



# Length and Height

For 5 +  
(year 2)

[whyplay.co](http://whyplay.co)

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# Here is an idea of skills covered in this pack.

## Notes and Guidance.

- Measuring to the nearest centimetre using a ruler or tape measure
- Measuring both length and height and focus on the importance of measuring from 0 rather than the end of the ruler or tape measure
- Beginning to measure larger objects using metres
- Beginning to understand that 100 centimetres is the same as 1 metre
- Compare lengths of different objects
- Using comparison language and symbols like; longest, shortest, longer than, shorter than etc.
- Ordering more than two lengths from shortest to longest
- Drawing of their knowledge of the four operations and apply this to their understanding of length

### Some things you could talk about

What do you think length means?

How can the numbers on the ruler help us?

If you draw a line, how could you check how long it is?

Where do you start to measure from on the ruler?

Which is longer, a centimetre or a metre?

Is there a difference between shorter than and longer than?

# Fun Fact Page

Metric Measurements

The most common measurements are:

- Millimetres
- Centimetres
- Metres

mm = millimetres  
cm = centimetres  
m = metres

The very smallest of the measurements shown above is the mm (millimetre).

It's about the thickness of a plastic card.

See if you can find the mm's on a ruler.

The next biggest is the cm (centimetre)

It takes 10 mm to make 1 cm.

Your fingernail is about 1cm wide.

Have a look at your ruler again and find the cm's.

The largest measurement of the three is the metre.

It takes 100 cm to make 1 m

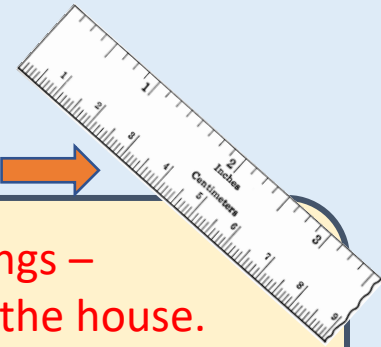
What do you think you  
would measure in  
metres?

# Measuring things around the house with a ruler



Not that kind of ruler.

THIS KIND



For this you will need a ruler and 10 things – smaller than a ruler that you can find around the house.

Remember to line up the object to the 0 mark!

Object	Size

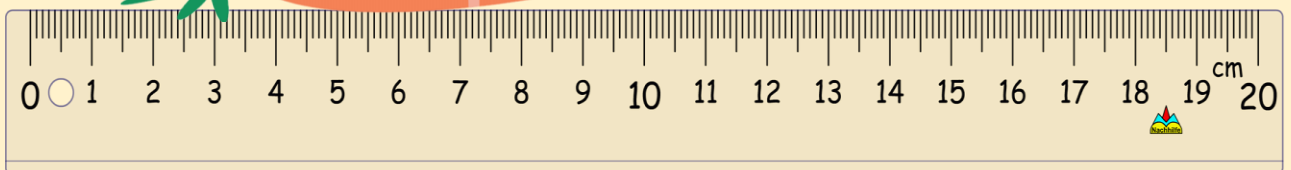
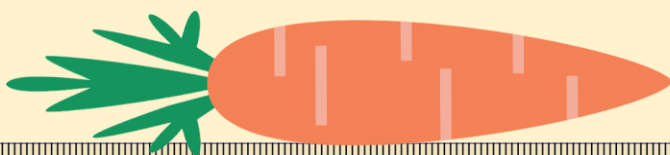
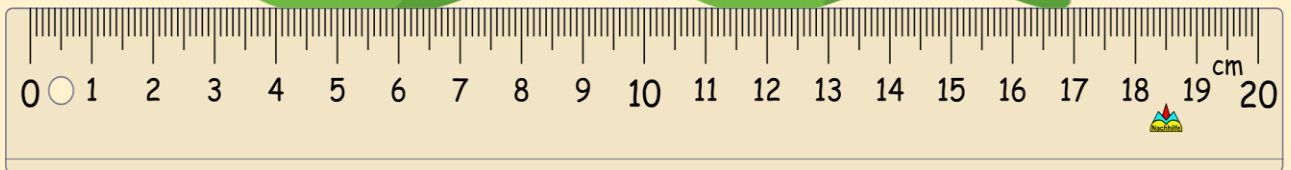
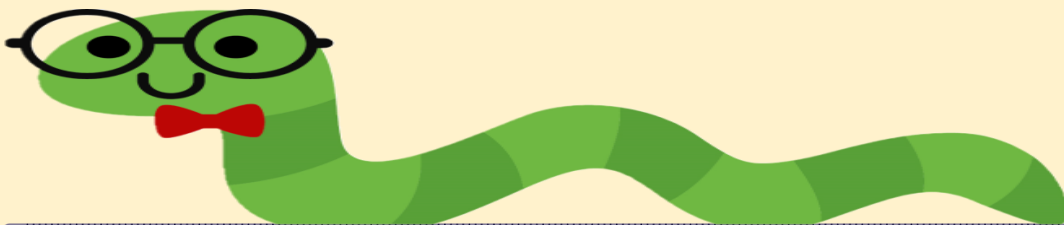
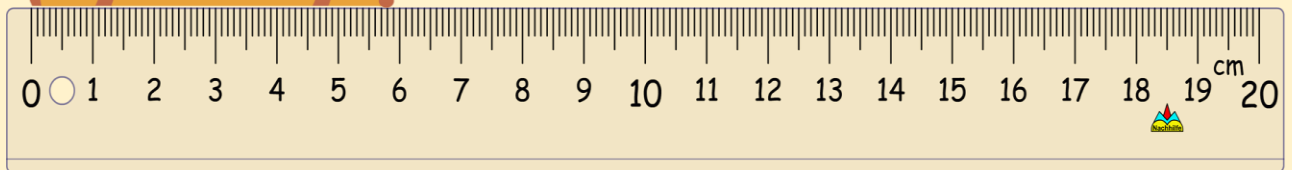
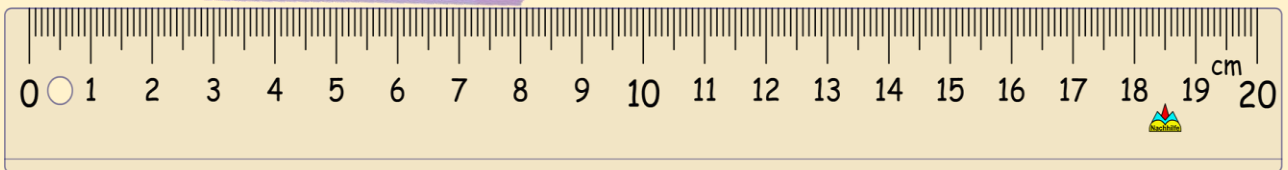
What was the biggest object?  
What was the smallest object?

I found out that the .....  
was the biggest.

I found out that the .....  
was the smallest

## Measure to the nearest centimetre

Have some more practise with these objects.  
Measure to the nearest centimetre.



# What objects can you find to measure the height of?

Let's start with this glass.  
How tall is it?



List your height objects here.



Let's have fun drawing lines with a ruler

Draw a line 4 centimetres long

Draw a line 9 centimetres long

Draw a line 2 centimetres long

**Draw a line longer than 3 cm, but shorter than 11 cm**





How long is  
a piece of  
string?

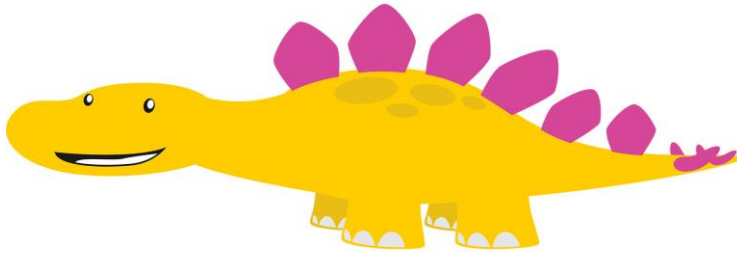
Can you help find out?  
How would you find out the length of  
a piece of string?  
Write your answers in the box below.

A large, empty rectangular area with a dashed green border, intended for writing answers.

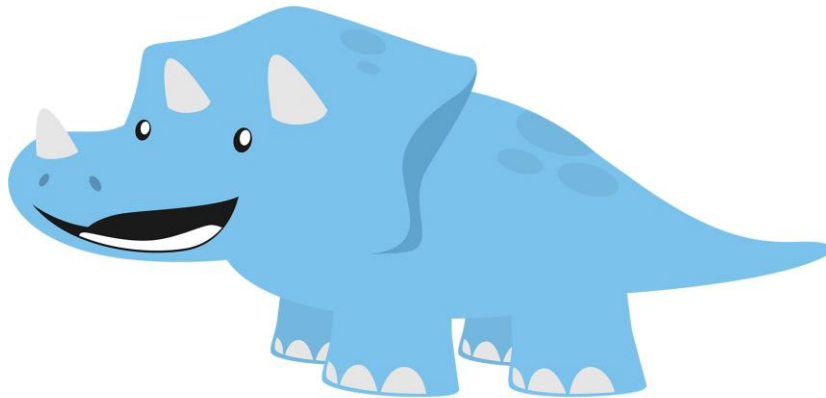
# Have they measured correctly?



Ben says "My dinosaur is 10cm long."



Polly says "My dinosaur is 14cm long."



Is Ben correct?

Is Polly correct?

Can you explain your answer?

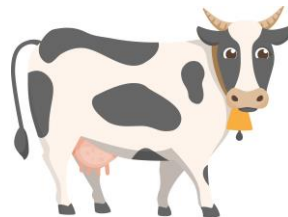
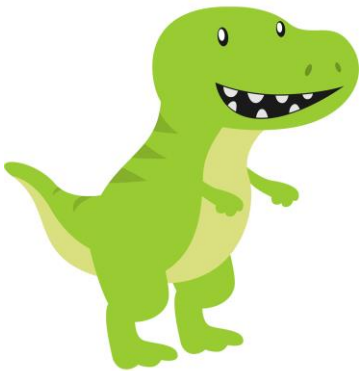
# Metres – Centimetres and Millimetres



A mm is very tiny.  
You will find 10 mm in each cm.  
Look at your ruler and see if you can find mm.  
A cm is quite small and we have measured a lot  
of things with cm.  
But what do we use if we want to measure even  
bigger things?

**We use a Metre.**  
**There are 100 cm in 1 m**

Circle the animals in **red** that you would measure in metres.  
Circle the animals in **blue** that you would measure in cm.



metres

# Challenge!!!

How could you make your own  
metre stick?

What would you use?

How would you make sure you  
metre stick measured one metre?

Equipment you might use:

A stick

Strips of cardboard

Strips of paper

Tape

A ruler

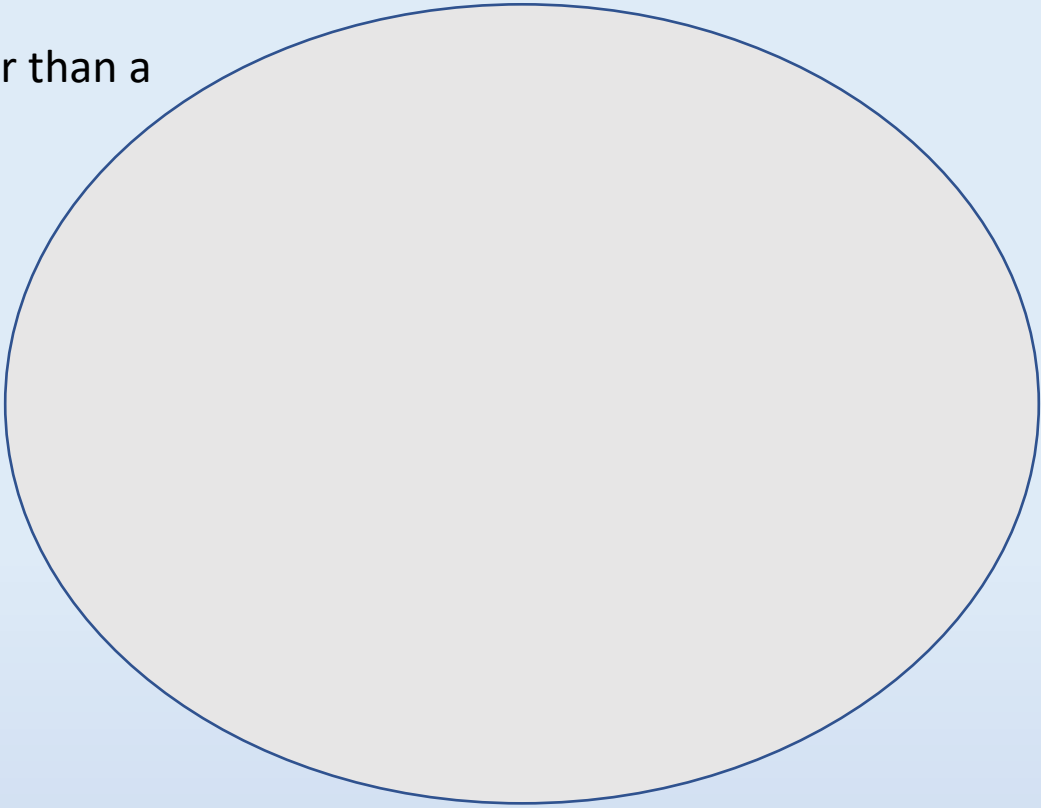
Pens

Scissors

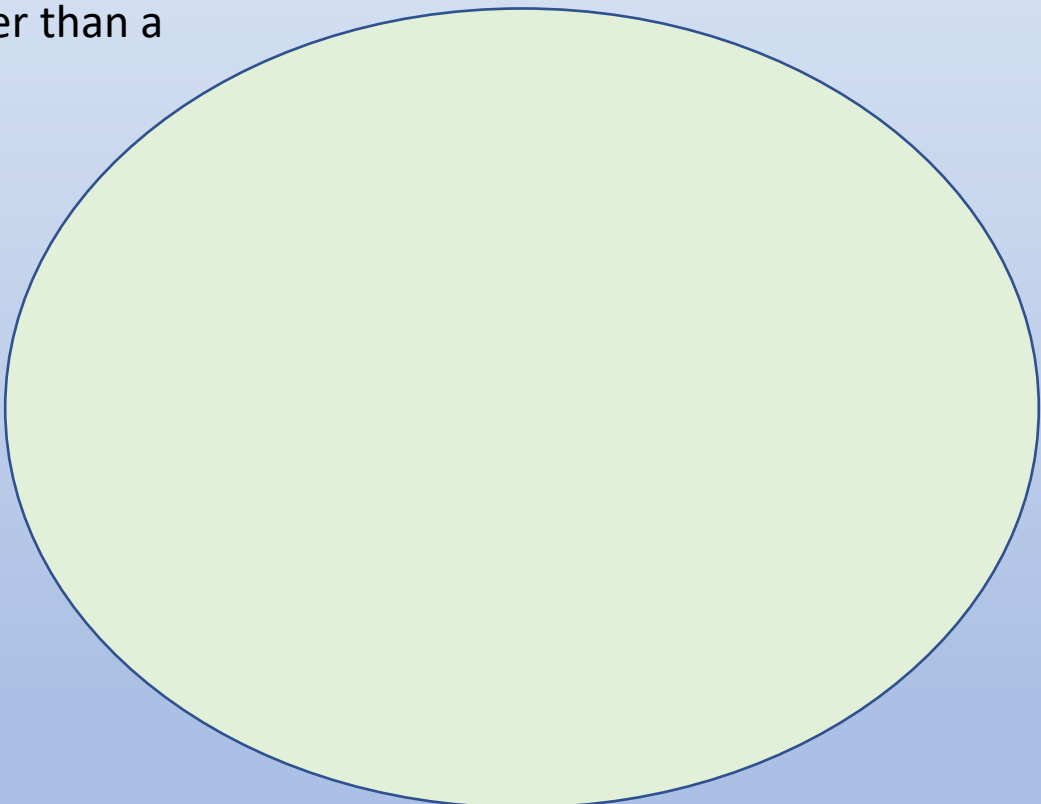
(what other things could you use?)

**When would you use metres?**  
Have a look around the room. What objects  
can you see to fill in the ovals below?

Longer than a  
metre



Shorter than a  
metre



# How tall are you?

**Work with a partner and measure the people in your house.**

**Write down their names in order of their heights, starting with the shortest.**

**Don't forget to draw pictures to go with the measurements.**

# Estimating in Maths

How clever are you at guessing?

I would guess you're very smart at guessing.

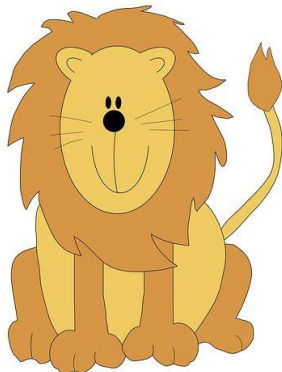
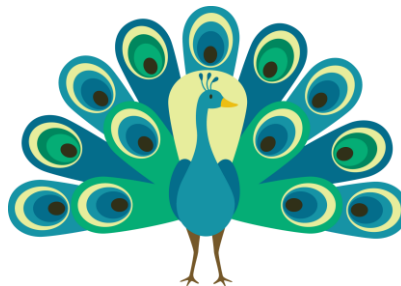
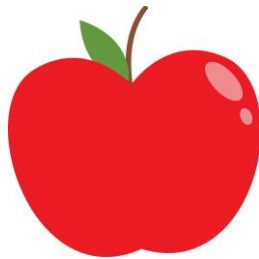
**An estimate is just a very clever guess.**

Have a good look at your ruler. Can you find 20cm?

Now look at these pictures.

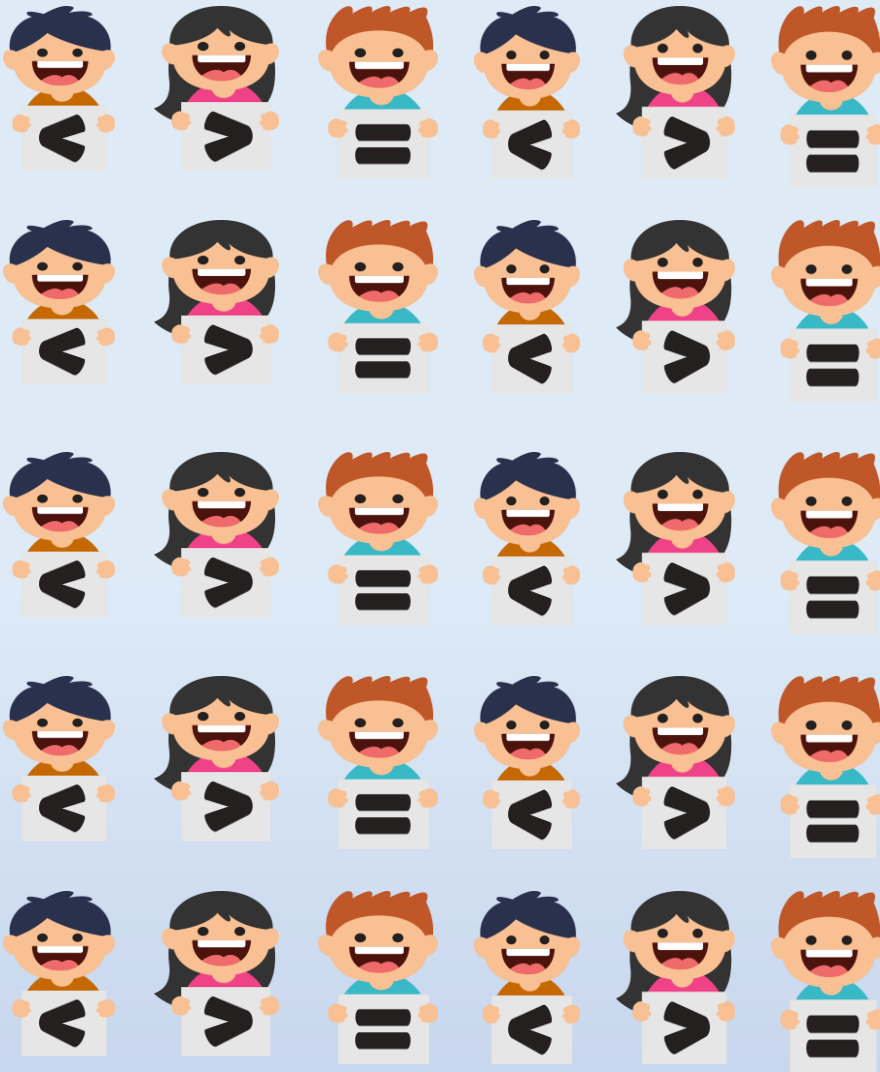
Circle the ones in **blue** that might be more than 20cm.

Circle the ones in **red** that might be less than 20cm.





Cut out these friendly symbols and use them to answer the questions on the next page.



For example:

24 cm is  15 cm

58 mm is  94 mm



We are going to compare the lengths  
using  $<$ ,  $>$  or  $=$

Glue in the correct symbol

13 cm is  15 cm

Twenty metres is  20 m

8 metres is  8 cm

96 mm is  69 mm

49 cm is  49 centimetres

24 m is  24 centimetres

30 mm is  3 cm

60 metres is  60 mm

We are going to compare the lengths using  $<$ ,  $>$  or  $=$

Part 2

Draw in the correct symbol

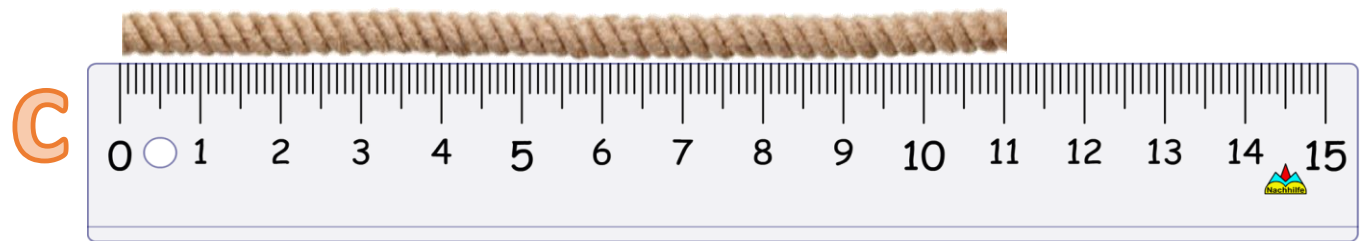
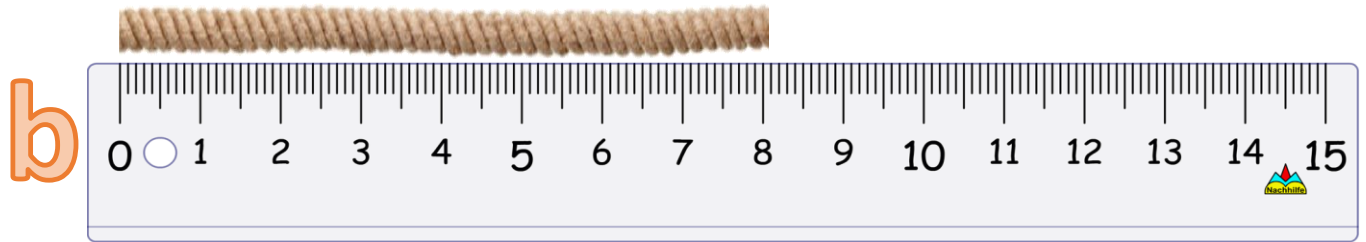
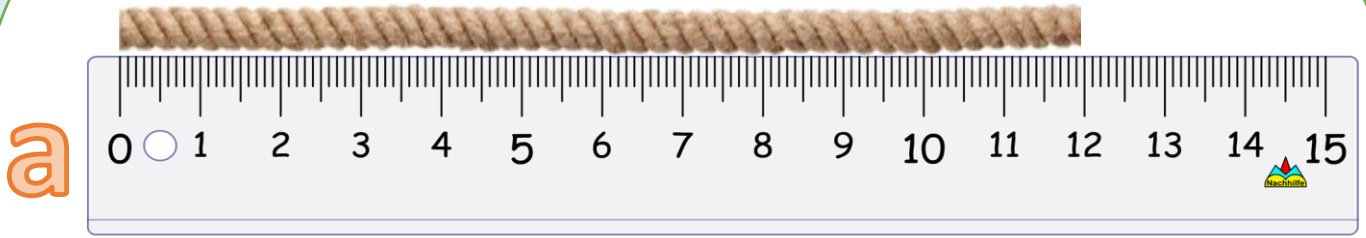
$25\text{cm} + 10\text{cm}$	<input type="text"/>	$35\text{cm}$
$50\text{cm}$	<input type="text"/>	$42\text{cm} - 2\text{cm}$
$25\text{cm} + 25\text{cm}$	<input type="text"/>	$30\text{cm} + 15\text{cm}$
$90\text{cm} + 10\text{cm}$	<input type="text"/>	$1\text{m}$
$100\text{cm}$	<input type="text"/>	$75\text{cm} + 20\text{cm}$

Now us the words using

**longer than, shorter than, or the same as**

$25\text{cm}$	<input type="text"/>	$10\text{cm} + 15\text{cm}$
$5\text{ metres}$	<input type="text"/>	$5\text{m}$
$90\text{cm} - 20\text{cm}$	<input type="text"/>	$\text{Sixty cm}$
$48\text{cm}$	<input type="text"/>	$20\text{cm} + 20\text{cm}$
$22\text{cm} + 8\text{cm}$	<input type="text"/>	$34\text{cm} - 3\text{cm}$
$10\text{cm}$	<input type="text"/>	$\text{Ten metres}$

# Compare Lengths



\_\_\_\_\_ is the longest rope

\_\_\_\_\_ is the shortest rope

\_\_\_\_\_ rope is shorter than **C**

**c** and **b** added together make a total of \_\_\_\_\_

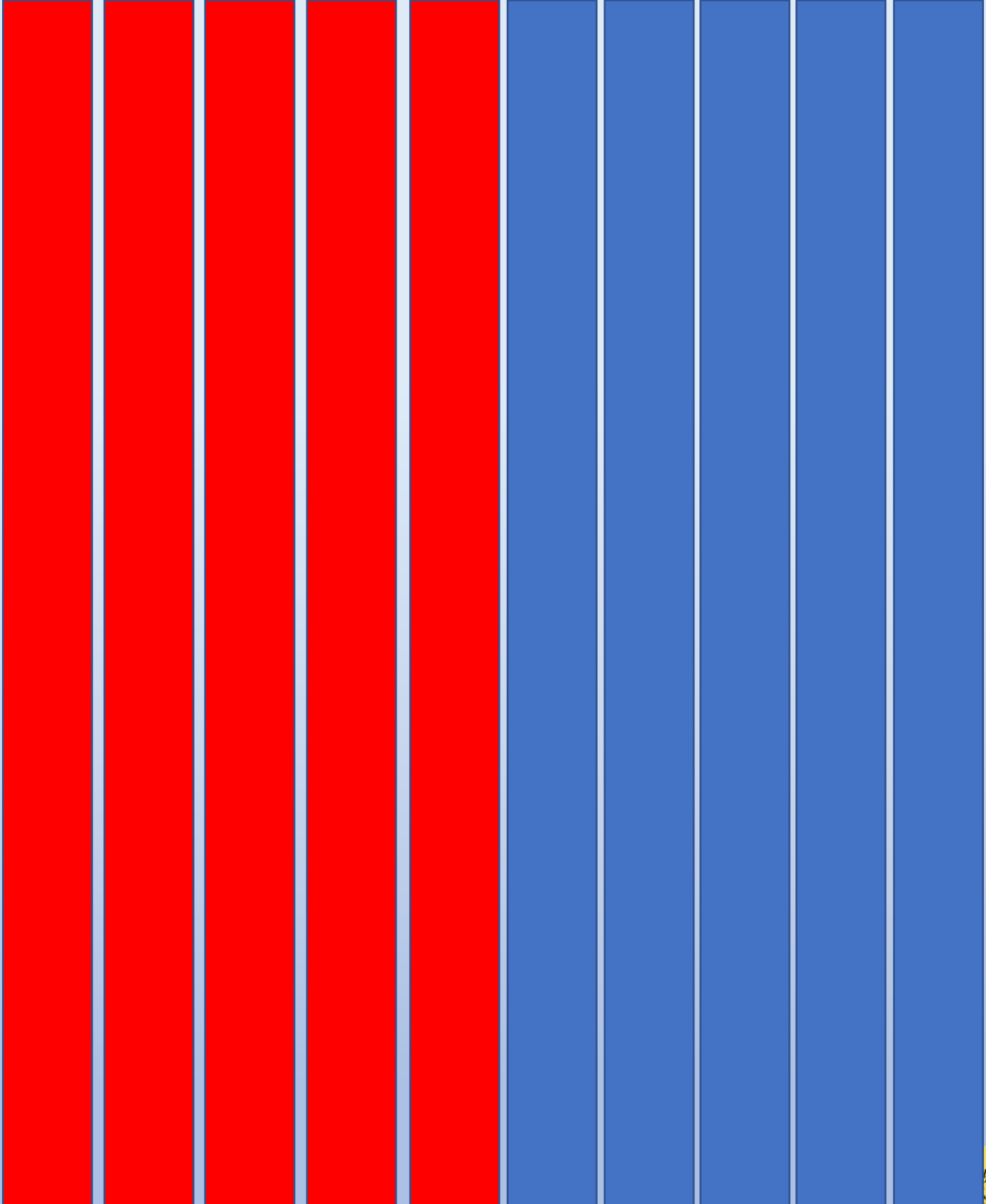
Shortest rope to longest rope

\_\_\_\_\_

# Problem Solving

First cut out the strips of paper. Then measure them carefully so that the blue strips are 10cm long and the red strips are 20cm long.

Like this.



# Problem Solving

20cm

20cm

Problem solving using lengths:

1. What is bigger 3 blue strips or 2 red strips?
2. What can you find that is more than 1 blue strip and less than 1 red strip?
3. If you put 2 blue strips end to end and added 1 red strip, what would the length be?
4. How many different ways can you make 40cm using the blue and red strips?
5. Can you work out how long  $\frac{1}{2}$  of a red strip is?
6. Can you work out how long  $\frac{1}{2}$  of a blue strip is?
7. How many blue strips are the same size as 2 red strips?
8. How many blue strips are the same as 3 red strips?
9. How many blue strips are the same as 4 red strips?
10. Can you see a pattern? Can you work out how many blue strips are the same as 10 red strips?

20cm

10cm

# Reasoning with lengths

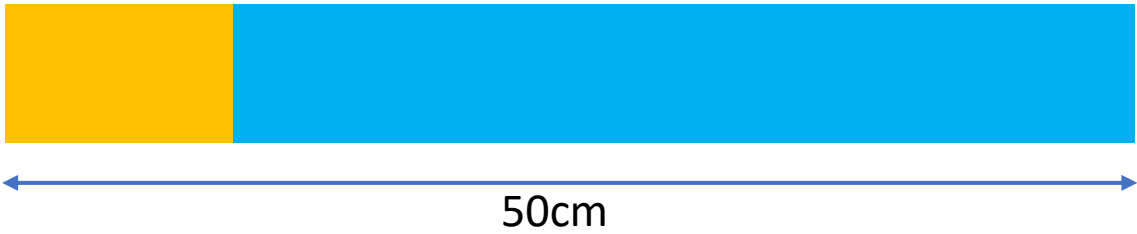
Here is a strip of orange paper.



The blue strip is four times longer than the orange strip.

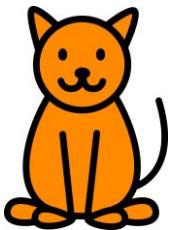


If the strips are put together the length is 50cm.



Can you work out how long the blue strip is? .....

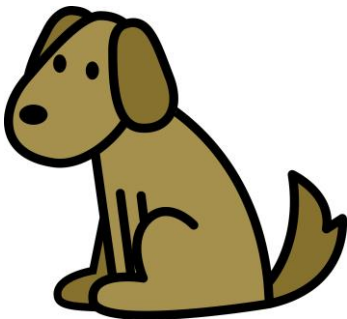
Can you work out how long the orange strip is? .....



My cat is 30cm tall.

My dog is 15cm taller.

How tall is my dog?

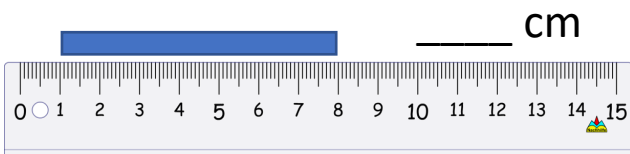
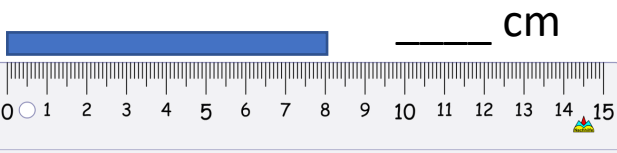




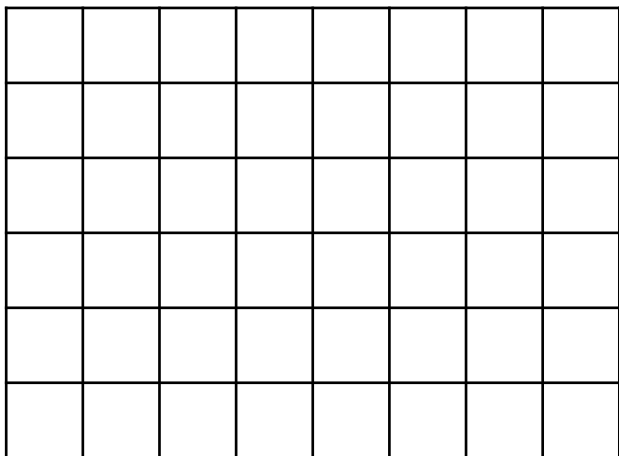
# How well do you know your measures?



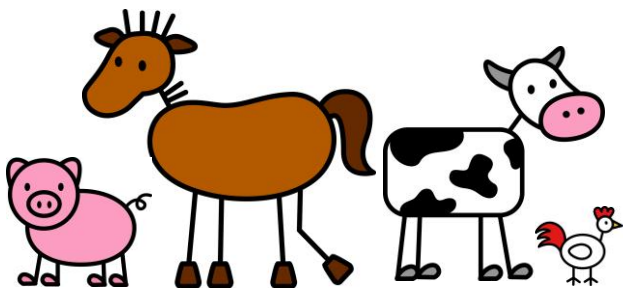
Write down the length of each bar.



On this cm square grid, draw a rectangle with a length of 6cm and a width of 4cm



Put the heights of these animals in order from tallest to shortest.



Use < > or = to compare these measures.

1 m \_\_\_\_\_ 100cm

3m \_\_\_\_\_ 28 cm

24cm \_\_\_\_\_ 1m

Complete the sentences using **cm** or **m**

My pen is 14 \_\_\_\_\_ long

My bedroom is 3 \_\_\_\_\_ wide

What is the height of 2 teddy bears



Circle how confident you feel I understand measures

A lot    A little    Not much