

Measuring Length with Non-Standard Units

Adult Guidance with Question Prompts



Children learn to measure length using non-standard units of measure. They begin with measuring objects on the activity card and then go on to measuring objects around the classroom.

What has been used to measure the pencils?

How long is each pencil?

Which is the longest?

Which is the shortest?

Which one do you need to tick?

What has been used to measure the paintbrushes?

How long is the first paintbrush?

How long is the second paintbrush?

How long is the last paintbrush?

Which is the longest?

Which are the same length?

How longest are they?

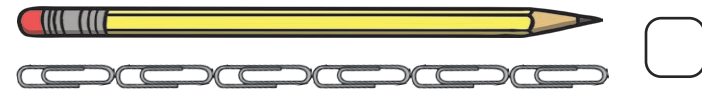
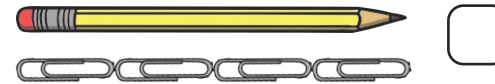
How can you be accurate when measuring?

What objects would be hard to measure with paperclips?

Measuring Length with Non-Standard Units

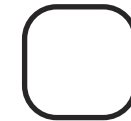


Tick the pencil that is 6 paperclips long.

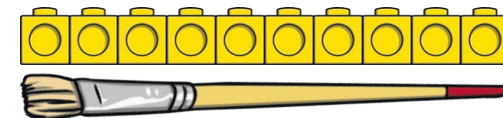
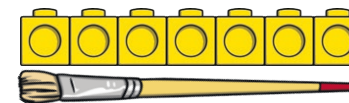
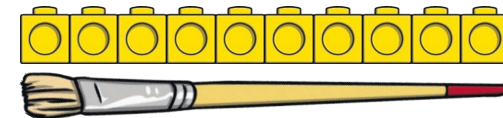


There are 2 paintbrushes that are the same length.

How long are they?



cubes long.



Use paperclips to measure the length of classroom objects.

Measuring Length with Non-Standard Units

Adult Guidance with Question Prompts



Children learn to measure length using non-standard units of measure. They use their understanding to explain mistakes shown in measuring the lengths of objects.

Look at the hands, what can you tell me about them?

When we are comparing measurements, what should we remember?

Do you think the table is eight hands long?

How should the table have been measured?

What has Finn used to measure the scissors?

What has Ria used?

Have they measured the scissors accurately?

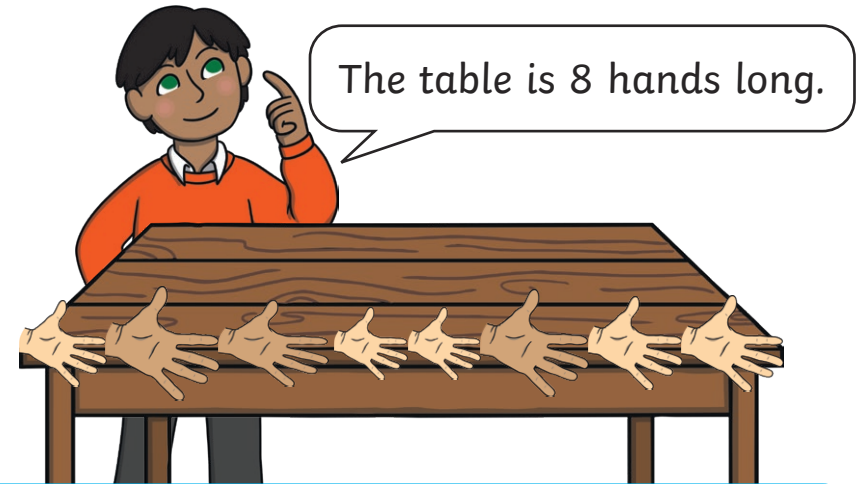
Who is correct?

How do you know?

Measuring Length with Non-Standard Units

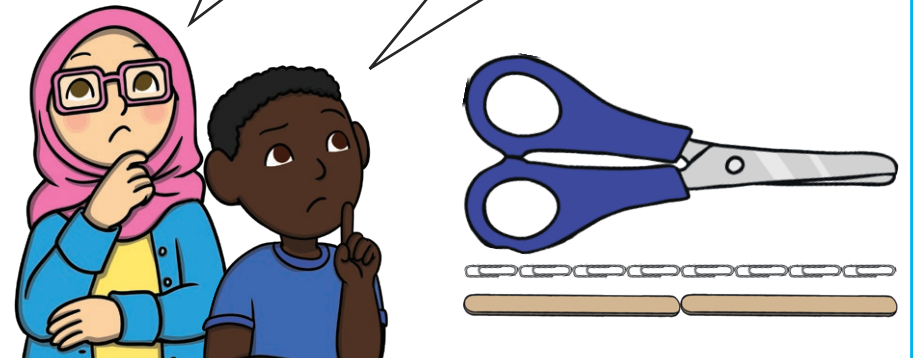


True or false? Explain your thinking.



I think the scissors are 8 paperclips long.

I think the scissors are 2 lollipop sticks long.



Who is correct? Explain your answer.

Measuring Length with Non-Standard Units

Adult Guidance with Question Prompts



Children learn to measure length using non-standard units of measure. In this activity, children use their understanding of measuring with non-standard units to solve a problem. They then go on to find an object that matches the clues given.

How long is the rubber?

How long is the pencil?

Which is longer?

Is what Riley said correct?

What mistake has he made?

What can he do when comparing the lengths of objects?

How can you check the object you find matches the clues?

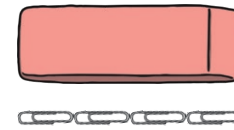
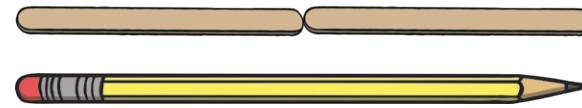
What do you need to remember when measuring the object?

Can you create clues like this for your friend to match an object to?

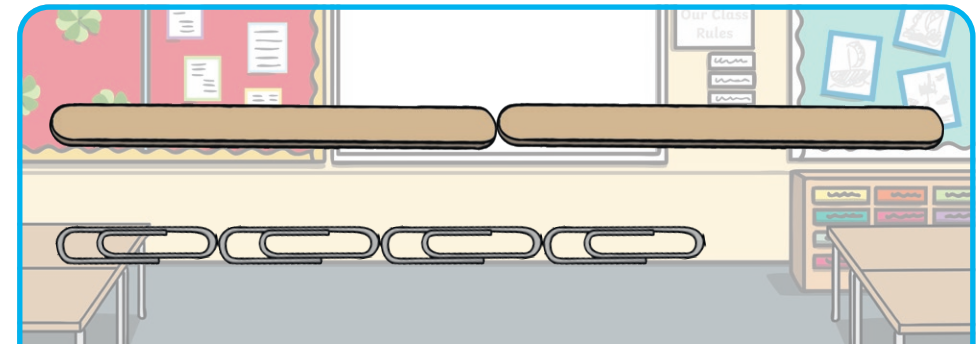
Measuring Length with Non-Standard Units



The rubber is 4 paperclips long and the pencil is 2 lollipop sticks long. So the rubber must be longer.



Is Riley correct? How do you know?

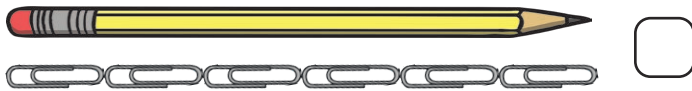
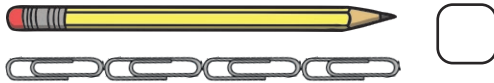


Find an object in your classroom that is longer than 4 paperclips but shorter than 2 lollipop sticks.

Measuring Length with Non-Standard Units

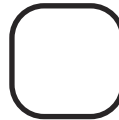


Tick the pencil that is 6 paperclips long.

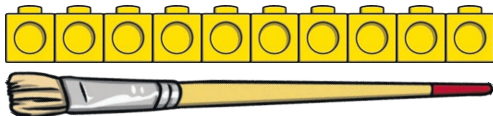
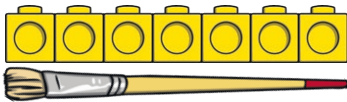
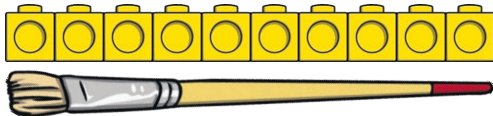


There are 2 paintbrushes that are the same length.

How long are they?



cubes long.

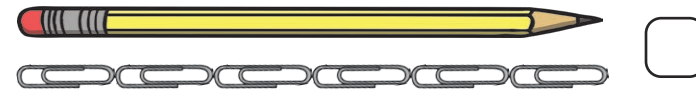
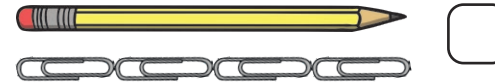


Use paperclips to measure the length of classroom objects.

Measuring Length with Non-Standard Units

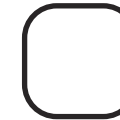


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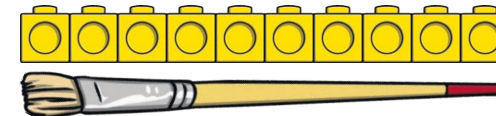
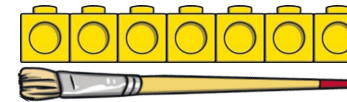
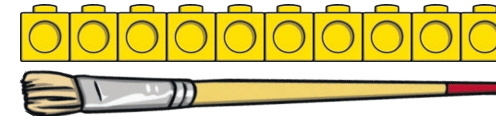


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Use paperclips to measure the length of classroom objects.

Measuring Length with Non-Standard Units

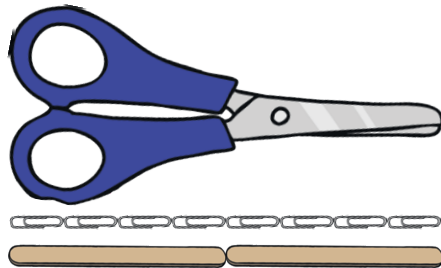
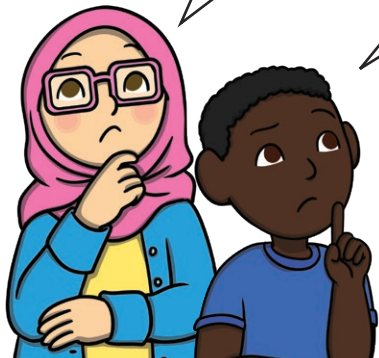


True or false? Explain your thinking.



I think the scissors are 8 paperclips long.

I think the scissors are 2 lollipop sticks long.



Who is correct? Explain your answer.

Measuring Length with Non-Standard Units

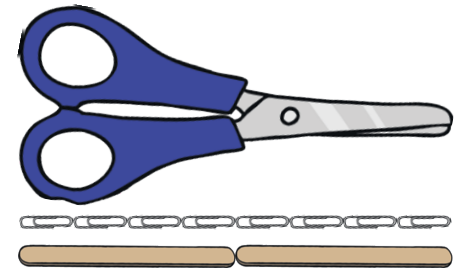
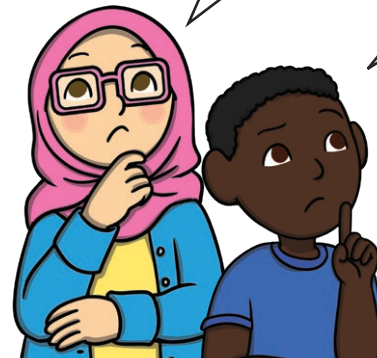


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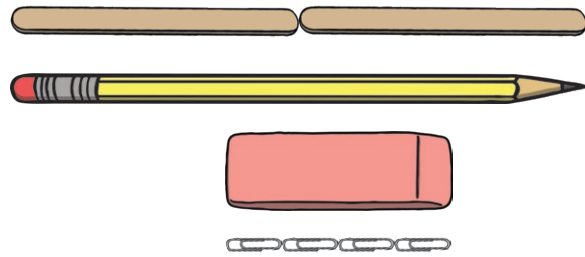


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Measuring Length with Non-Standard Units

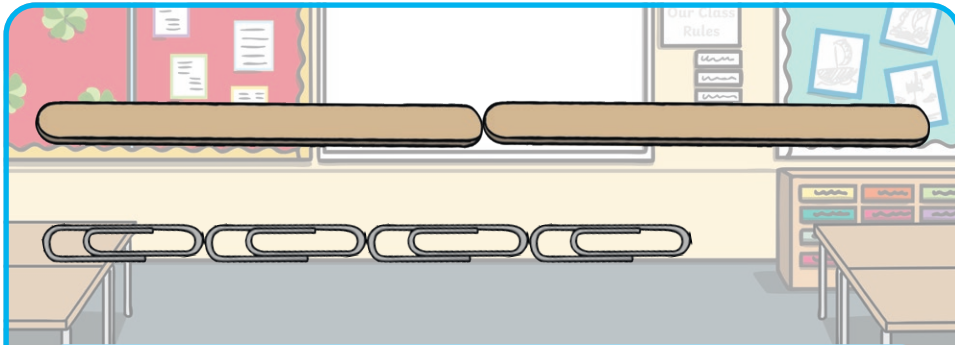


The rubber is 4 paperclips long and the pencil is 2 lollipop sticks long. So the rubber must be longer.



Riley

Is Riley correct? How do you know?

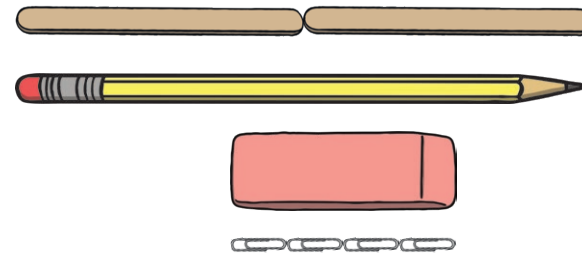


Find an object in your classroom that is longer than 4 paperclips but shorter than 2 lollipop sticks.

Measuring Length with Non-Standard Units

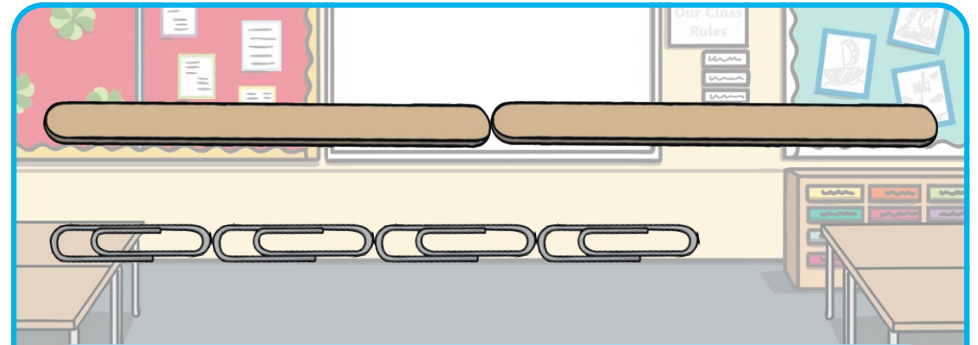


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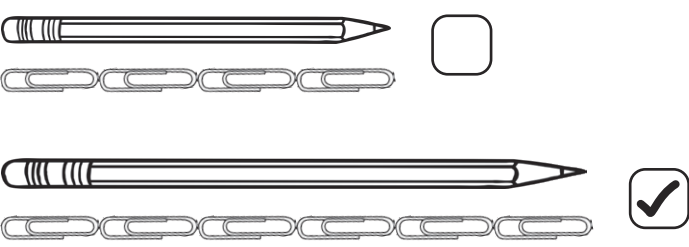


Riley

Is Riley correct? How do you know?



Find an object in your classroom that is longer than 4 paperclips but shorter than 2 lollipop sticks.



10

False. The hands are all different sizes. When measuring accurately, the units need to be all the same. The table is not eight hands long because it has not been measured accurately.

They are both correct. The scissors are two lollipop sticks long and eight paper clips long.

Riley is incorrect. He thinks that, because the rubber has been measured to have more paperclips, it is longer. However, the lollipop sticks themselves are longer which allows the pencil to be longer than the rubber but with fewer units measured.

Please make sure that you print this resource at 100% so that all measurements are correct.

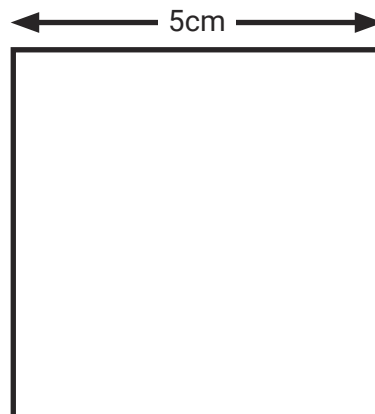
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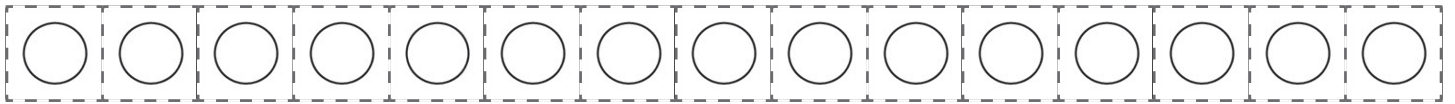
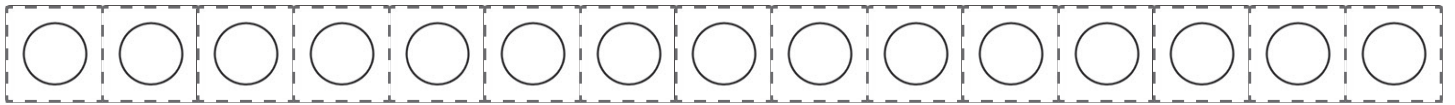
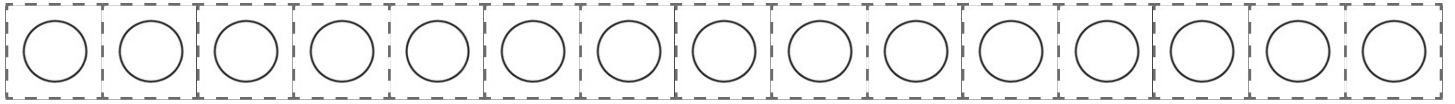
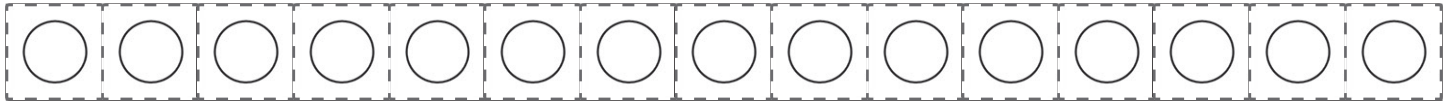
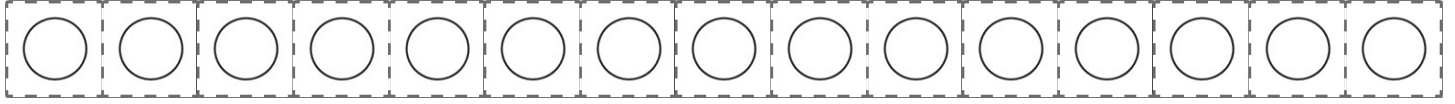
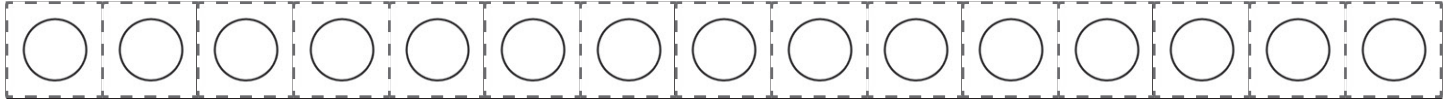
Adobe Reader or Adobe Acrobat

- Adobe Reader is a free PDF viewer, from Adobe. To install a copy of Adobe Reader, go to <https://get.adobe.com/uk/reader/>.
- Once Adobe Reader is installed, open your PDF.
- Go to File>Print.
- Under 'Page Sizing & Handling', select 'Size'.
- From here, make sure that 'Actual Size' is selected.
- Print this page as a test, making sure that the shape below is the correct size once printed.
- If the test print is correct, print your PDF.

Foxit Reader

- Go to File>Print.
- Set the 'Scaling' to 'None'.



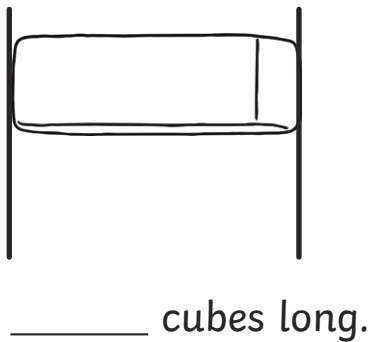
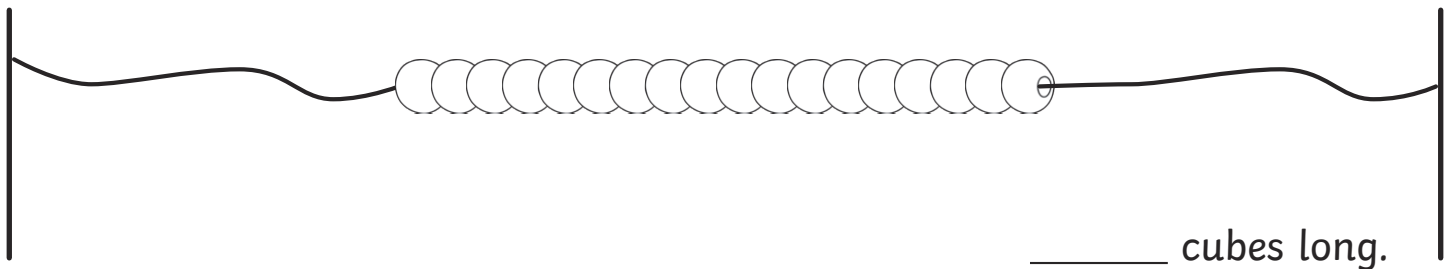
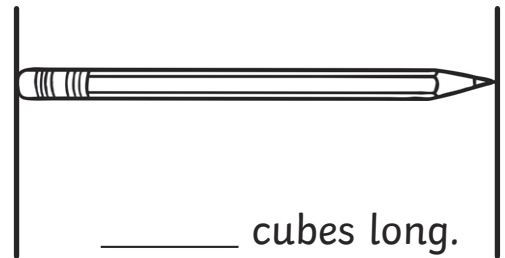
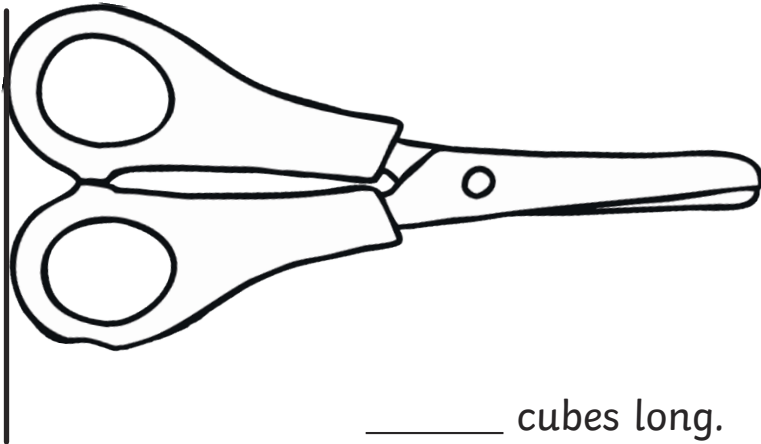


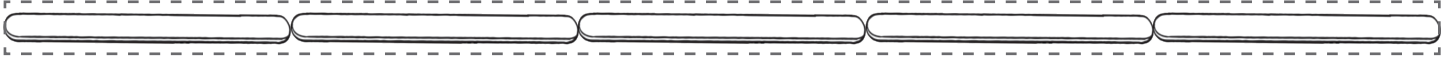
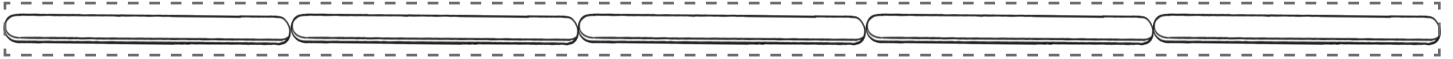
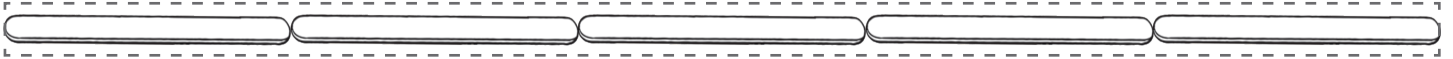
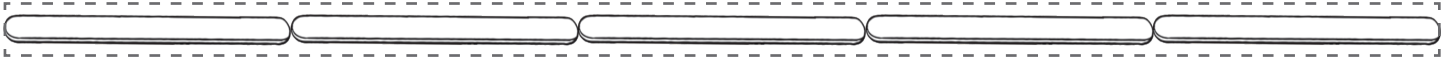
How Long?

To measure the length of objects using non-standard units.



Use the cubes to measure the length of these pictures. Record the measurement on the answer line.



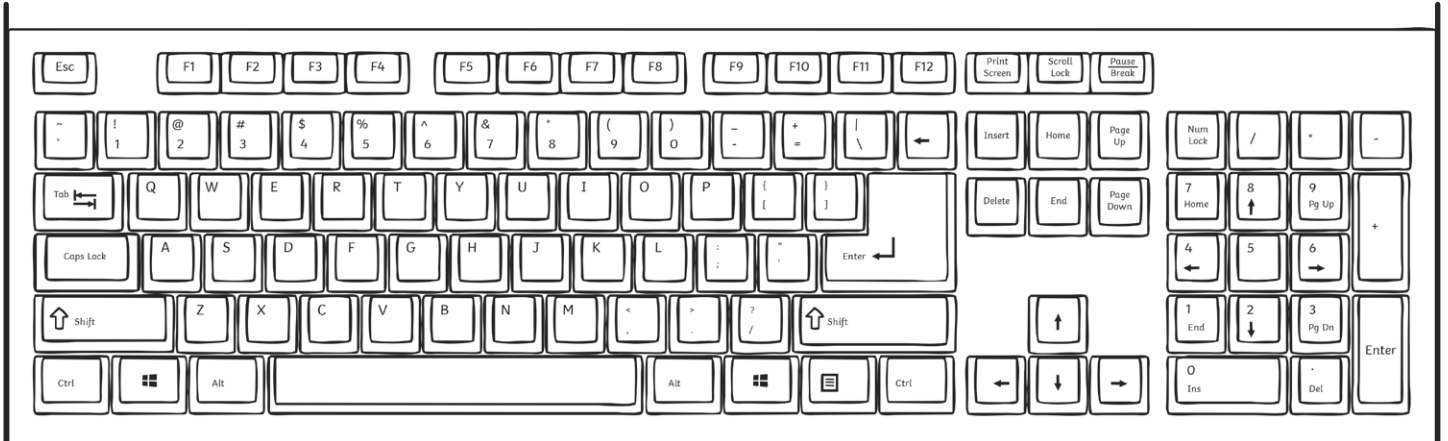


How Long?

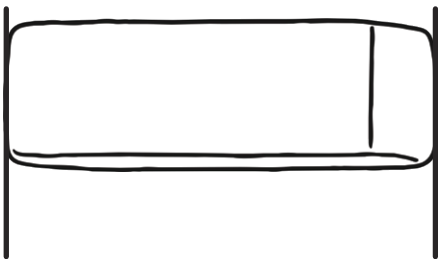
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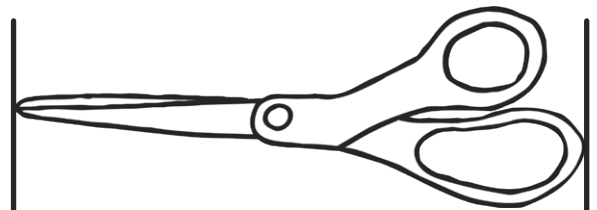
Use your cut outs to measure the length of these pictures. Record the measurement on the answer line.



_____ lollipop sticks long.



_____ paperclips long.

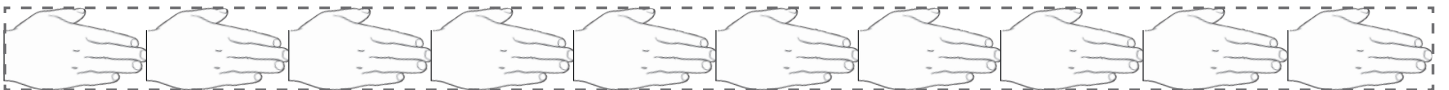
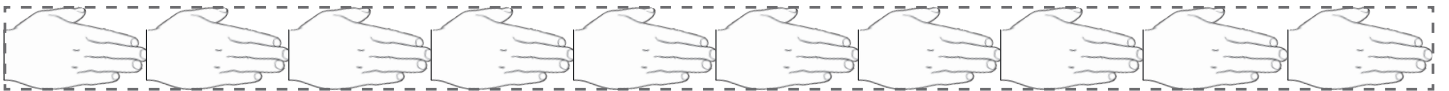
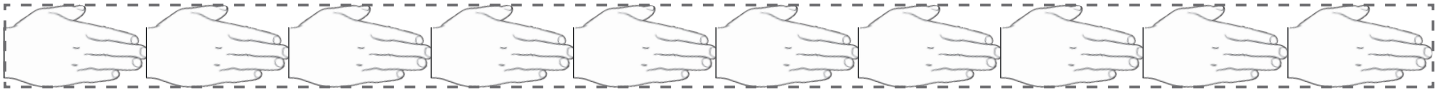
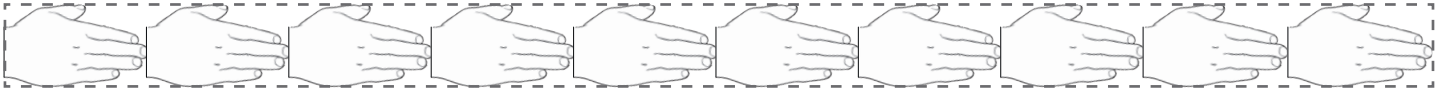
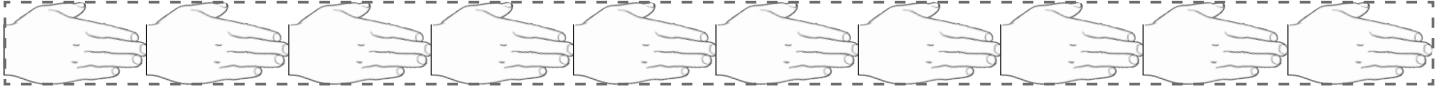


_____ lollipop sticks long.



_____ paperclips long.

Now, measure the keyboard again, this time using paperclips. What do you notice?

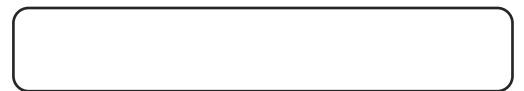
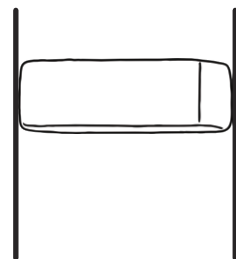
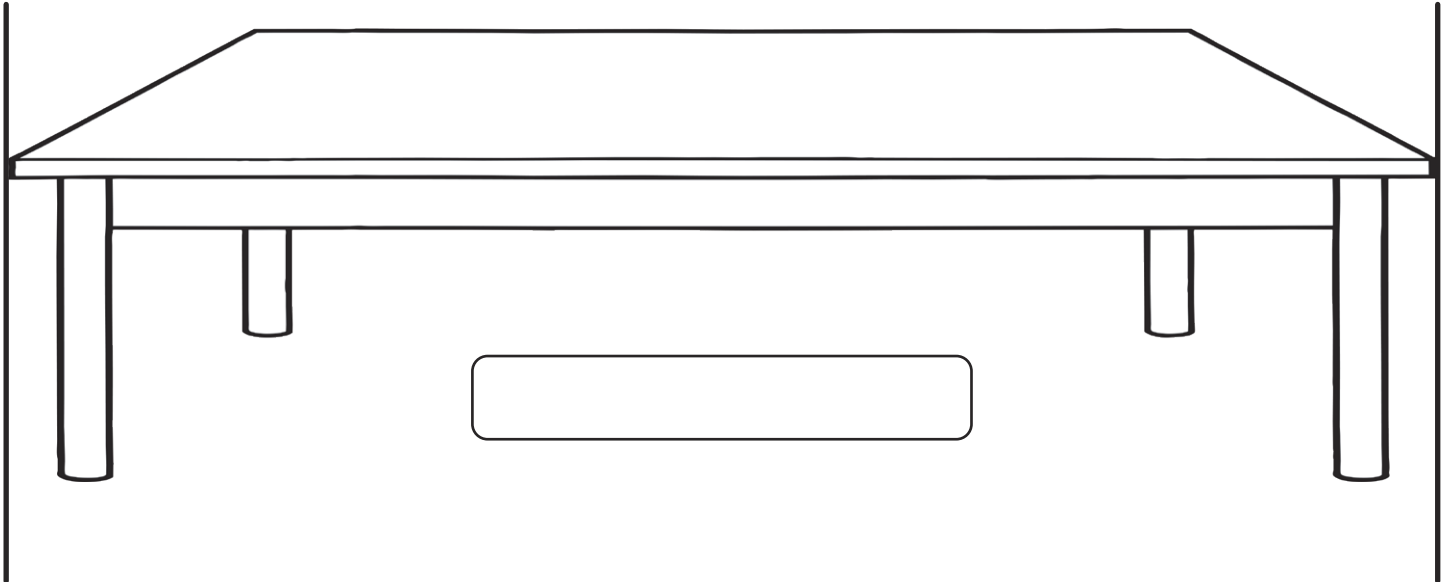


How Long?

To measure the length of objects using non-standard units.



Select the most suitable unit to measure the pictures with. Record the measurement on the answer line.



What unit did you use to measure the long pictures? What did you use for the short pictures?

How Long? Answers

★

Scissors = 8 cubes long

Pencil = 5 cubes long

Bead string = 15 cubes long

Rubber = 3 cubes long

Paint brush = 10 cubes long

★★

Computer keyboard = 5 lollipop sticks long

Pencil = 7 paperclips long

Rubber = 3 paperclips long

Scissors = 2 lollipop sticks long

Book = 3 lollipop sticks long

When you use paperclips to measure the keyboard, a lot more are needed because they are smaller.

★★★

Table = 10 hands long

Pencil = 7 paperclips long

Box of tissues = 10 paperclips long

Computer keyboard = 3 hands long

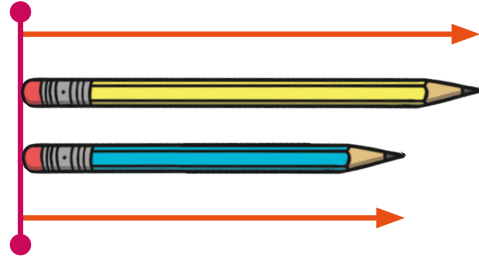
Rubber = 3 paperclips long

The hands were used to measure the long pictures and the paperclips for the shorter pictures.

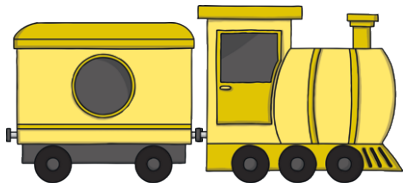
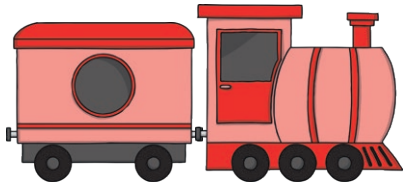
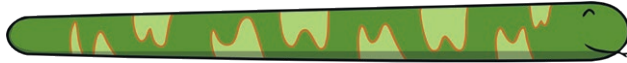
Length Comparisons



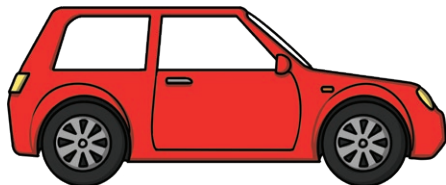
Which pencil is the longest? Which pencil is the shortest?



Compare the toys using the words **longer**, **shorter** and the **same**.



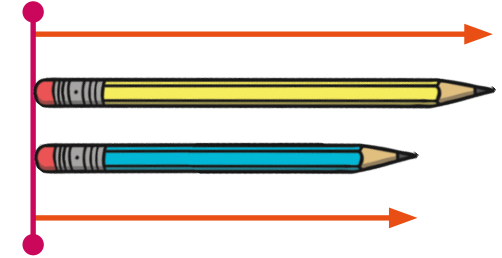
Find three things **longer** than this toy car.



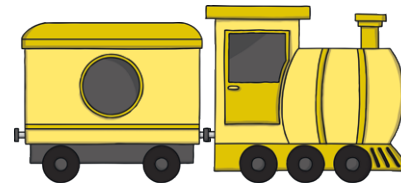
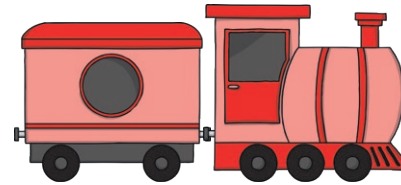
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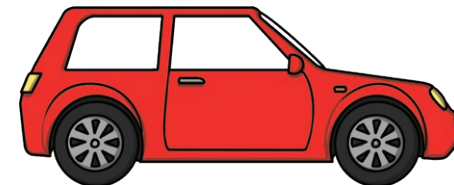
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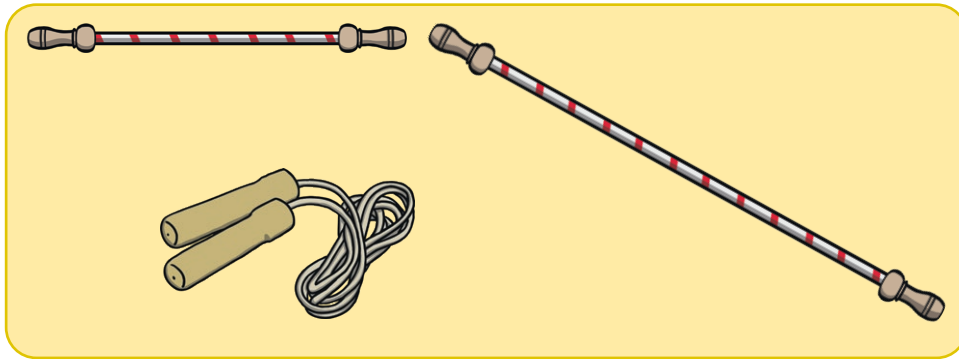
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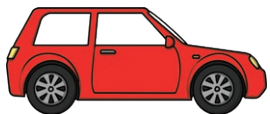
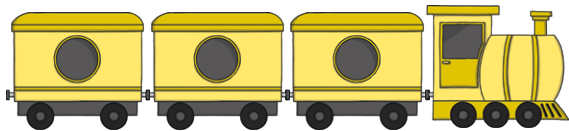
Length Comparisons



The skipping ropes are the same length.

Stefan

How can Stefan check?

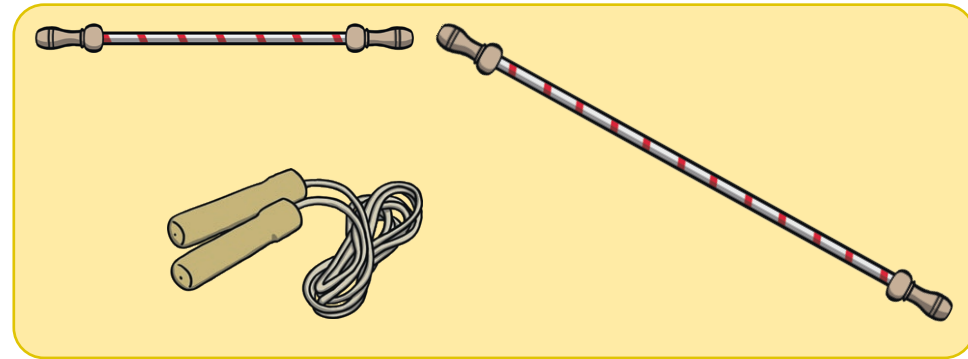


The car is longer than the bike but shorter than the train.

Stefan

Do you agree? Prove it.

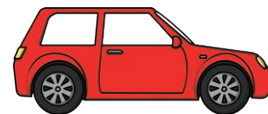
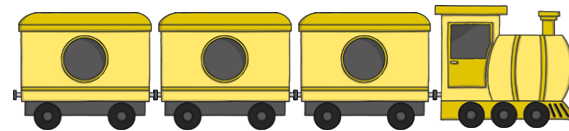
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Do you agree? Prove it.

Length Comparisons

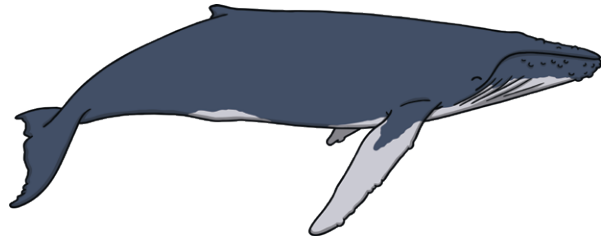
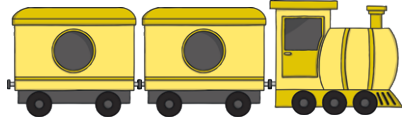


Which toy belongs to Bonnie? Is there more than one possibility?



Bonnie

My toy is not the longest but is not the shortest either.



Find an object in your classroom that is **longer** than your foot but **shorter** than your leg.

Length Comparisons

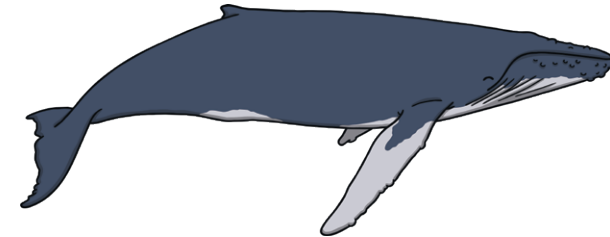
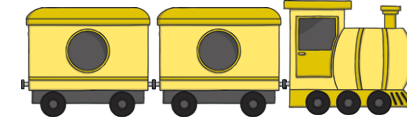


Which toy belongs to Bonnie? Is there more than one possibility?



Bonnie

My toy is not the longest but is not the shortest either.



Find an object in your classroom that is **longer** than your foot but **shorter** than your leg.

Length Comparisons

Adult Guidance with Question Prompts



Children use and understand the language of length such as long, longer, longest, short, shorter and shortest. They use this to compare a selection of objects. Children should be encouraged to use full sentences when describing the objects lengths.

What does longest mean?

What does shortest mean?

Which is the longest? How do you know?

Which is the shortest how do you know?

What can you tell me about these toys?

How can you use the words longer, shorter and the same?

Can you tell me a sentence about each toy so you can use those words?

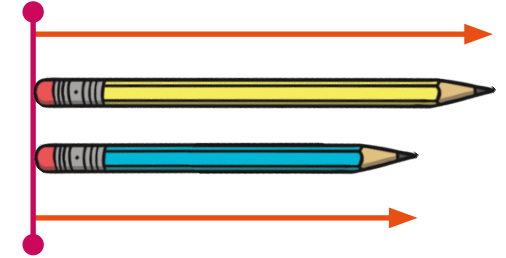
How do you know if you have found something longer?

How can you check?

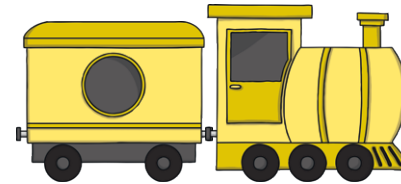
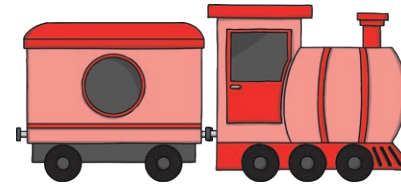
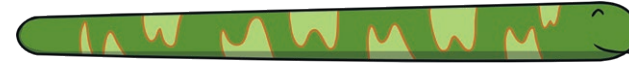
Length Comparisons



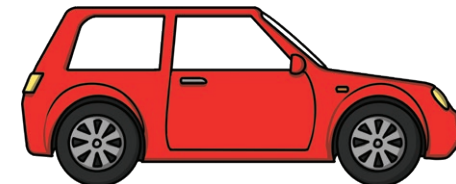
Which pencil is the longest? Which pencil is the shortest?



Compare the toys using the words **longer**, **shorter** and the **same**.



Find three things **longer** than this toy car.



Length Comparisons

Adult Guidance with Question Prompts



Children use and understand the language of length such as long, longer, longest, short, shorter and shortest. In this activity, children reason whether the description of an object's length is accurate and give advice for how to check which items are longer or shorter.

Is Stefan right?

How can we check?

What should he have done before he compared their lengths?

Which toy is the longest?

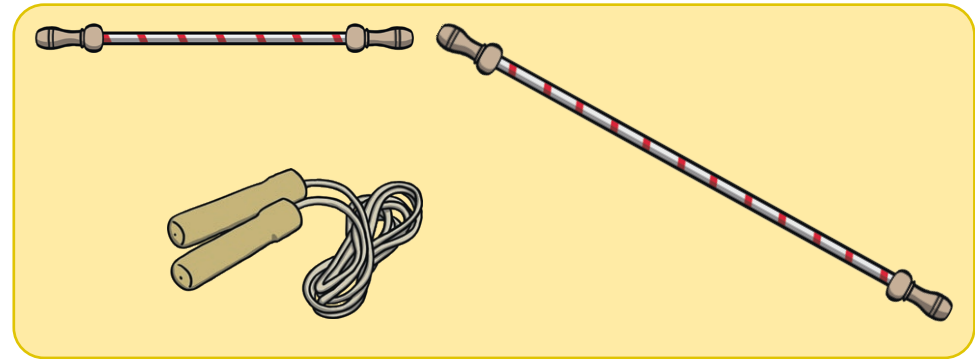
Which toy is the shortest?

Do you agree with the statement?

How can you prove it?

Challenge a friend to find an object shorter than one item but longer than another.

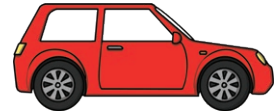
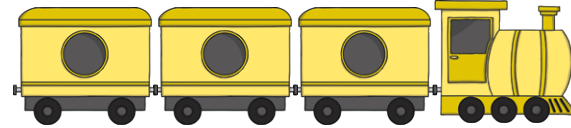
Length Comparisons



Stefan

The skipping ropes are the same length.

How can Stefan check?



Stefan

The car is longer than the bike but shorter than the train.

Do you agree? Prove it.

Length Comparisons

Adult Guidance with Question Prompts



Children use and understand the language of length such as long, longer, longest, short, shorter and shortest. They solve a problem to determine which toy belongs to the child. They then use their understanding of length to find objects which are longer and shorter than different body parts.

Describe each toy to me using the words longer and shorter.

Which toy is the longest?

Which toy is the shortest?

Compare the other two toys, what can you tell me?

Which toy could be Bonnie's?

Is there another toy that it could be?

How do you know?

What object have you found?

Prove to me it's longer than your foot.

Prove to me it's shorter than your leg.

Find another object that matches this description.

Length Comparisons

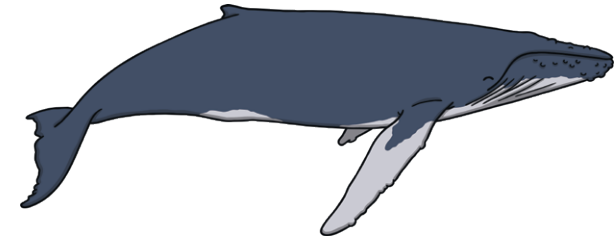
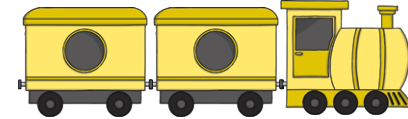


Which toy belongs to Bonnie? Is there more than one possibility?



Bonnie

My toy is not the longest but is not the shortest either.



Find an object in your classroom that is **longer** than your foot but **shorter** than your leg.



The yellow pencil is the longest.

The blue pencil is the shortest.

The snake is longer than the trains.

The trains are shorter than the snake.

The red train is the same length and the yellow train.

The yellow train is the same length as the red train.



Stefan should line the skipping ropes up so that they are easier to compare.

The car is longer than the bike and shorter than the train. Children should demonstrate this by highlighting where each one finished as they are lined up.



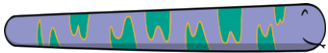
The plane or the train could be Bonnie's toy as they are both shorter than the whale but longer than the mouse.

Longer or Shorter?

To compare the length of objects.



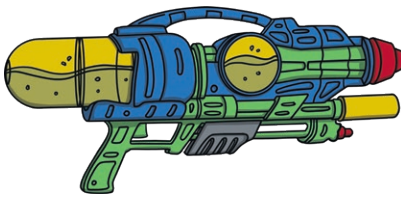
Tick the shortest.



Tick the longest.



Tick the longest.



Tick the shortest.



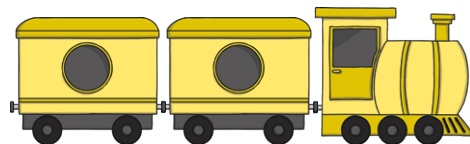
Complete the sentences using **longer** or **shorter**.



The bus is _____ than car.

The car is _____ than bus.

Complete the sentences using **longer** or **shorter**.



The tractor is _____ than train.

The train is _____ than tractor.

Longer or Shorter?

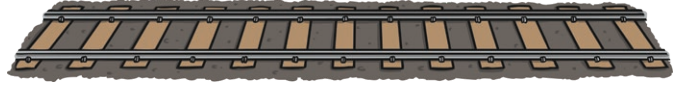
To compare the length of objects.



Draw a longer toy.



Draw a shorter toy.



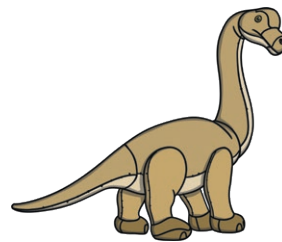
Complete the sentences using **longer** or **shorter**.



The motorbike is _____ than the plane.

The plane is _____ than the motorbike.

Complete the sentences using **longer** or **shorter**.



The dinosaur is _____ than the hedgehog.

The hedgehog is _____ than the dinosaur.

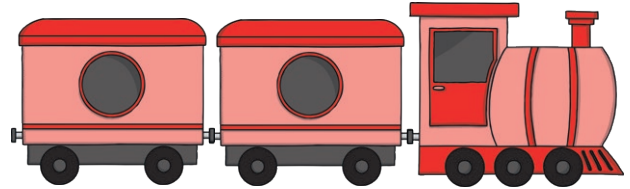
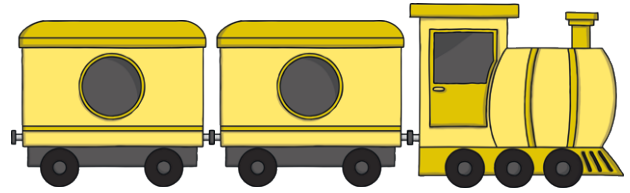
Complete the sentences using **longer** or **shorter**.



The blue snake is _____ than the green snake.

The green snake is _____ than the blue snake.

Complete the sentences.



The yellow train is _____ length as the red train.

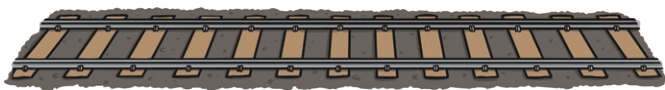
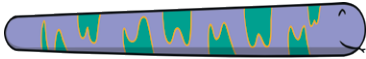
The red train is _____ length as the yellow train.

Longer or Shorter?

To compare the length of objects.



Draw a toy that is longer than the snake but shorter than the train track.



Complete the sentences using **shorter** and **taller**.



The ribbon is _____ than the skip ball.

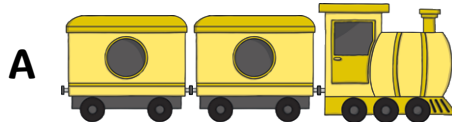
The skip ball is _____ than the ribbon.

Complete the sentence.

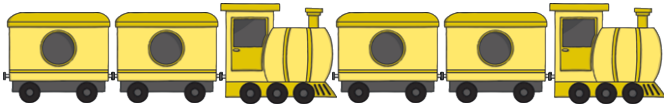


C is _____ than B.

Order the toys from longest to shortest.



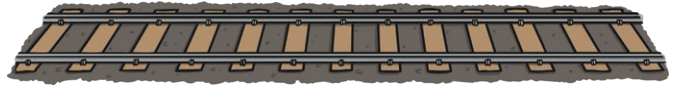
Complete the sentences.



3 bikes are _____ than 2 trains.

2 trains are _____ than 3 bikes.

Complete the sentences.



The car racing track is _____ length as the train track.

The train track is _____ length as the racing track.

Longer or Shorter? Answers

To compare the length of objects.



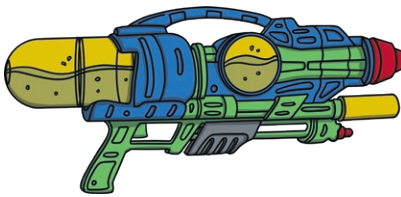
Tick the shortest.



Tick the longest.



Tick the longest.



Tick the shortest.



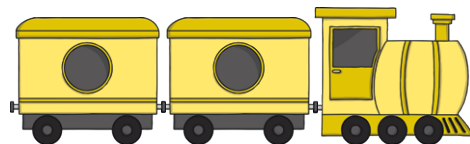
Complete the sentences using **longer** or **shorter**.



The bus is **longer** than car.

The car is **shorter** than bus.

Complete the sentences using **longer** or **shorter**.



The tractor is **shorter** than train.

The train is **longer** than tractor.

Longer or Shorter? Answers

To compare the length of objects.

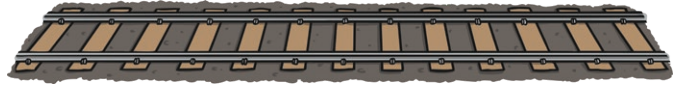


Draw a longer toy.



Children should draw an image that is clearly longer than the toy car.

Draw a shorter toy.



Children should draw an image that is clearly shorter than the train track.

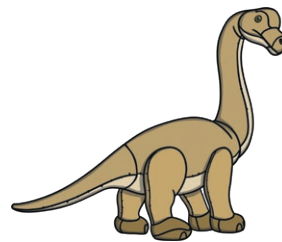
Complete the sentences using **longer** or **shorter**.



The motorbike is **shorter** than the plane.

The plane is **longer** than the motorbike.

Complete the sentences using **longer** or **shorter**.



The dinosaur is **longer** than the hedgehog.

The hedgehog is **shorter** than the dinosaur.

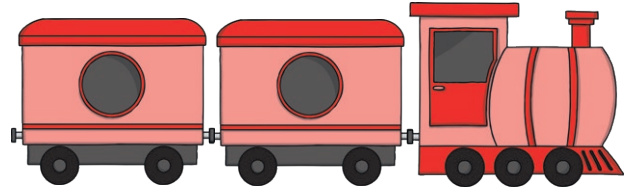
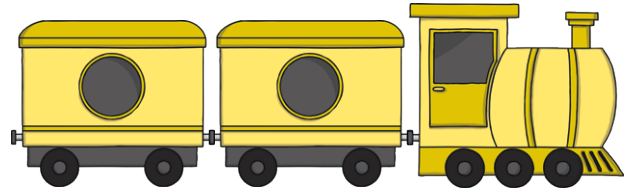
Complete the sentences using **longer** or **shorter**.



The blue snake is **shorter** than the green snake.

The green snake is **longer** than the blue snake.

Complete the sentences.



The yellow train is **the same** length as the red train.

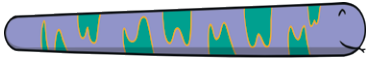
The red train is **the same** length as the yellow train.

Longer or Shorter? Answers

To compare the length of objects.



Draw a toy that is longer than the snake but shorter than the train track.



Children should draw an image that is clearly longer than the snake but shorter than the train.



Complete the sentences using **shorter** and **taller**.



The ribbon is **longer** than the skip ball.

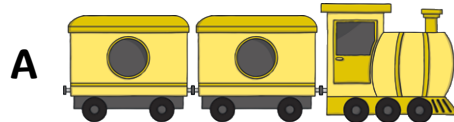
The skip ball is **shorter** than the ribbon.

Complete the sentence.



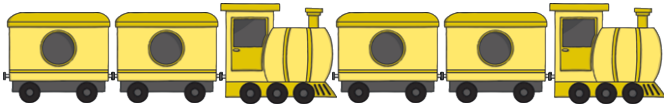
C is **shorter** than B.

Order the toys from longest to shortest.



B, A, C

Complete the sentences.



3 bikes are **shorter** than 2 trains.

2 trains are **longer** than 3 bikes.

Complete the sentences.



The car racing track is **the same** length as the train track.

The train track is **the same** length as the racing track.