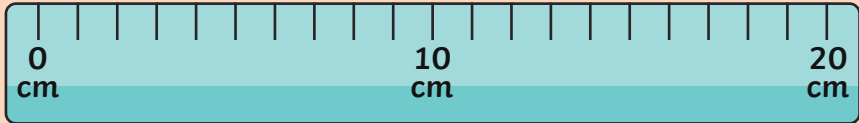


# Measuring and Estimating Length and Height

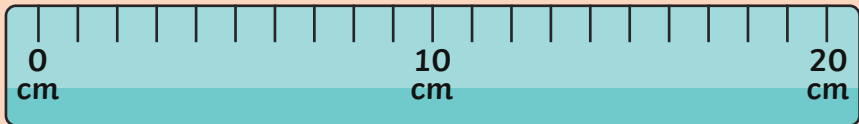


Measure the ribbons.

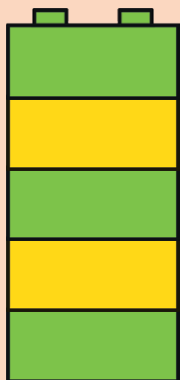
**A** 



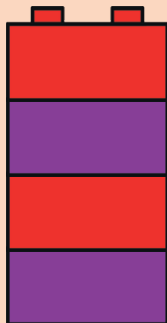
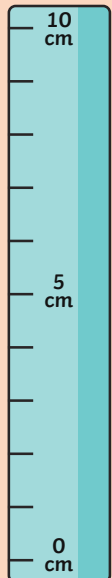
**B** 



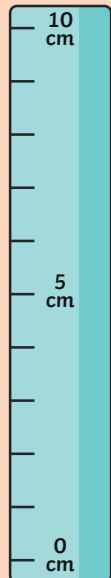
Ribbon \_\_\_\_\_ is the longest.



**A**



**B**



Estimate the height of the towers.

Tower \_\_\_\_\_ is the tallest.

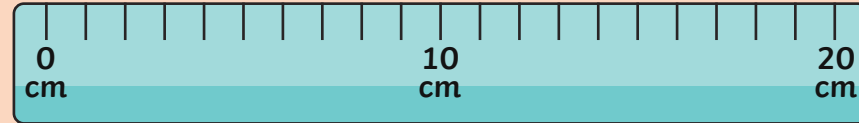
Tower \_\_\_\_\_ is the shortest.

# Measuring and Estimating Length and Height

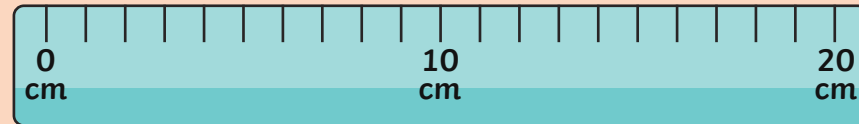


Measure the ribbons.

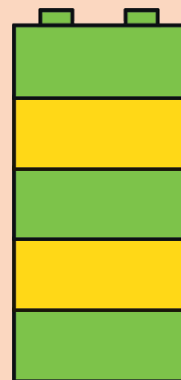
**A** 



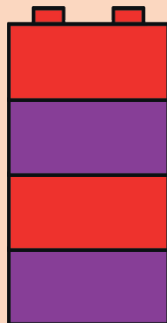
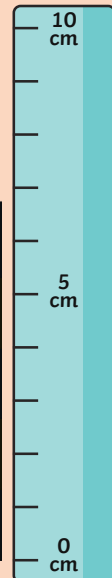
**B** 



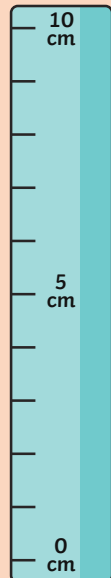
Ribbon \_\_\_\_\_ is the longest.



**A**



**B**



Estimate the height of the towers.

Tower \_\_\_\_\_ is the tallest.

Tower \_\_\_\_\_ is the shortest.

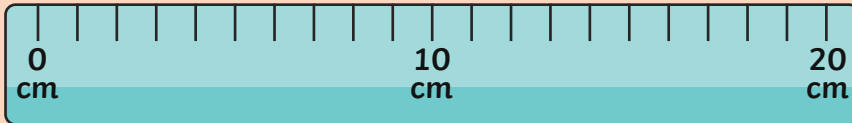
# Measuring and Estimating Length and Height



Ali is doing some measuring.



The battery is 6cm long.



The lolly stick measures 10cm.



The sweet is 4cm tall.



Do you agree? Convince me!



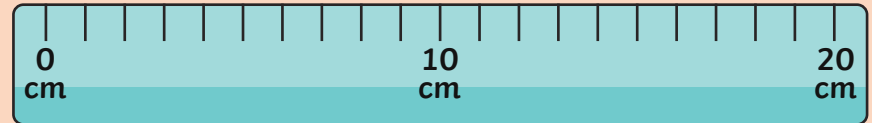
# Measuring and Estimating Length and Height



Ali is doing some measuring.



The battery is 6cm long.



The lolly stick measures 10cm.



The sweet is 4cm tall.



Do you agree? Convince me!

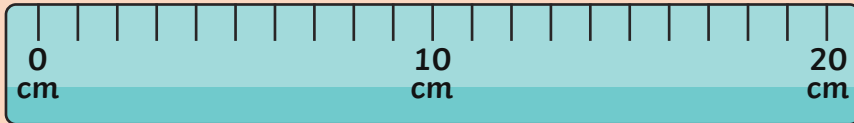


## Measuring and Estimating Length and Height

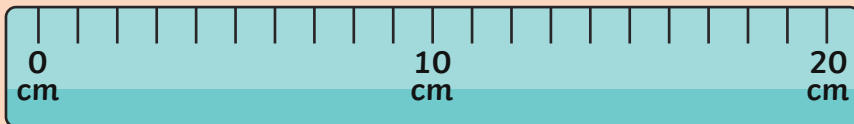


Class A had carrots for snack.

Ali's is this long.



Max's is shorter.



Mine is longer than Max's but shorter than Ali's.

Meg

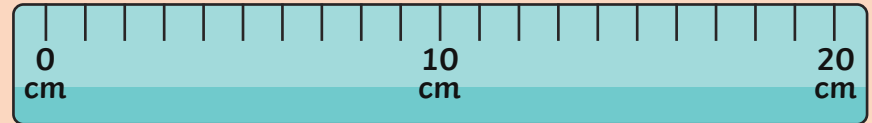
How long could Meg's carrot be?  
Find all the possible answers.

## Measuring and Estimating Length and Height

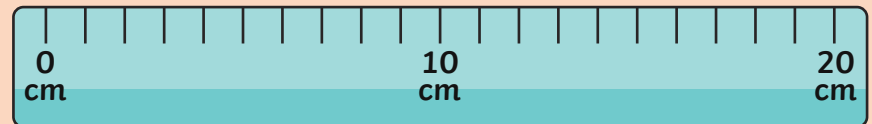


Class A had carrots for snack.

Ali's is this long.



Max's is shorter.



Mine is longer than Max's but shorter than Ali's.

Meg

How long could Meg's carrot be?  
Find all the possible answers.

# Measuring and Estimating Length and Height

## Adult Guidance with Question Prompts



Children use their place value knowledge to measure objects using a partially numbered ruler. They estimate a measurement relative to the markings on the ruler. These rulers are not to scale.

What do you notice about these rulers?

How can we work out what the unlabelled intervals are?

What measurement would be halfway between 10cm and 20cm?

What measurement would be halfway between 10cm and 15cm?

Is the blue ribbon longer or shorter than 10cm?

How long do you think the ribbon is?

Convince me!

What do you notice about the rulers measuring the height of the blocks?

Are all the centimetre intervals labelled?

How can we use a ruler like this to estimate length?

How tall are these towers?

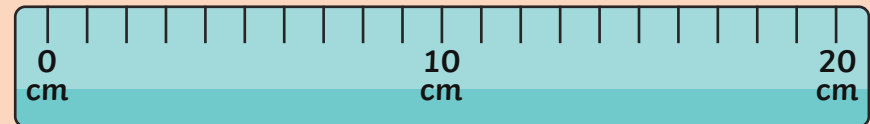
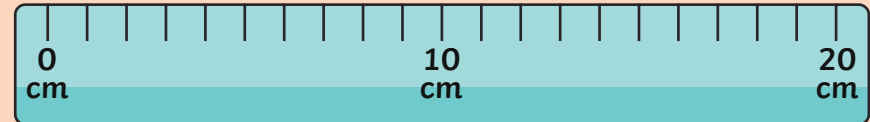
Explain why you think that?

Which tower is tallest? Which is shortest?

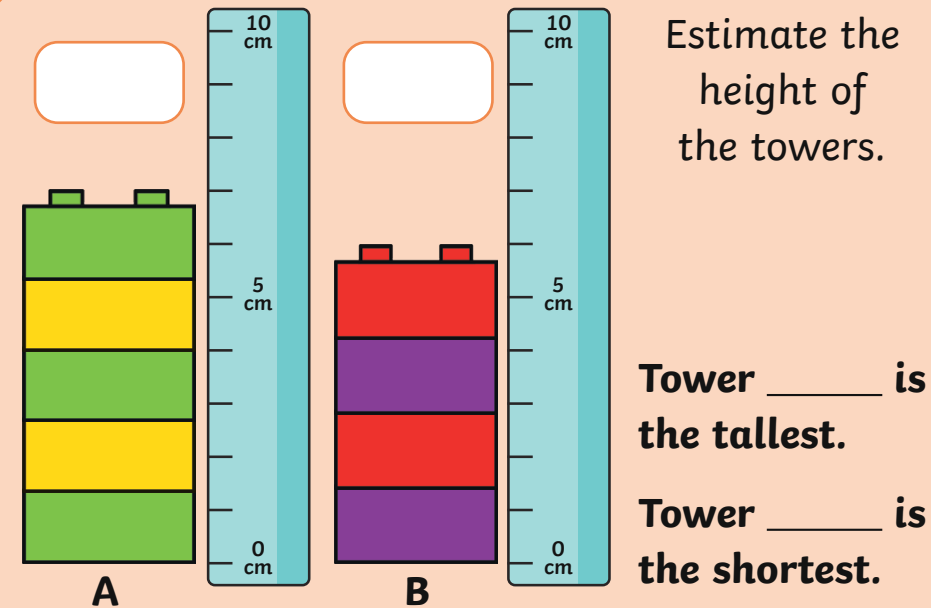
# Measuring and Estimating Length and Height



Measure the ribbons.



Ribbon \_\_\_\_\_ is the longest.



## Measuring and Estimating Length and Height

### Adult Guidance with Question Prompts



Children use their place value knowledge to measure objects using a partially numbered ruler. They estimate a measurement relative to the markings on the ruler. Here, children use their reasoning skills to explain why they agree or disagree with the statements.

What do you notice about the ruler?

How can we work out what the unlabelled intervals are?

How has the battery been positioned on the ruler?

Can we still measure the battery if it positioned here?

How?

Do you think Ali has measured correctly?

Explain why.

How long is the lolly stick?

Do you think the sweet is 4cm tall?

Why?

What do you think would be a better estimate?

Why do you think that?

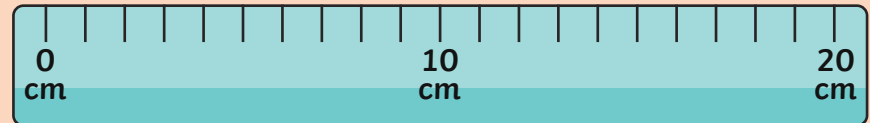
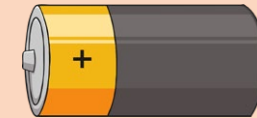
## Measuring and Estimating Length and Height



Ali is doing some measuring.



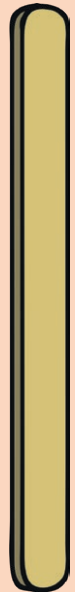
The battery is 6cm long.



The lolly stick measures 10cm.



The sweet is 4cm tall.



Do you agree? Convince me!

## Measuring and Estimating Length and Height

### Adult Guidance with Question Prompts



Children use their place value knowledge to measure objects using a partially numbered ruler. They find all the possible solutions between two given lengths.

How long is Ali's carrot?

How long is Max's carrot?

How do you know?

How long could Meg's carrot be?

Can you work systematically to find out?

Could Meg's carrot be 8cm long?

Why not?

Could it be 15cm long?

Why?

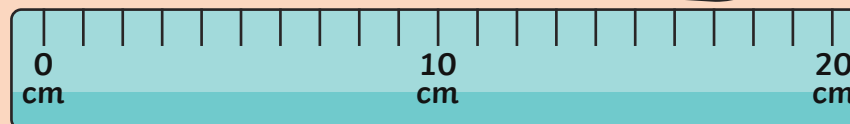
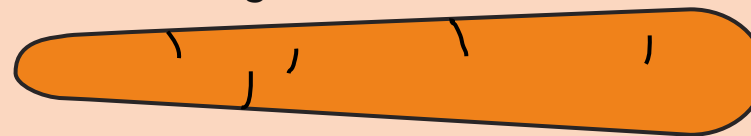
What are all the possible answers?

## Measuring and Estimating Length and Height

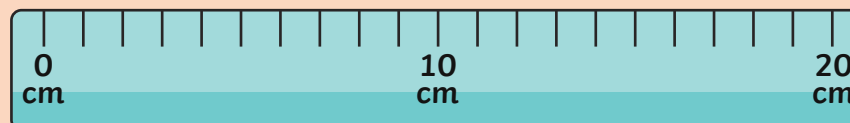


Class A had carrots for snack.

Ali's is this long.



Max's is shorter.



Mine is longer than Max's but shorter than Ali's.

Meg

How long could Meg's carrot be?  
Find all the possible answers.



**12cm**

**17cm**

Ribbon **B** is the longest.

**7cm**

**6cm**

**Accept other sensible estimates.**

Tower **A** is the tallest.

Tower **B** is the shortest.



**The battery is 6cm long. You can accurately measure from any point on a ruler but it is easier to start from 0cm.**

**The sweet is not 4cm tall. If it was 4cm tall, it would be just below the halfway point of the lolly stick. It is shorter than that. The sweet is about 2cm tall.**



**Ali's carrot is 19cm long and Max's is 9cm long. Meg's could be 10cm, 11cm, 12cm, 13cm, 14cm, 15cm, 16cm, 17cm or 18cm long.**

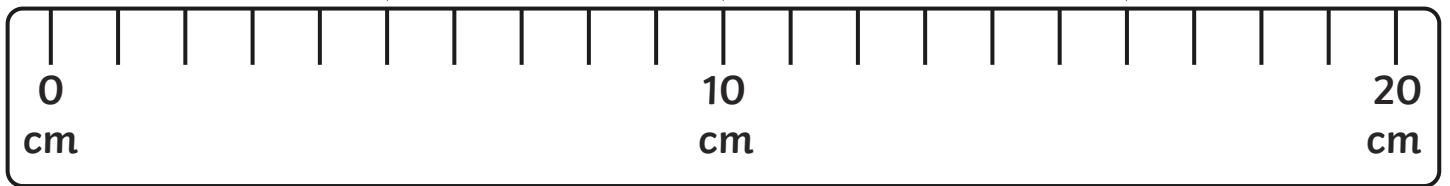
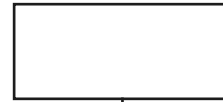
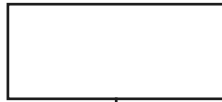
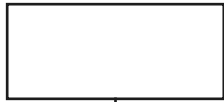
# More Measuring

To measure or estimate length or height using a partially numbered ruler.

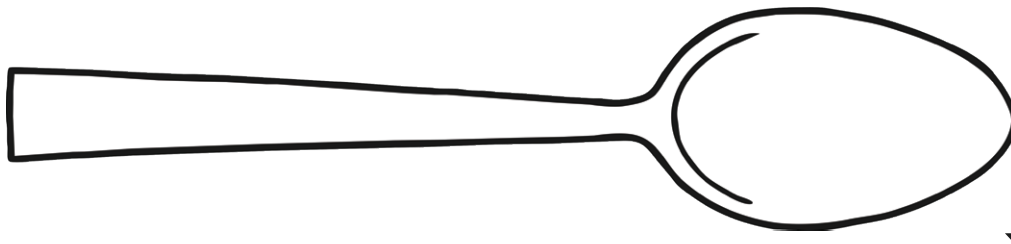


These rulers are not to scale. Label these measurements on the ruler.

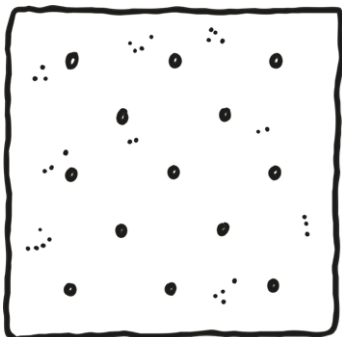
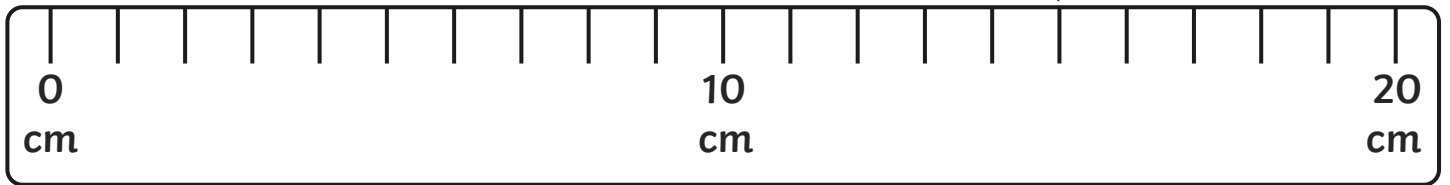
10cm      5cm      16cm



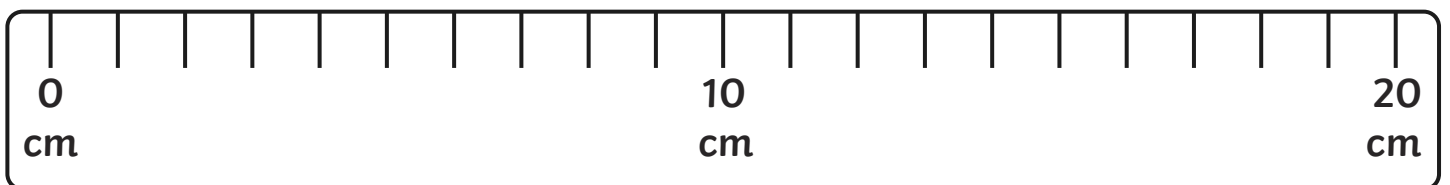
Measure these objects.



cm

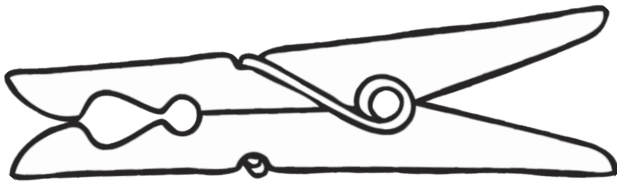
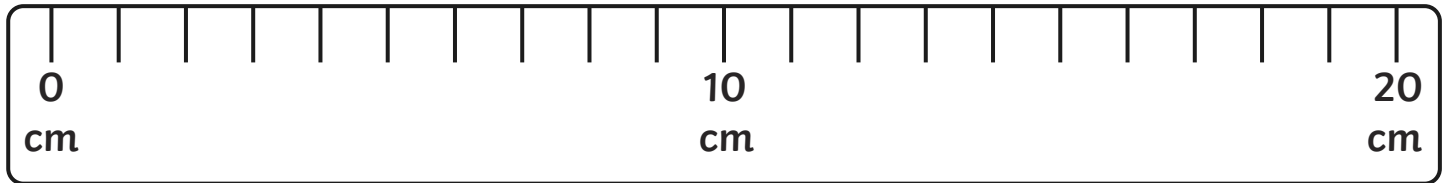
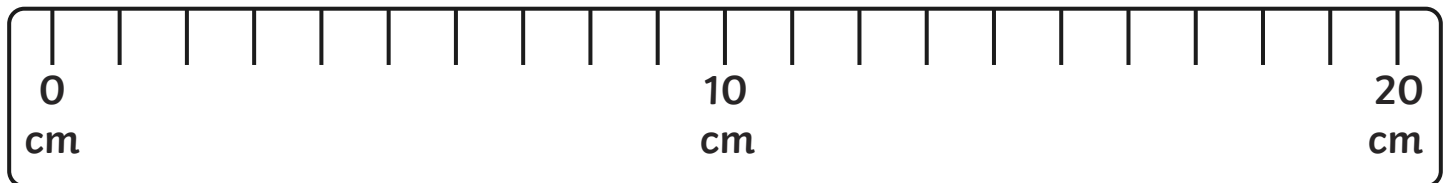


cm

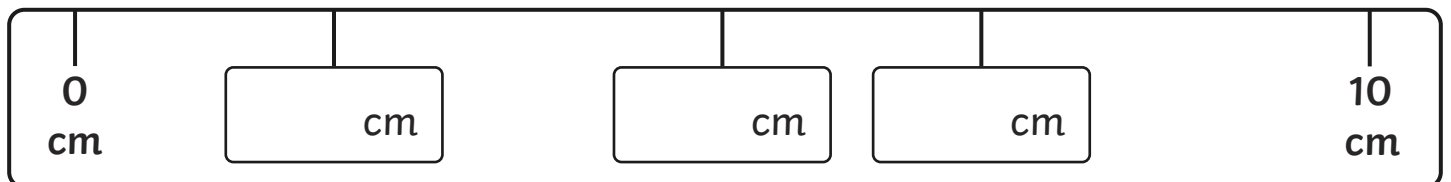




Measure these objects.


 cm

 cm


Estimate the measurements on the ruler.



Why did you choose those measurements?

---



---



---

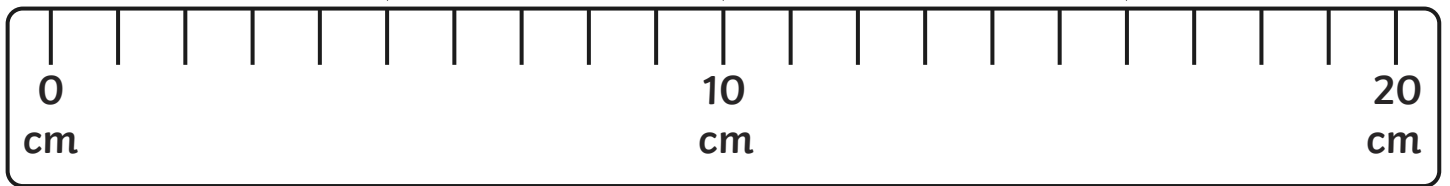
# More Measuring Answers

To measure or estimate length or height using a partially numbered ruler.

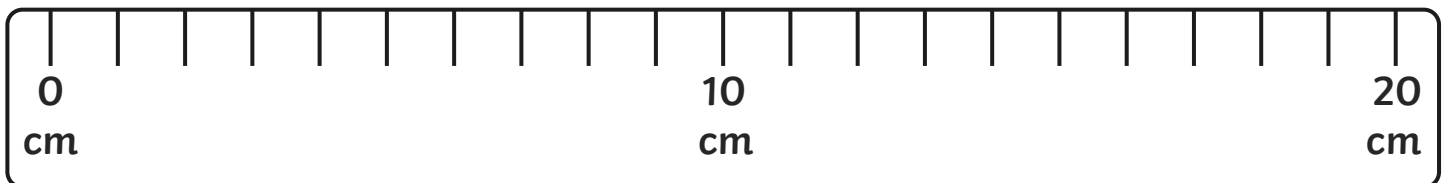
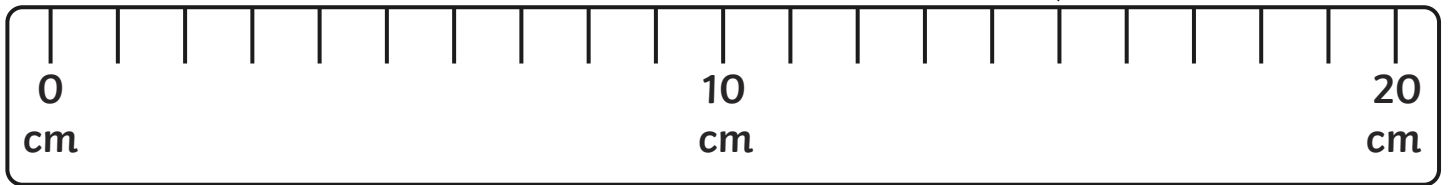
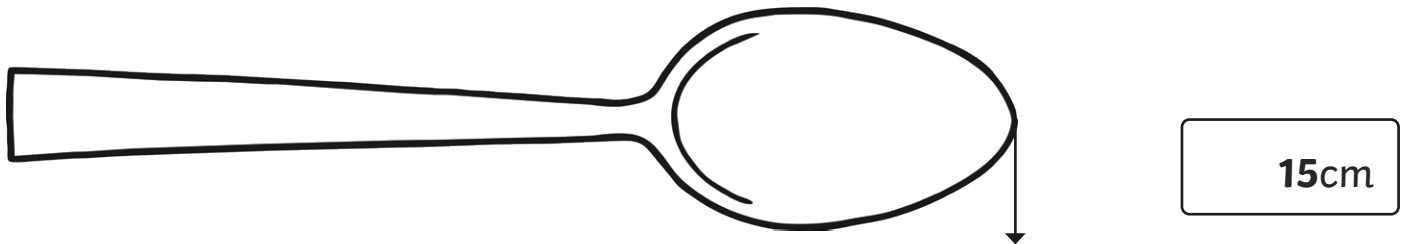
These rulers are not to scale. Label these measurements on the ruler.

10cm      5cm      16cm

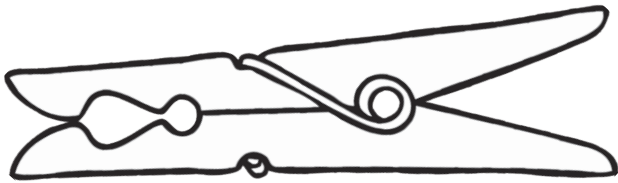
5cm      10cm      16cm



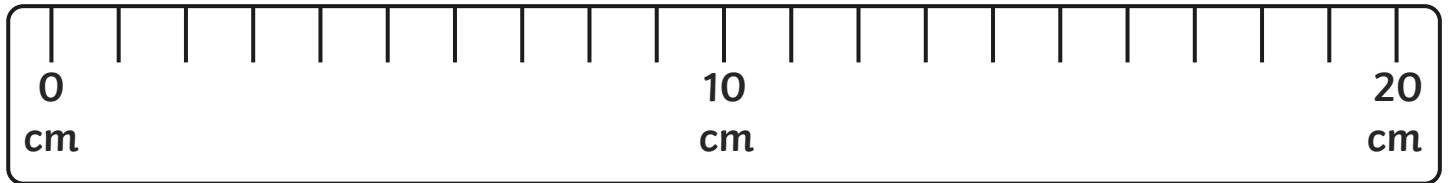
Measure these objects.



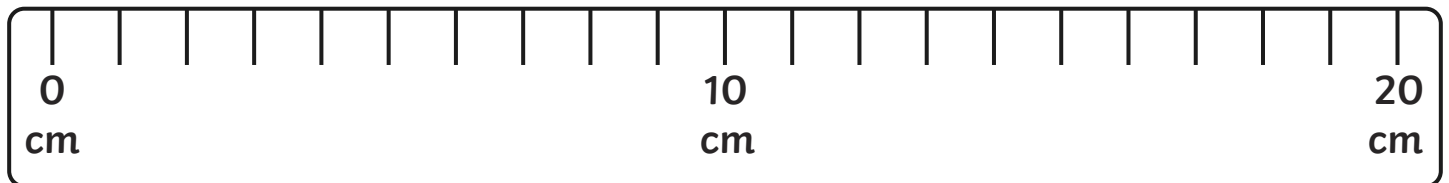
Measure these objects.



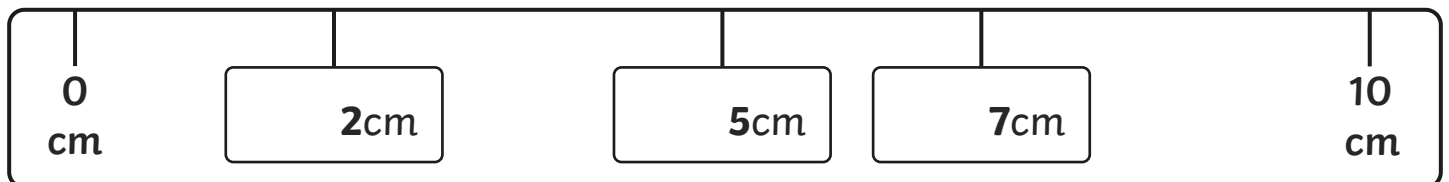
9cm



11cm



Estimate the measurements on the ruler.



Why did you choose those measurements?

**Answers will vary. They might explain that 2-3cm is between 0cm and 5cm and that 7-8cm is between 5cm and 10cm.**

# More Measuring

To measure or estimate length or height using a partially numbered ruler.

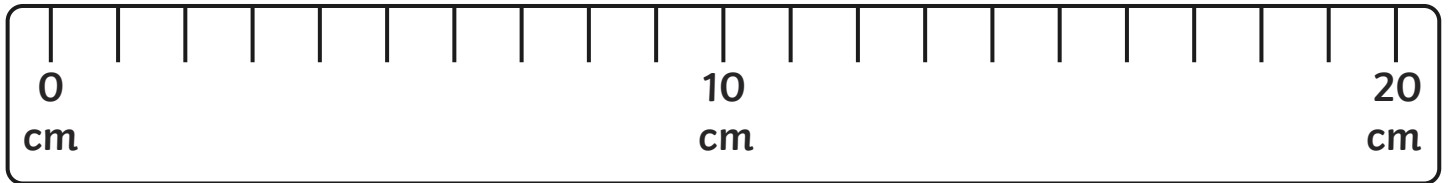


These rulers are not to scale. Label these measurements on the ruler.

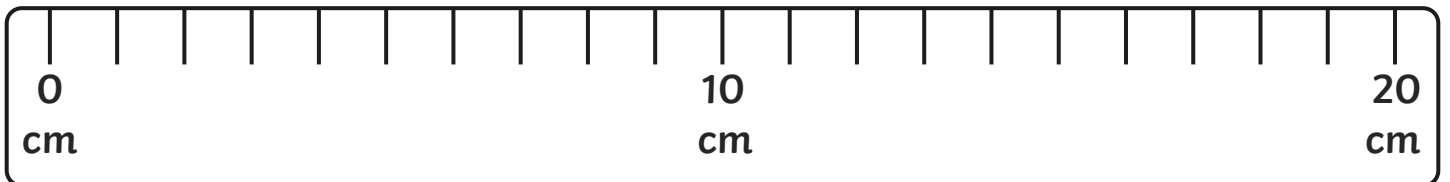
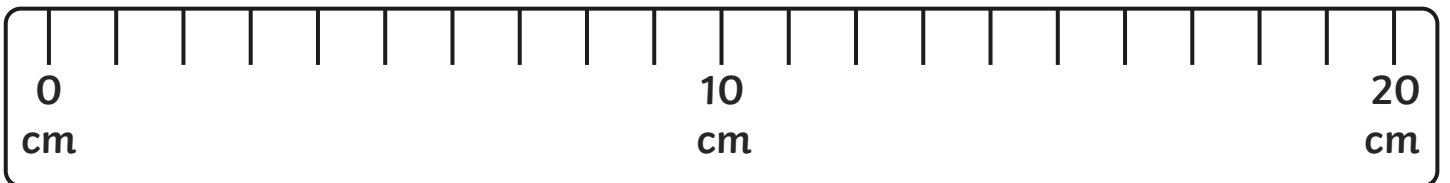
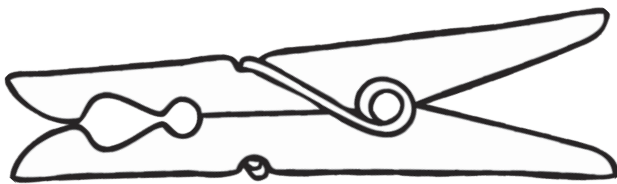
5cm

11cm

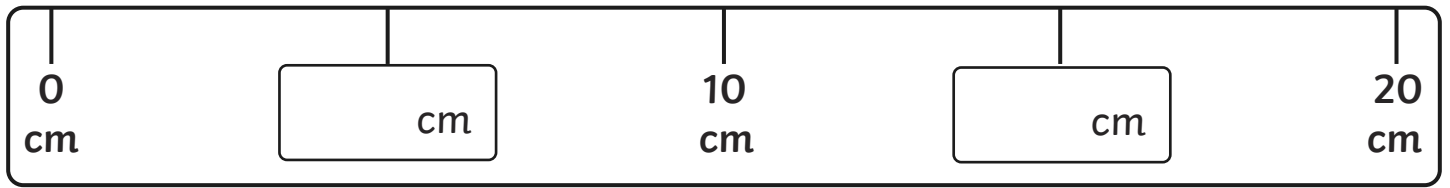
18cm



Measure these objects.



Estimate the measurements on the ruler.



Why did you choose those measurements?

---

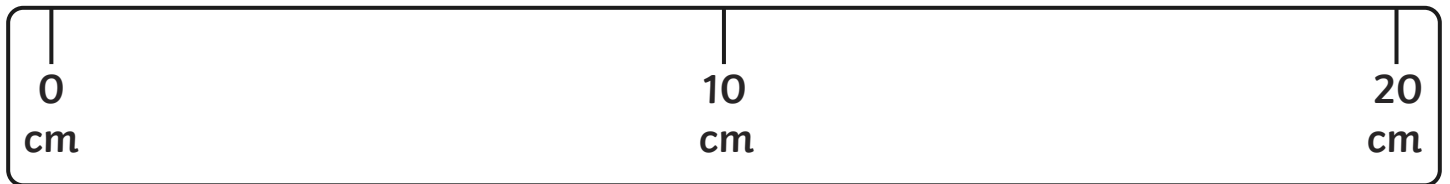
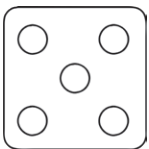


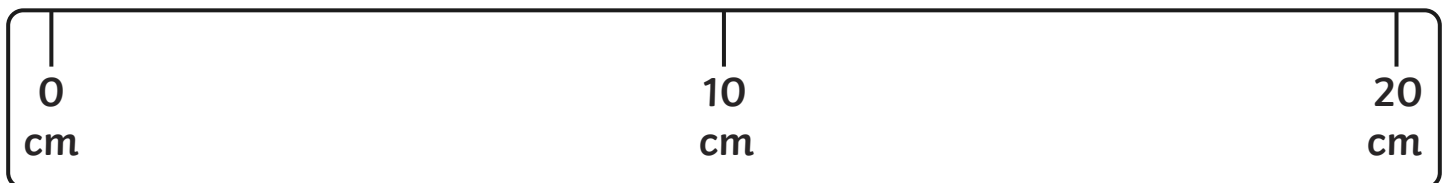
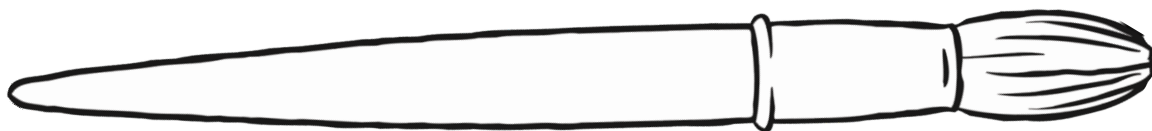
---



---

Estimate the length of these objects.





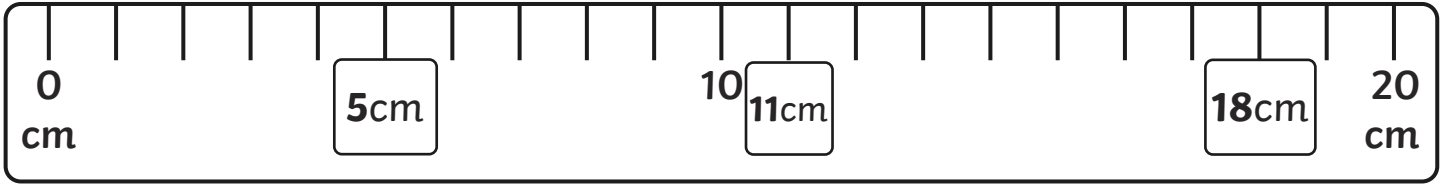


# More Measuring Answers

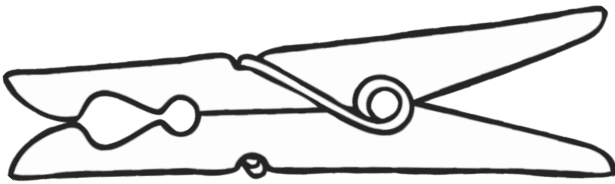
To measure or estimate length or height using a partially numbered ruler.

These rulers are not to scale. Label these measurements on the ruler.

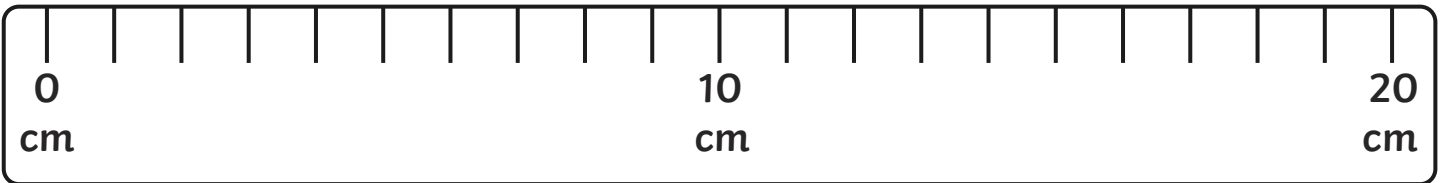
5cm      11cm      18cm



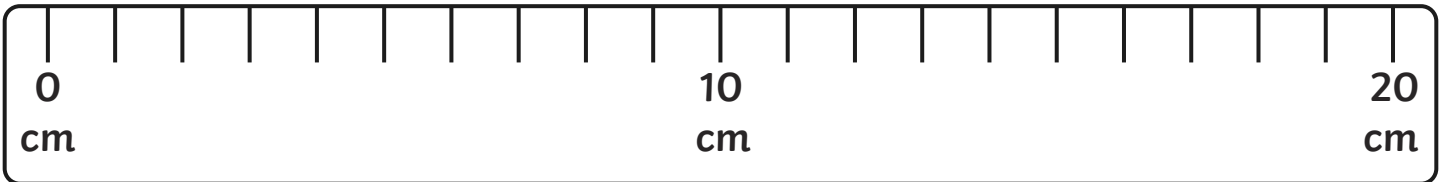
Measure these objects.



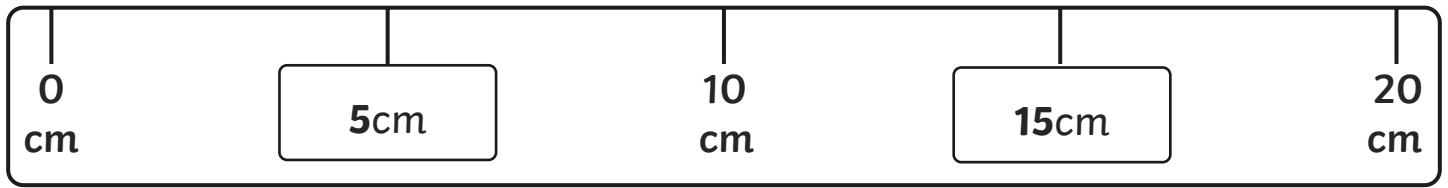
9cm



11cm



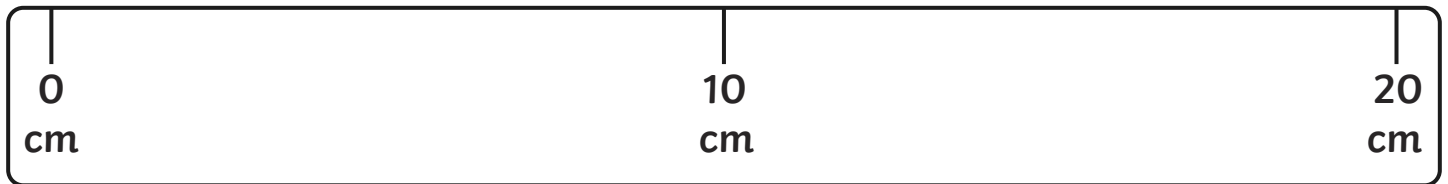
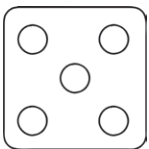
Estimate the measurements on the ruler.



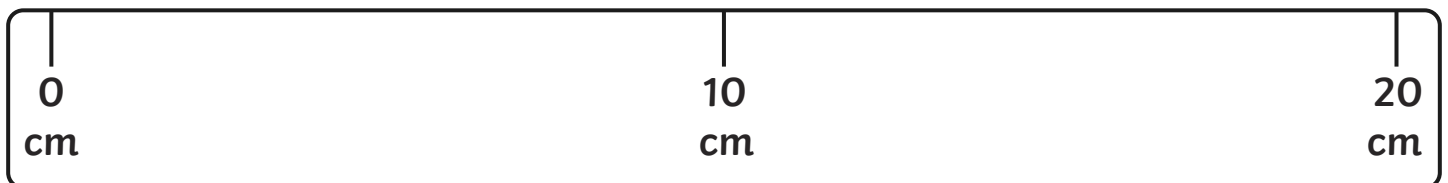
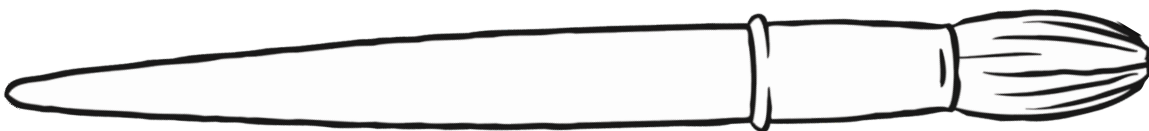
Why did you choose those measurements?

**Answers will refer to the fact that the first line is between 0cm and 10cm and so will be 5cm and that the second line is between 10cm and 20cm and so will be 15cm.**

Estimate the length of these objects.



**2cm or 3cm**



**16cm, 17cm or 18cm**

# More Measuring

To measure or estimate length or height using a partially numbered ruler.



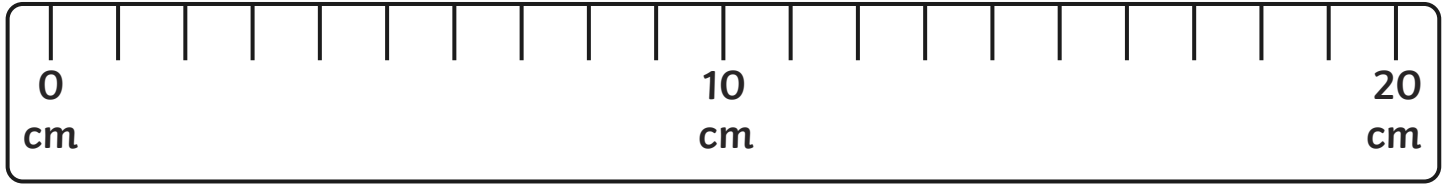
These rulers are not to scale. Label these measurements on the ruler.

2cm

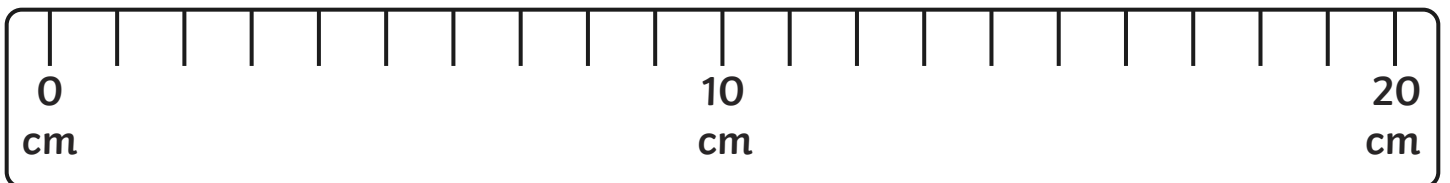
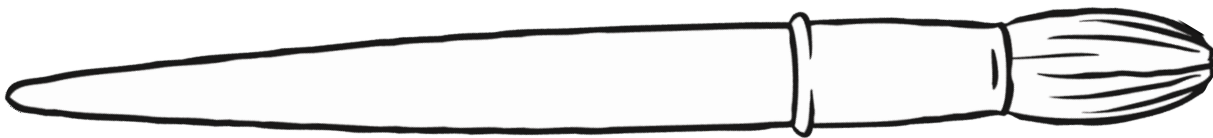
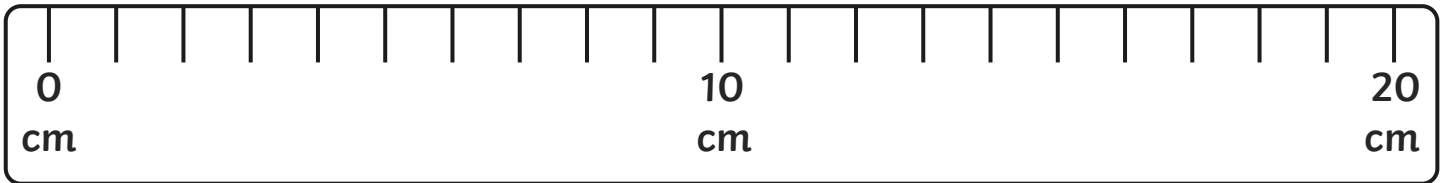
13cm

6cm

16cm

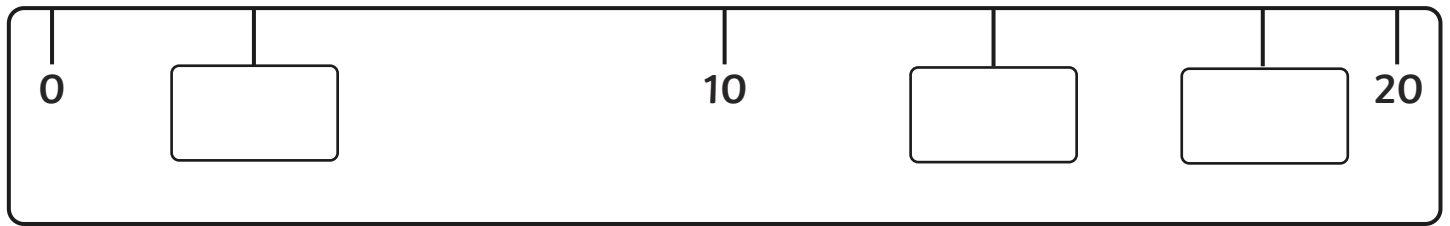


Measure these objects.





Estimate the measurements on the ruler.



Why did you choose those measurements?

---

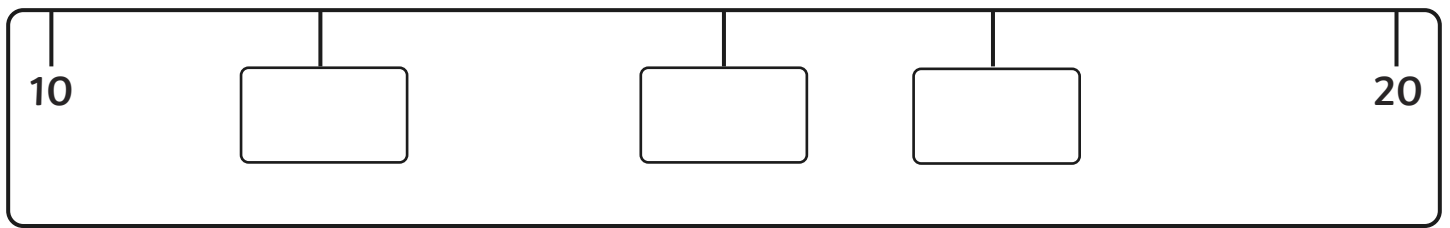


---



---

Estimate the measurements on the ruler.



Why did you choose those measurements?

---



---



---

Write on the ruler to show all the cm intervals between 0 and 10cm. Hint: mark 5cm first.



# More Measuring Answers

To measure or estimate length or height using a partially numbered ruler.

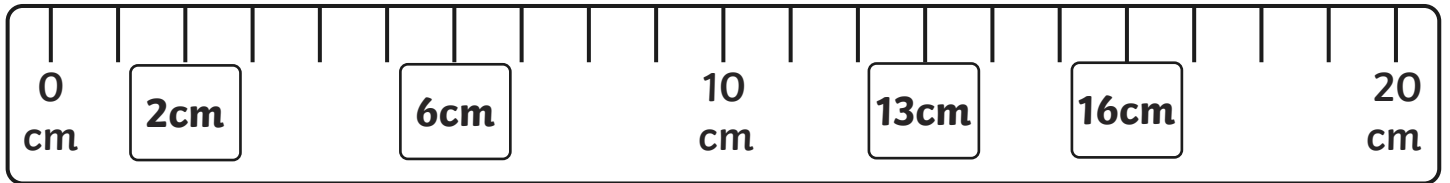
These rulers are not to scale. Label these measurements on the ruler.

2cm

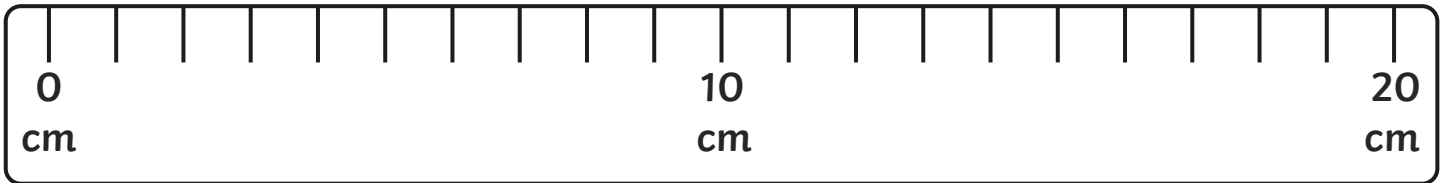
13cm

6cm

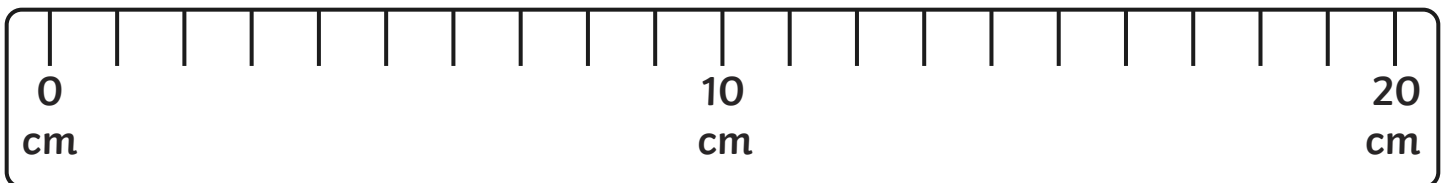
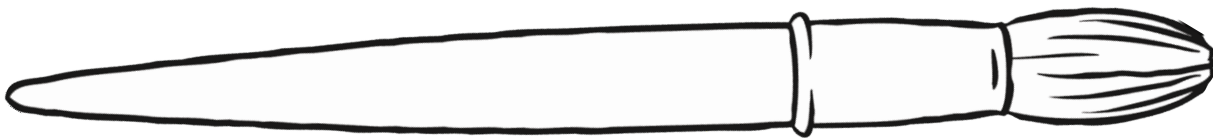
16cm



Measure these objects.

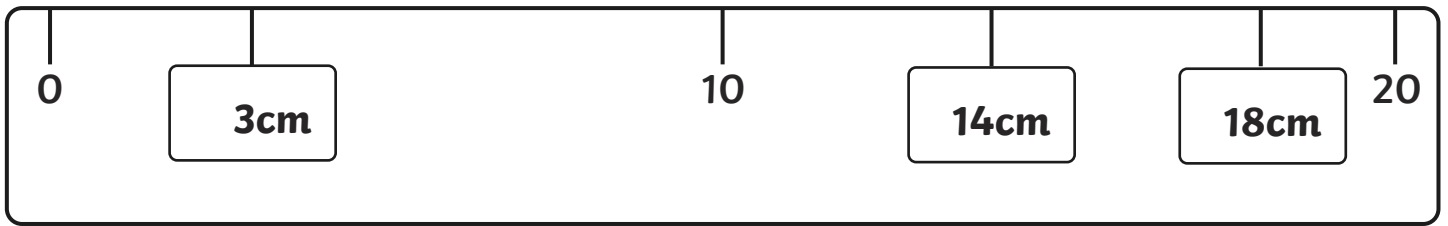


14cm



18cm

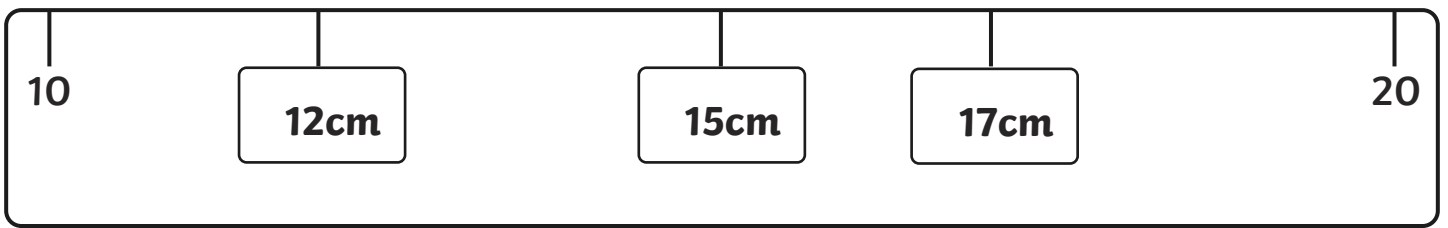
Estimate the measurements on the ruler.



Why did you choose those measurements?

**Answers will refer to the position of the lines on the ruler and their proximity to the numbers they know. e.g. I chose 14cm because it is just under halfway between 10cm and 20cm.**

Estimate the measurements on the ruler.



Why did you choose those measurements?

**Answers will refer to the position of the lines on the ruler and their proximity to the numbers they know. e.g. I chose 17cm because it is just about halfway between 15cm and 20cm.**

Write on the ruler to show all the cm intervals between 0 and 10cm. Hint: mark 5cm first.

