



Common structures

What do these structures have in common?

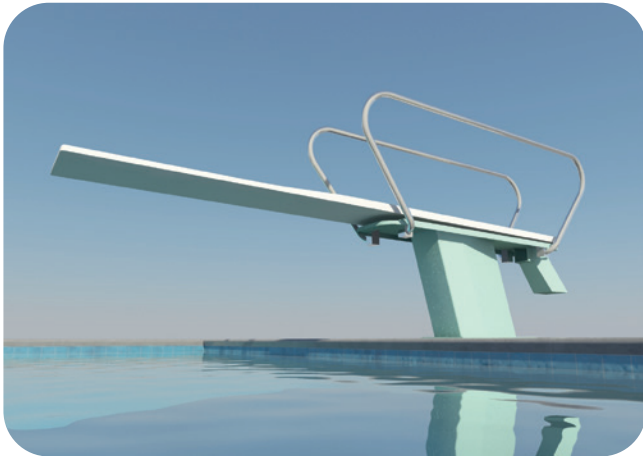


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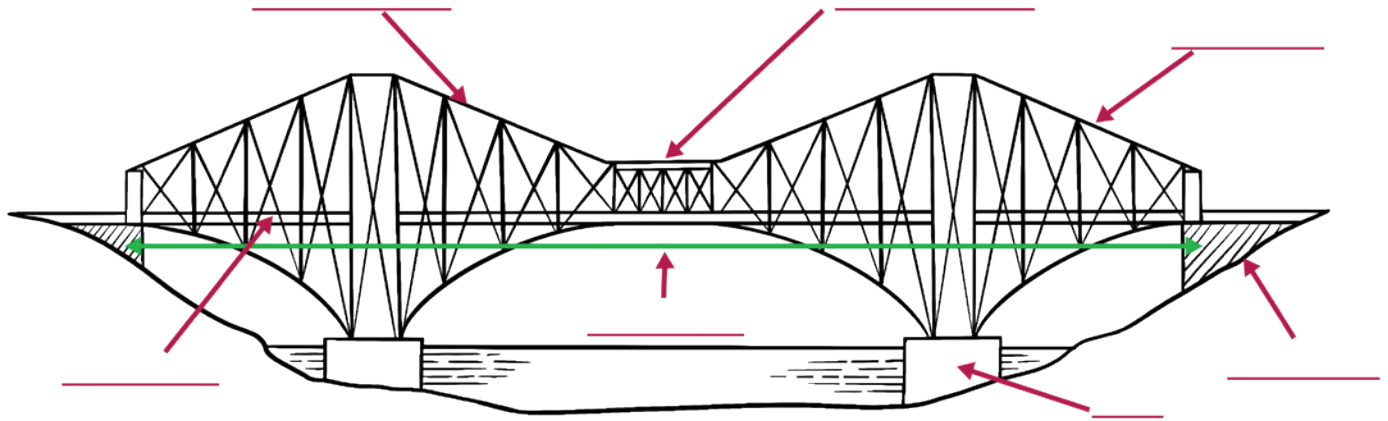


Photo by Laurenz Grabosch on Unsplash



Cantilever bridge terminology

Label the parts of the bridge using the list of words below



Cantilever arm

Suspended span

Span

Deck

Abutment

Pier

Anchor arm



Can you match up the words with the parts of the bridge? You'll see that your bridge vocabulary is growing again!



Cantilever bridge challenge

Using only the materials provided you must build a freestanding bridge to span a gap of 40 centimetres. It must stay standing when you step away.

RULES

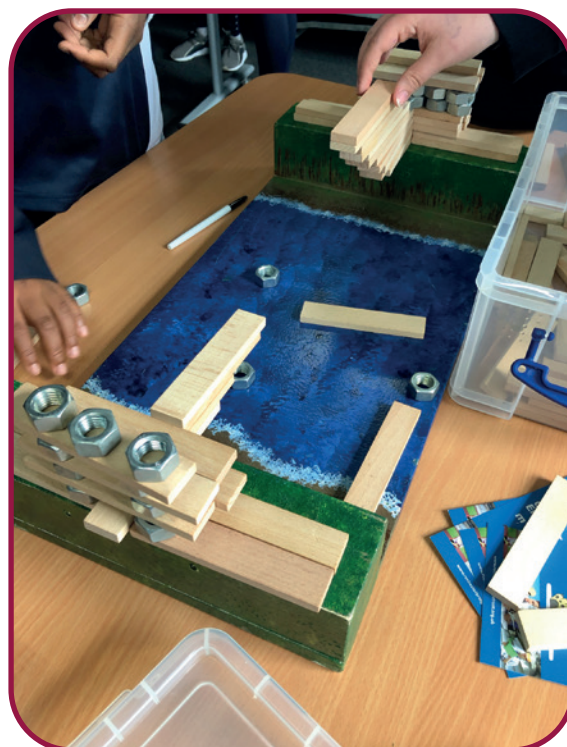
- The bridge must span the 40-centimetre gap and support itself without anything else holding it.
- The bridge must span the gap, but it does not need to be very wide or much higher than the gap.
- You can use as many wooden planks and hex nuts as you like – there are no limits, but in the event of a tie-break then winners will be the ones that use the least materials in their freestanding bridge.

HINT

Think about how you can balance the wooden blocks. Be very gentle as you move the materials!

MATERIALS

- Wooden planks
- Hex nuts
- Washers



Win or lose, it's important to understand WHY your bridge failed!





Spot the cantilever!

Which of these are cantilever bridges?



Photo by 钉钉 via Wikimedia



Photo by Musidoz via Wikimedia



Photo by Ignis via Wikimedia





Tay and Forth rivers map





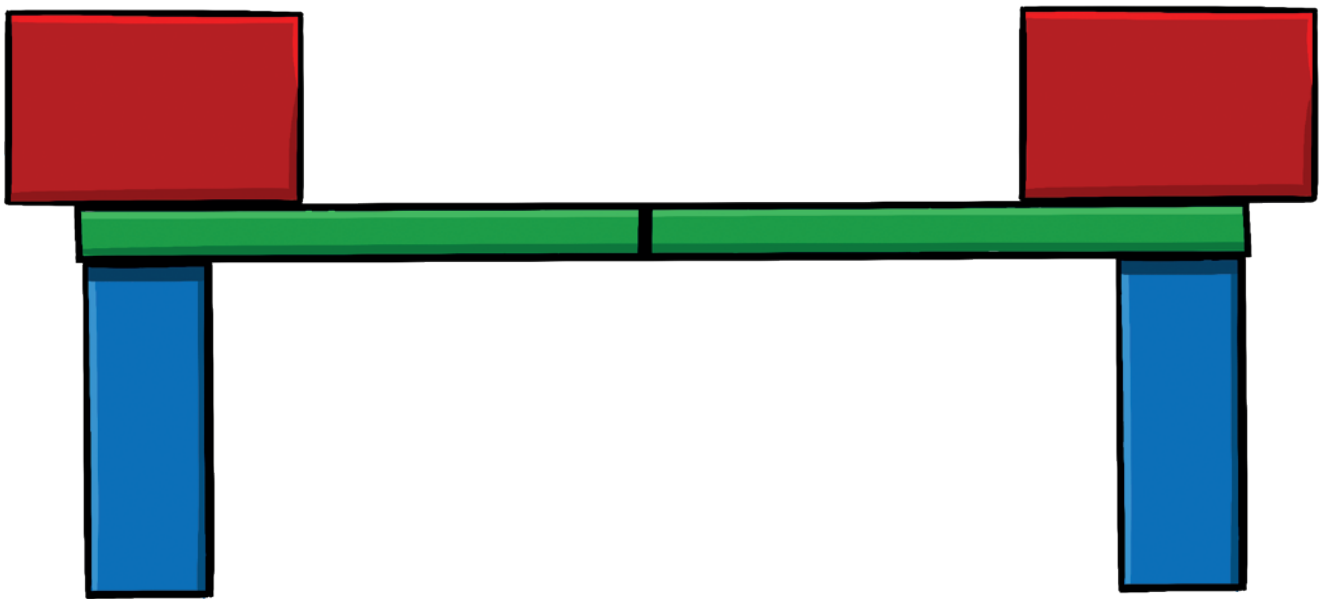
Social Media Post

Post

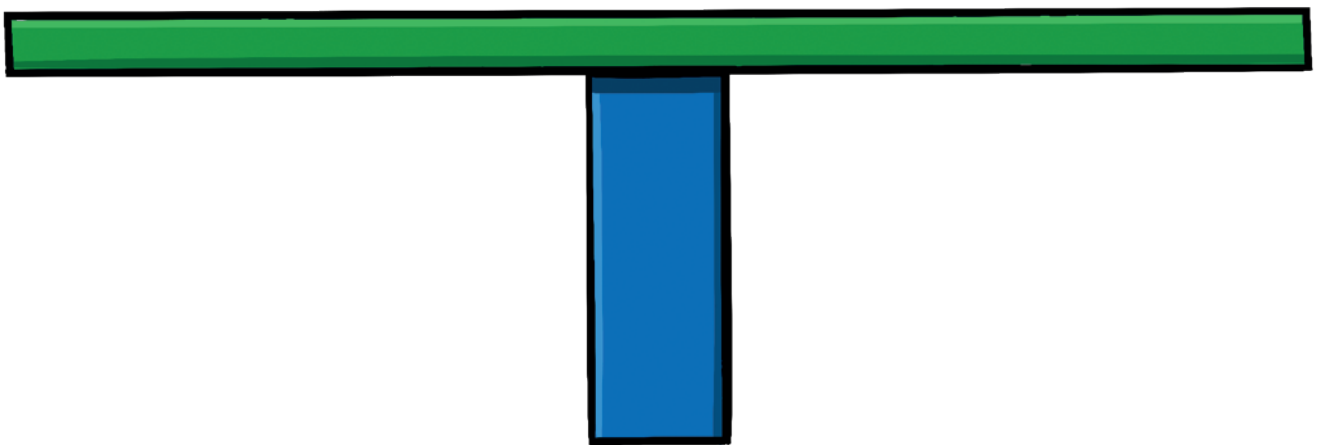


Two types of cantilever bridge

Simple



Balanced





Standing on the shoulders of giants

"If I have seen further, it is by standing on the shoulders of giants" Isaac Newton

Using the template below, find out about a famous engineer, scientist or inventor. Can you think of a question you would like to ask them about their work or what they found out?

Name:

When did they live?

Where were they born/did they live?

What did you find out about their life?

Draw/find a picture

What did they discover or find out?

What question would you ask them?

