengths and heights.
Lesson Aim: To compare the length of objects.

Introduction

This unit will introduce children to the concept of measurement in different areas, such as length and height, capacity, weight, money and time. Children learn the vocabulary they will need to compare and describe measurement and develop their reasoning skills through solving practical problems. The children explore both non-standard and standard units of measure and apply their skills of measuring and recording in a wider range of real life contexts. They also learn to sequence events in chronological order, use language related to dates and begin to tell the time on an analogue clock.

Assessment Statements

By the end of this unit, children working towards the expected level will be able to:

- describe and compare lengths, heights, capacities, weights and times using simple vocabulary;
- measure length, heights, capacities, weights and using non-standard units;
- recognise some coins and notes;
- put two or three simple events in chronological order;
- recognise and use the names of the days of the week and know some months of the year;
- tell the time to the hour on an analogue clock and draw the hands;
- reason about measurements to solve simple practical problems.

Children working at the expected level will be able to:

- describe and compare lengths, heights, capacities, weights and times using mathematical vocabulary;
- measure length, heights, capacities, weights and times using standard and non-standard units;
- know the value of coins and notes;
- sequence familiar events in chronological order;
- tell the time to the hour and half past the hour on an analogue clock;
- draw the hands on an analogue clock face to the hour and half past the hour;
- understand fully numbered scales such as a ruler or measuring jug;
- reason about measurements to solve practical problems.

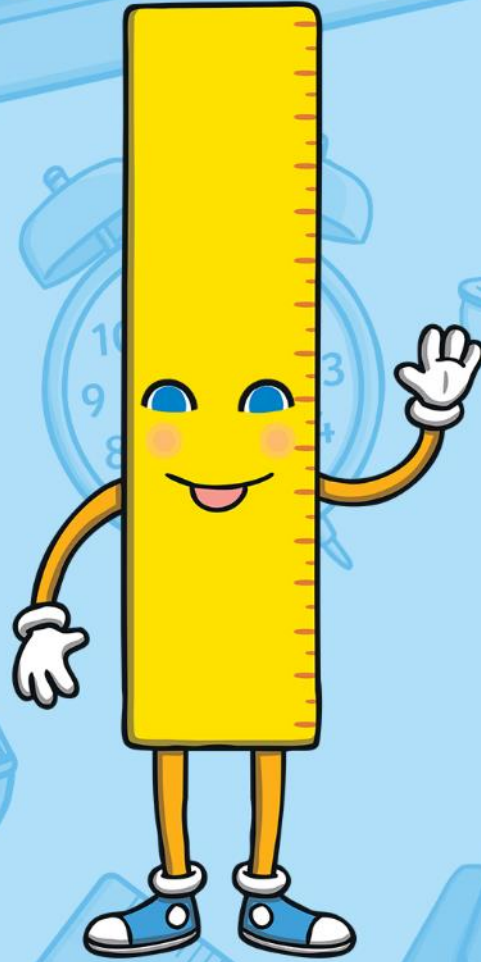
Measurement
 Maths Year 1 (Steps 10 Progression Overview)

The aim of this overview is to support teachers using Plant Maths to show the most coherent and progressive sequence to teach each area of maths. We also want to fully support teachers who use the White Rose Maths scheme of learning to make full use of the resources available within Plant Maths. Wherever possible, lesson packs have been matched to teach of the small steps on the White Rose Maths scheme of learning.

Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number: Place Value (within 10)		Number: Addition and Subtraction (within 10)			Geometry: Shape		Number: Place Value (within 20)		Consolidation		
Spring	Number: Addition and Subtraction (within 20)			Number: Place Value (within 50) (Multiples of 2, 5 and 10 to be included)			Measurement: Length and Height		Measurement: Weight and Volume			
Summer	Number: Multiplication and Division (Multiples of 2, 5 and 10 to be included)		Number: Fractions		Geometry: Position and Direction	Number: Place Value (within 100)		Measurement: Money	Time		Consolidation	

Using a Ruler



Aim

- To measure length and height in centimetres.

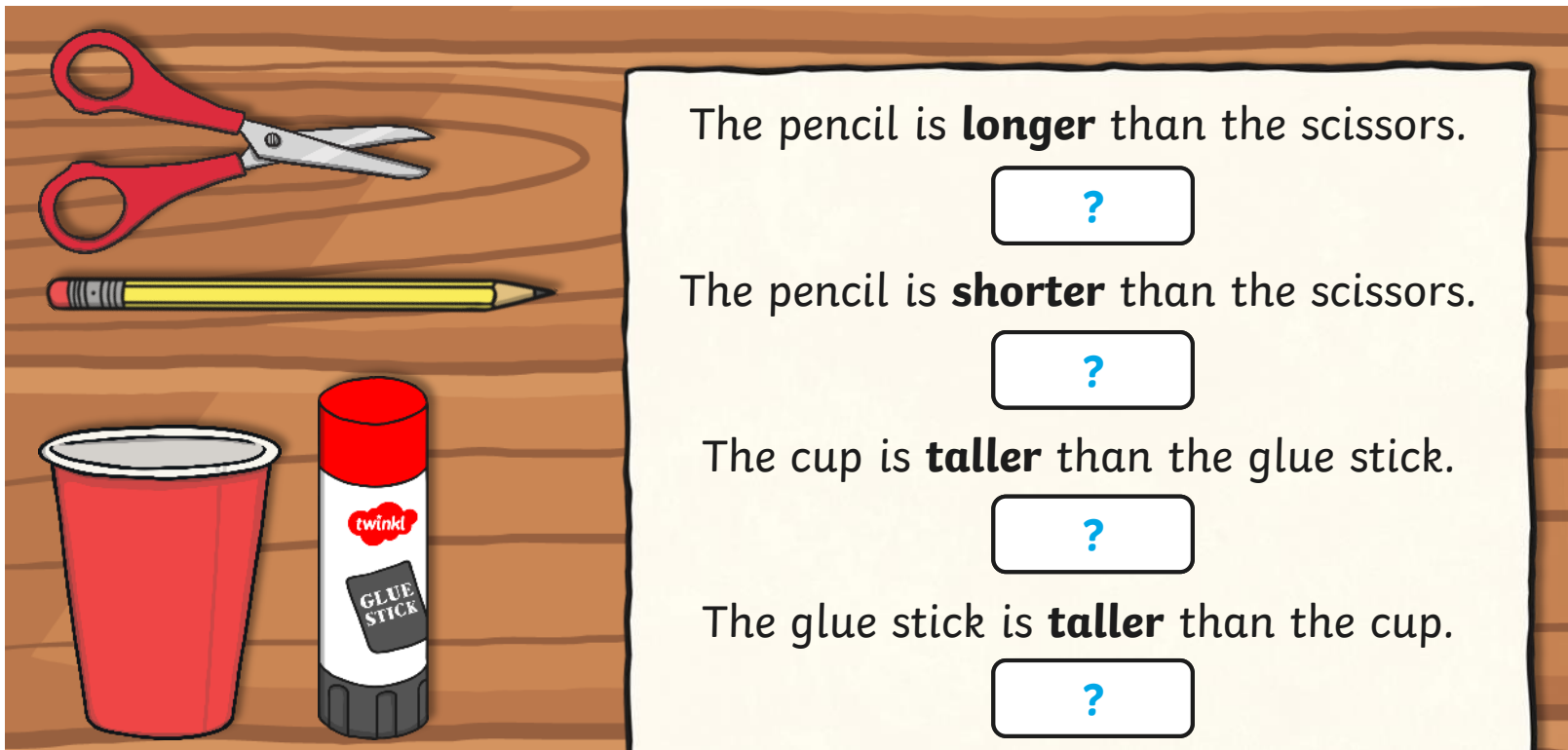
Success Criteria

- I can name some tools used for measuring in centimetres.
- I can understand how to use different rulers to measure in centimetres.
- I can measure how long or tall an object is in centimetres.
- I can measure how long or tall a line is in centimetres.

Remember It



Compare the length and height of these objects.
Are the sentences true or false? How do you know?



The pencil is **longer** than the scissors.

?

The pencil is **shorter** than the scissors.

?

The cup is **taller** than the glue stick.

?

The glue stick is **taller** than the cup.

?

Measuring



If we want to find out how tall or long something is, we can measure it.

We have been measuring using paperclips, cubes and our hands.

Are all our hands the same size?
How might that make measuring tricky?



Measuring



If we want to find out how tall or long something is, we can measure it.

When we measure, we can use **standard units** so we can compare measurements and talk about them with other people.

We can measure length and height in **centimetres**.

We can write centimetres as cm.
5 centimetres = 5cm



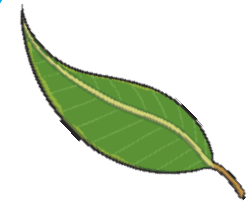
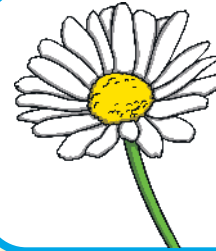
Measuring



Your fingernail is about 1cm long.



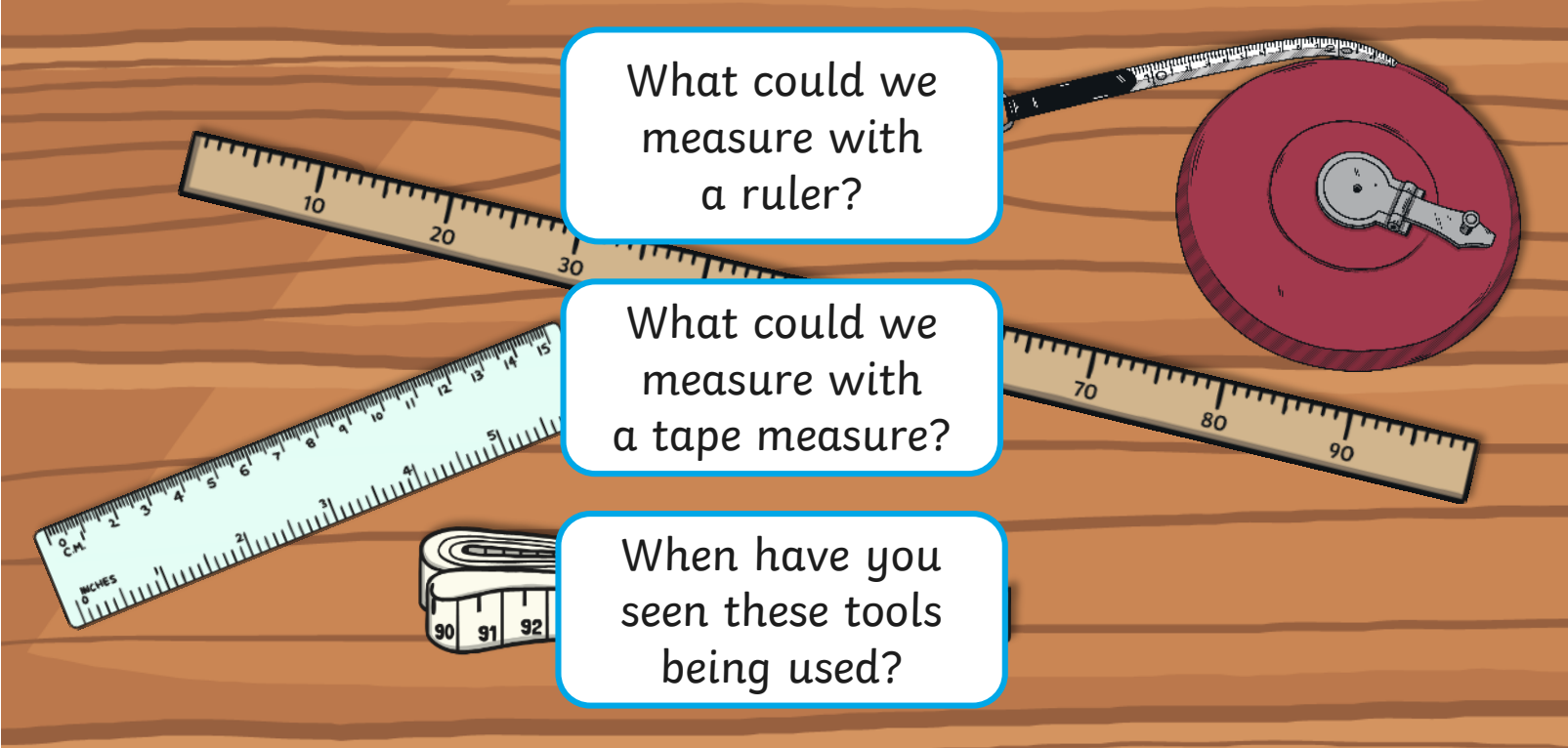
and measure these things
in centimetres.



Measuring



Rulers and tape measures are both tools we use to measure heights and lengths.

An illustration of various measuring tools on a wooden surface. It includes a wooden ruler with markings from 10 to 30, a green ruler with markings from 0 to 15, a white folding tape measure with markings 90, 91, and 92, and a red retractable tape measure. Three blue speech bubbles with white text are overlaid on the image, each pointing to a different tool.

What could we measure with a ruler?

What could we measure with a tape measure?

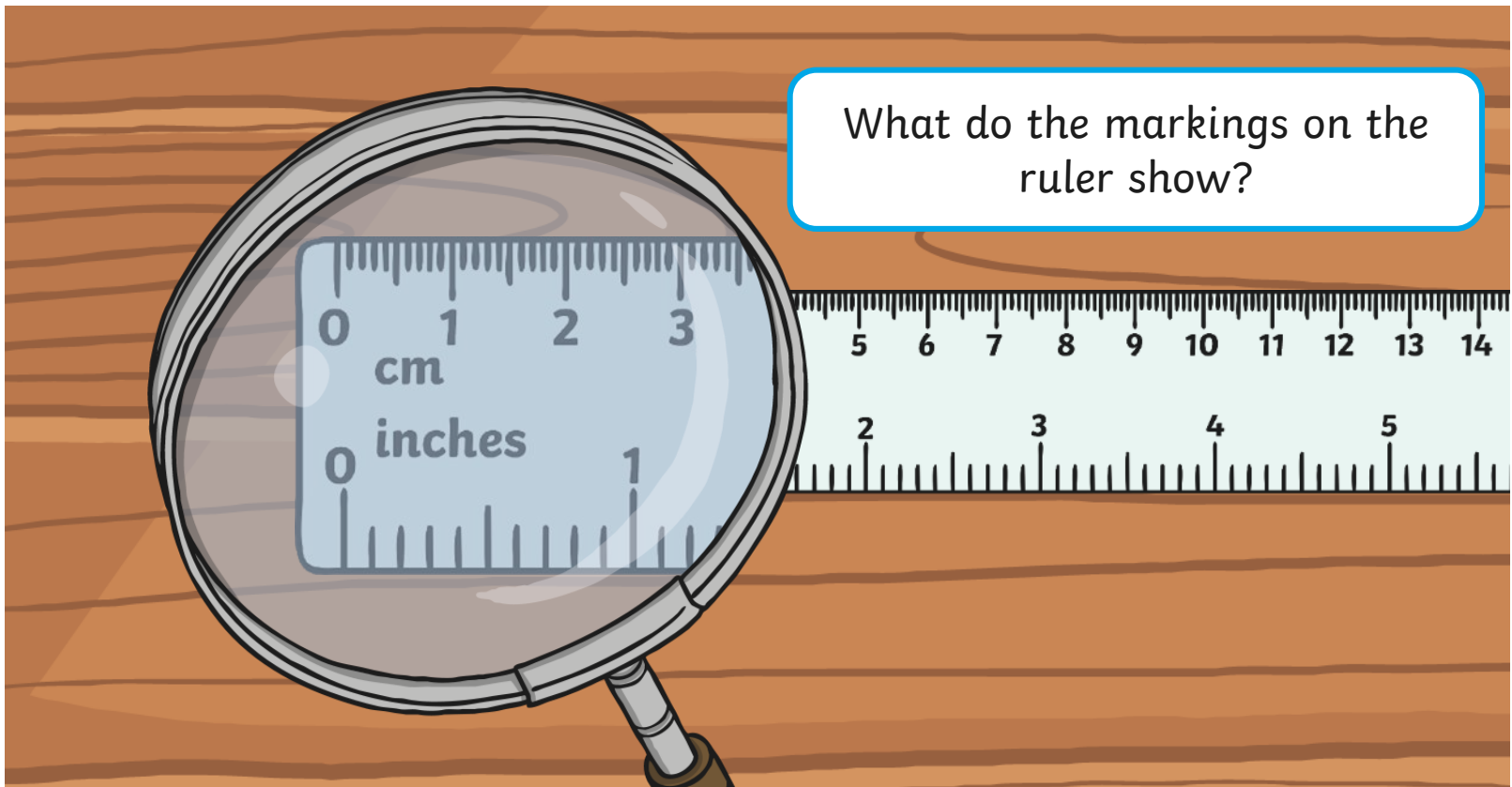
When have you seen these tools being used?

Investigate Your Ruler



Look at the ruler. What do you see?

What do the markings on the ruler show?

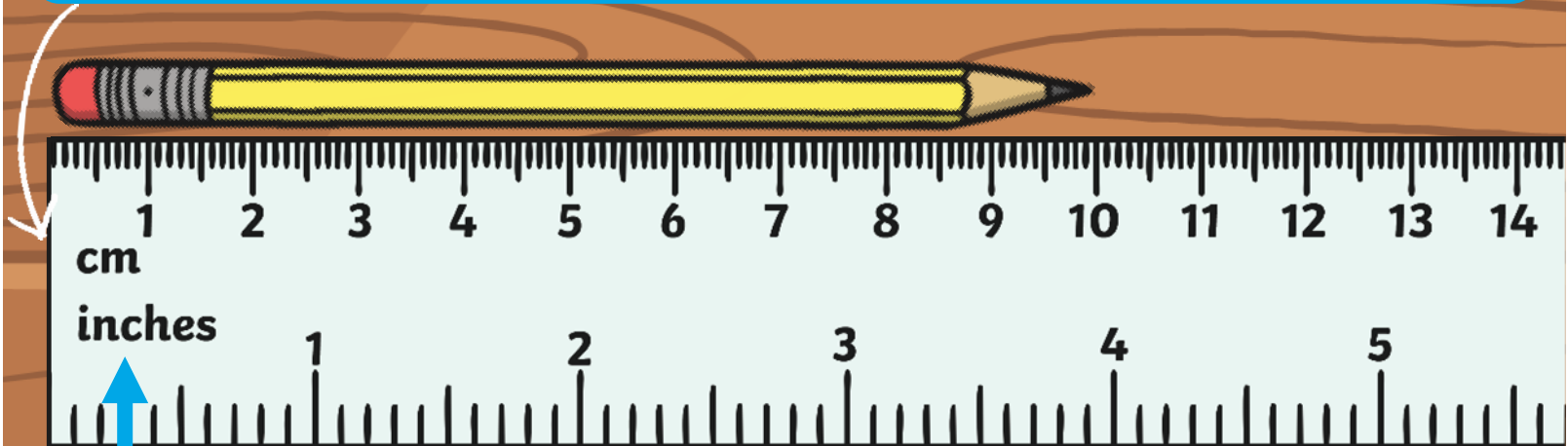


Investigate Your Ruler



Look at the ruler. What do you see?

Some rulers start at the 0 mark.
You can line up the thing you are measuring with the end of these rulers.

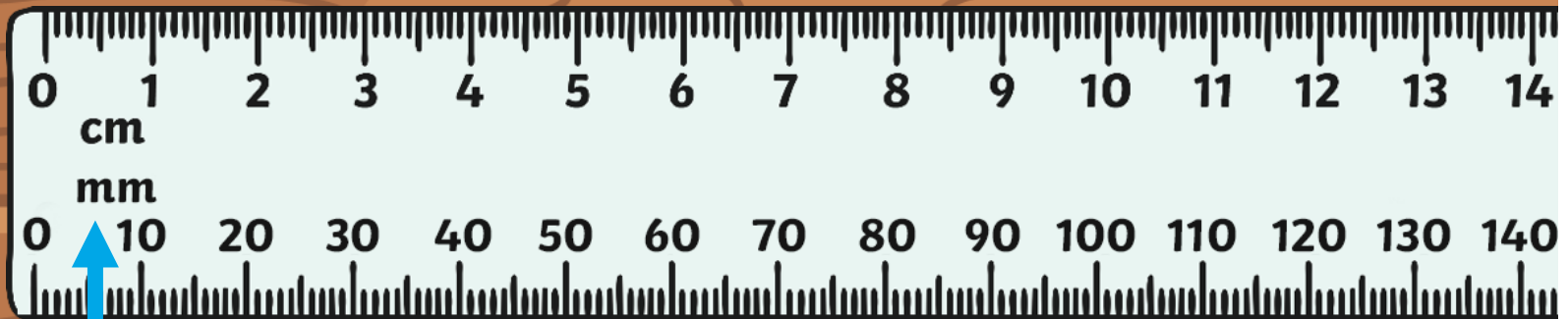


Some rulers have measurements in inches on them too.

Investigate Your Ruler



Some rulers have the numbers in-between the centimetre markings.



Some rulers have measurements in millimetres on them too.
There are 10mm in 1cm.

Investigate Your Ruler



Some rulers have the numbers in-between the centimetre markings.
You can start measuring from the end of the ruler.



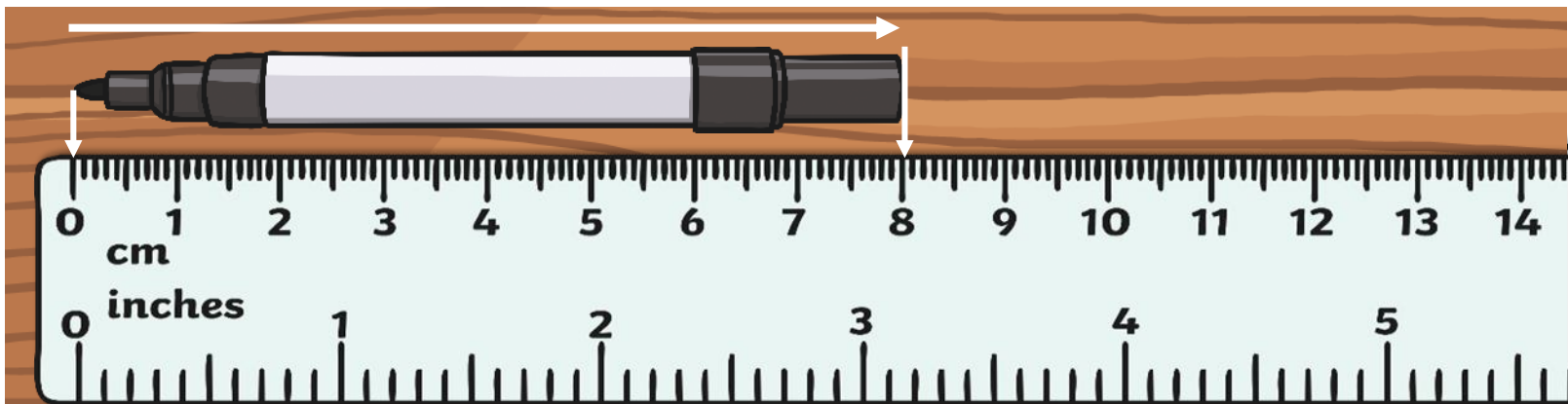
To measure with this type of ruler, look at the number in the space
before the centimetre marking.

This pencil is 10cm long.

Using a Ruler to Measure



1. Make sure the thing being measured is lined up with 0. This might be the end of your ruler.



2. Make sure the object is straight and lined up along the ruler.

3. Look at the end of the thing being measured. Read the number on the ruler.

How long is this pen?

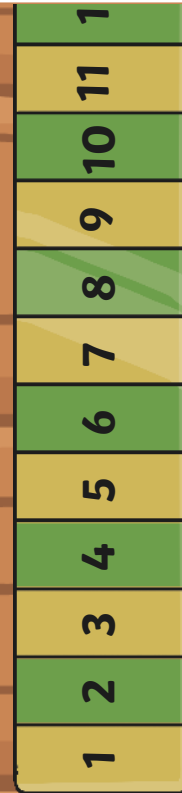
This pen is 8cm long.

Using a Ruler to Measure



You can use a ruler to measure how tall something is like this:

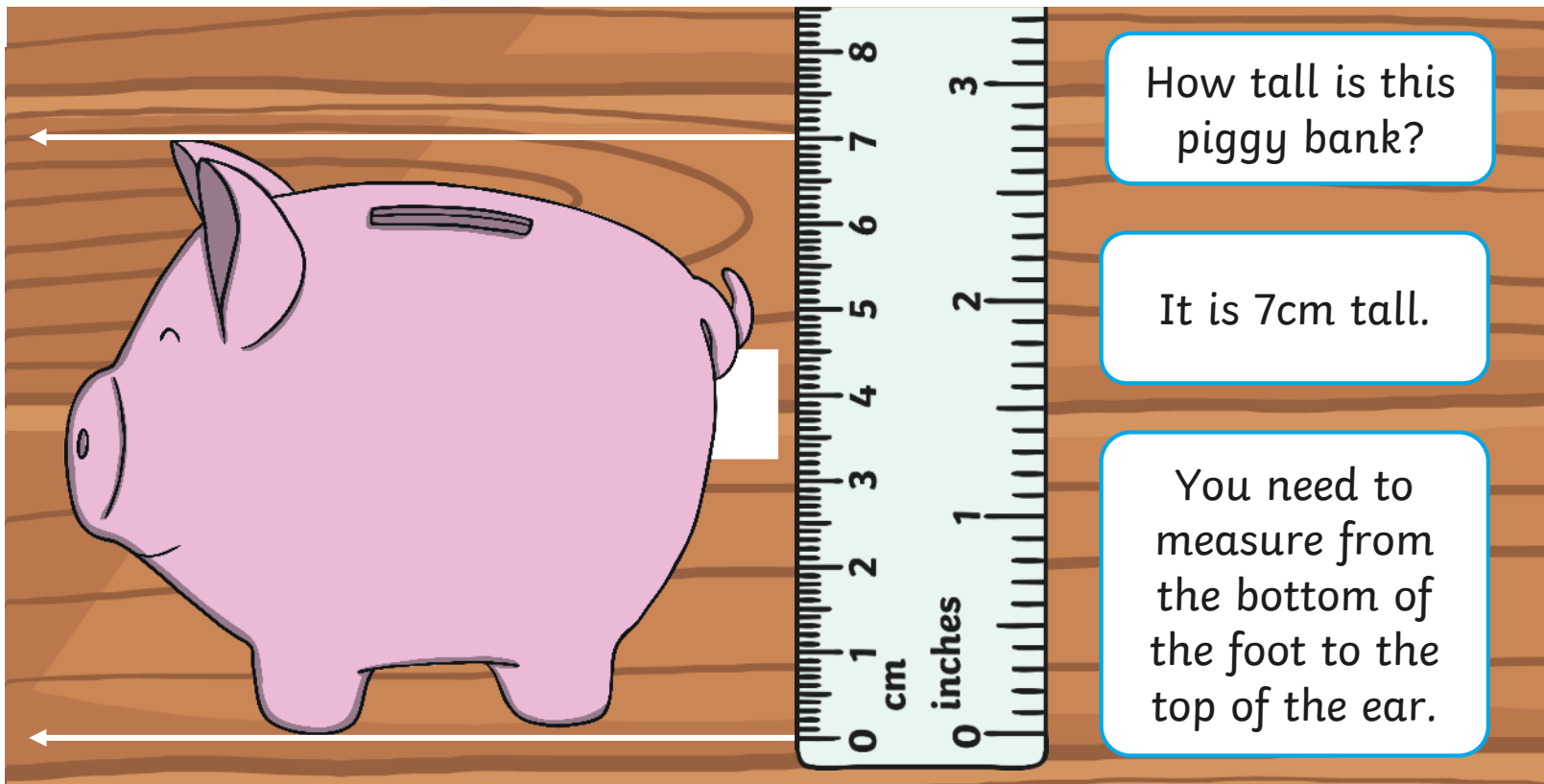
But, you might find it easier to lie the object down on a table and measure it that way.



Using a Ruler to Measure



When measuring the length or height of an object, it's important to find the correct start and end points.



How tall is this piggy bank?

It is 7cm tall.

You need to measure from the bottom of the foot to the top of the ear.

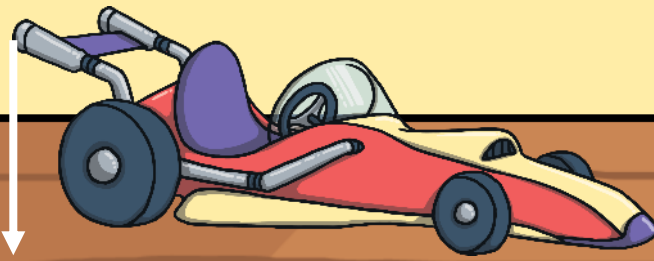
Using a Ruler to Measure



When measuring the length or height of an object, it's important to find the correct start and end points.

They haven't found the correct start point.

This toy car is 11cm long.



Using a Ruler to Measure

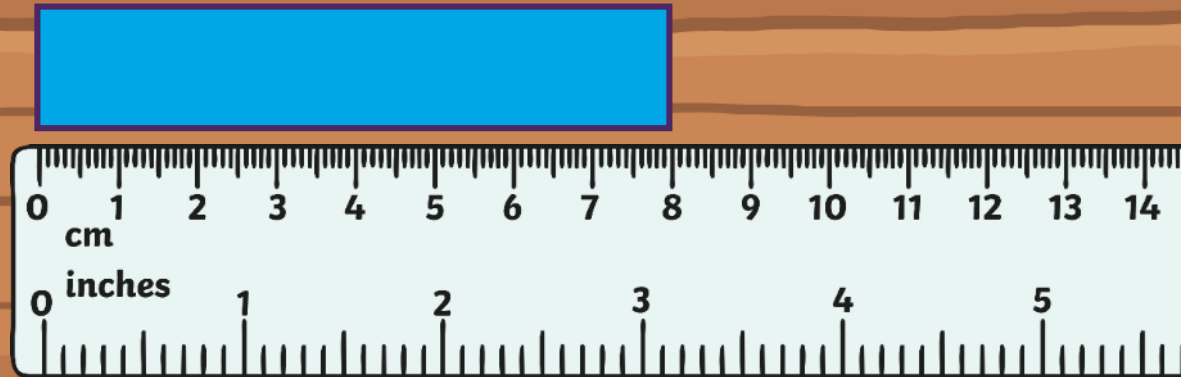


We can also use rulers to measure the lengths of lines or sides of a shape. How long are these? How do you know?

The line is
14cm long.



The side of
the rectangle
is 8cm long.

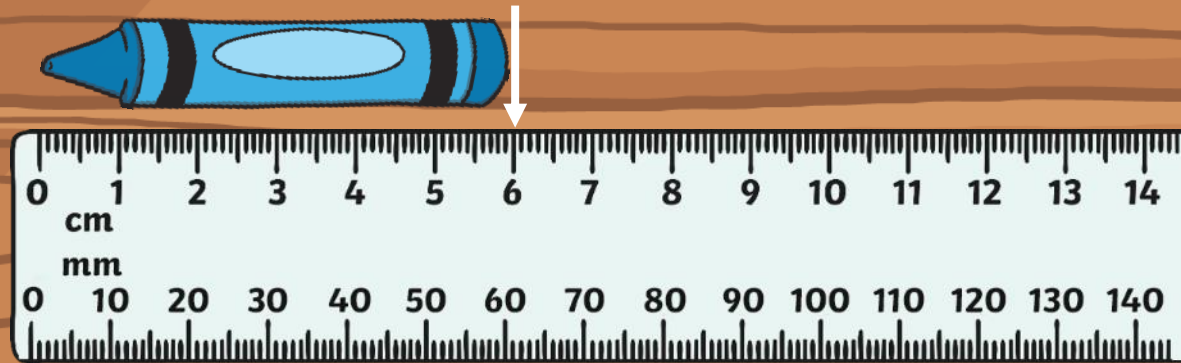


Get Measuring!

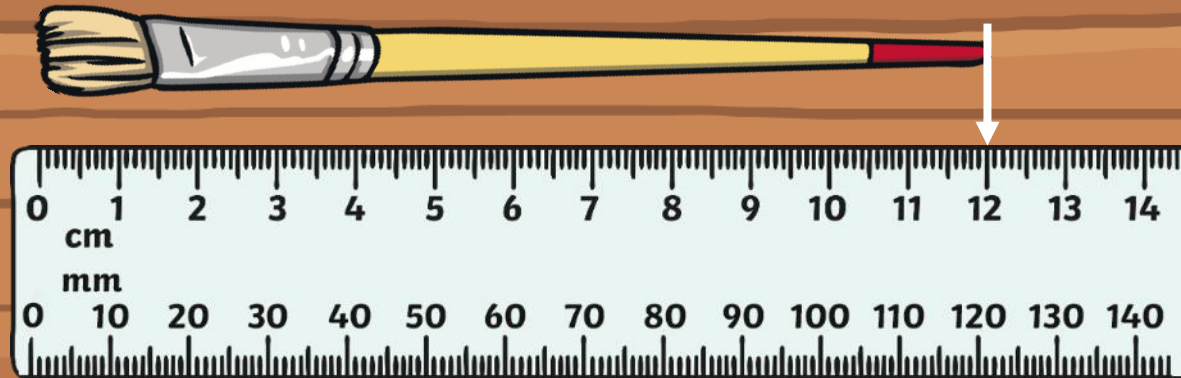


The paintbrush is the longest.

The crayon is
6cm long.



The
paintbrush is
12cm long.



Get Measuring!

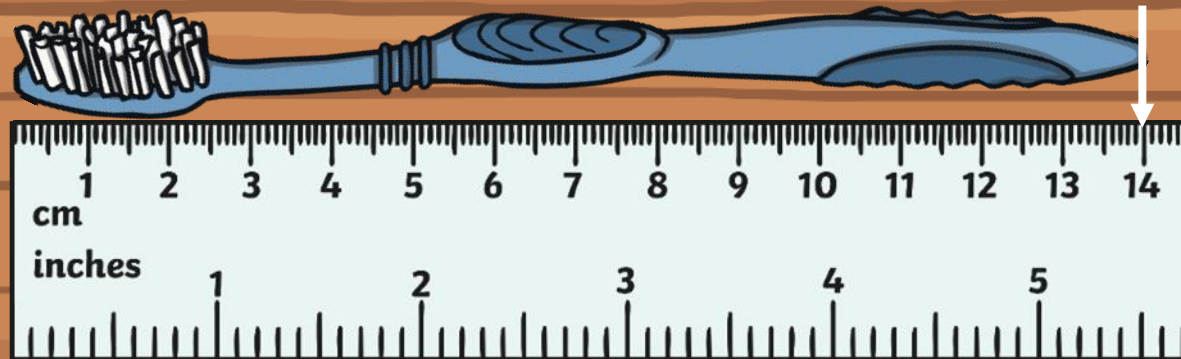


The paperclip is the shortest.

The paperclip is 3cm long.



The toothbrush is 14cm long.



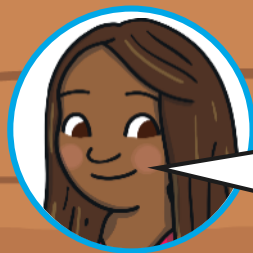
Measurement Check



Can you check if the children are measuring correctly?



The pencil should be lined up with the end of the ruler, not 1cm.



My pencil is 10cm long.

Measurement Check

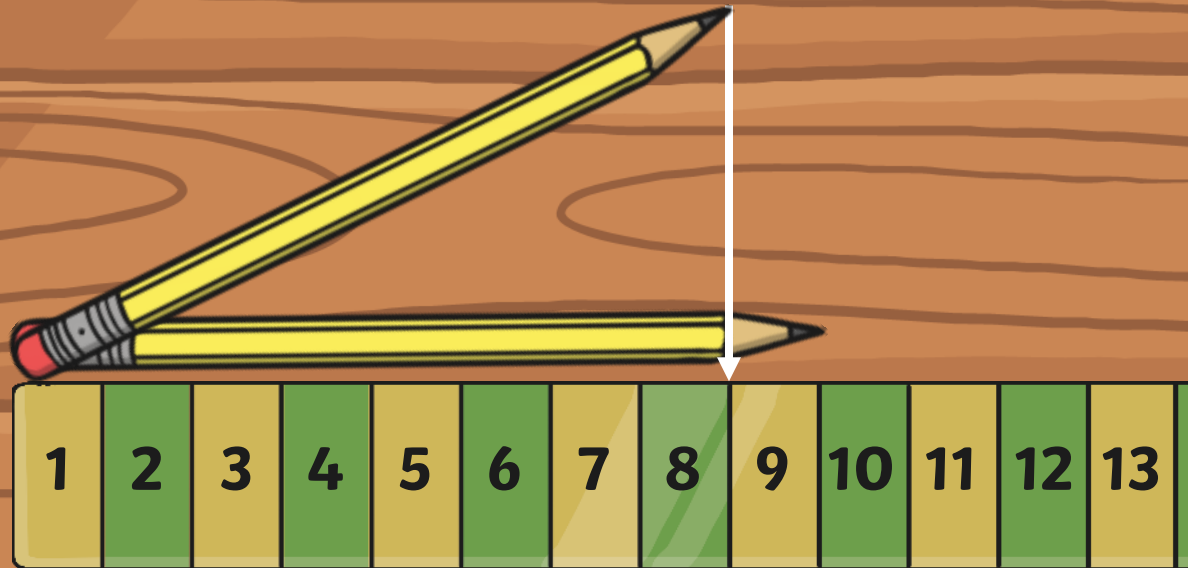


Can you check if the children are measuring correctly?

My pencil is 8cm long.



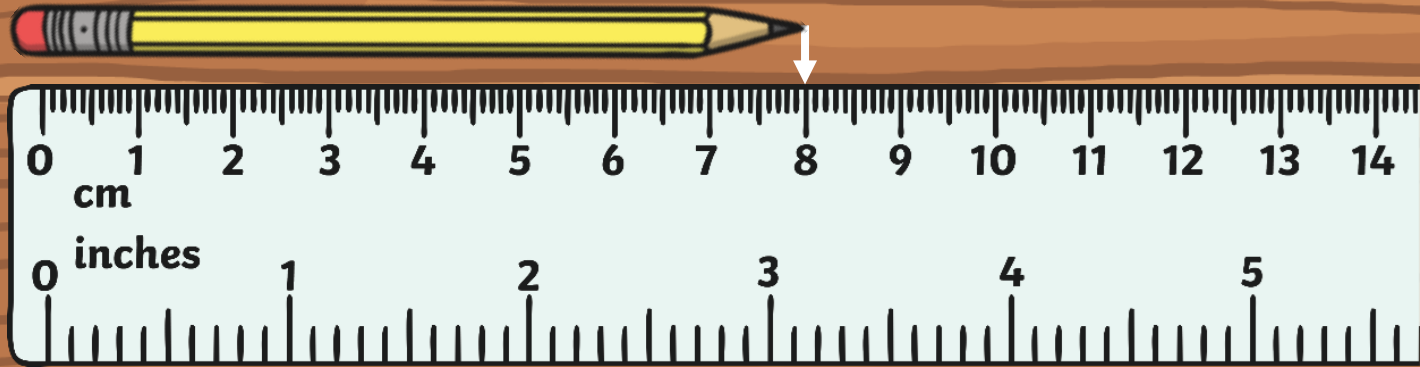
The pencil should be lined up along the ruler all the way along.



Measurement Check



Can you check if the children are measuring correctly?



The pencil should be lined up with 0, not the end of the ruler.

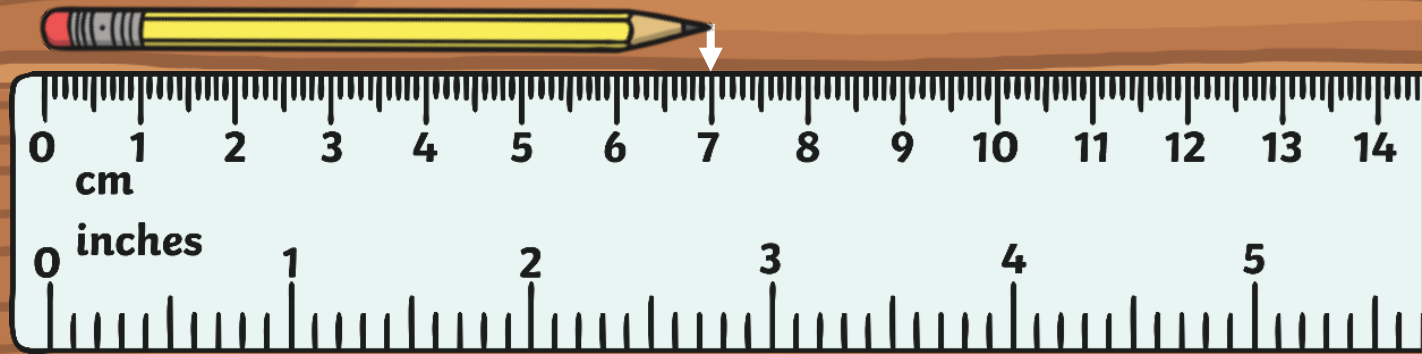


My pencil is 8cm long.

Measurement Check



Can you check if the children are measuring correctly?



They forgot to include the units.



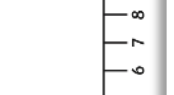
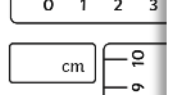
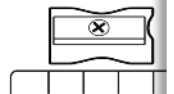
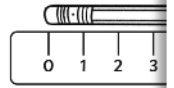
My pencil is 7 long.

How Tall?



Measuring Length

Use the ruler to measure the length of the pencil. Write the length in centimeters (cm) in your answer box.



Use your ruler to measure the length of the pencil. Write the length in centimeters (cm) in your answer box.

A _____

B _____

C _____

D _____

Finish this sentence:
The **longest** line is _____

Use your ruler to measure the length of the rubber. Write the length in centimeters (cm) in your answer box.

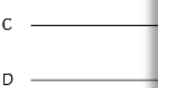
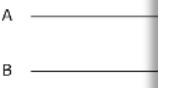
E _____

cm

Finish this sentence:
The **tallest** line is _____

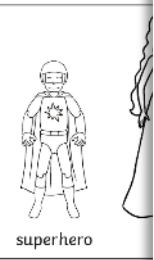
Measuring Length

Use your ruler to measure the length of the straw. Write the length in centimeters (cm) in your answer box.



Finish this sentence:
The **longest** line is _____

Use your ruler to measure the length of the superhero. Write the length in centimeters (cm) in your answer box.



superhero

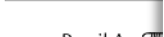
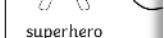
E _____

cm

Finish this sentence:
The **tallest** line is _____

Use your ruler to find the lengths and heights of the objects. Write the length in centimeters (cm) in your answer box.

longer



Measuring Length

Use your ruler to measure the length of the pencil. Write the length in centimeters (cm) in your answer box.



The **longest** line is _____

The **shortest** line is _____

Use your ruler to measure the length of the rubber. Write the length in centimeters (cm) in your answer box.

E _____

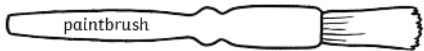
cm

Order the lines from _____


Measuring Length and Height

Measure the length of these objects. Tick the 2 that are the same length.

A  cm

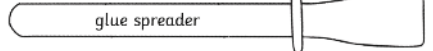
B  cm

C  cm

D  cm

E  cm

G  cm

F  cm

The longest object is _____

The shortest object is the _____

Which object is 9cm long? _____

Diving into Mastery

Dive in by completing your own activity!



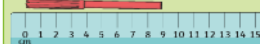
Using a Ruler

How long is the paintbrush?



The paintbrush is ____ cm long.

How long is the pen?



The pen is ____ cm long.

How tall is the pack of pencils?



The pack of pencils is ____ cm tall.

How tall is the pack of crayons?



The pack of crayons is ____ cm tall.

The _____ are shorter than the _____.

The _____ are taller than the _____.

Almost or Nearly



What if this happens?



We could say this pencil is **just over** 9cm.

Aim



- To measure length and height in centimetres.

Success Criteria

- I can name some tools used for measuring in centimetres.
- I can understand how to use different rulers to measure in centimetres.
- I can measure how long or tall an object is in centimetres.
- I can measure how long or tall a line is in centimetres.

