BRITISH SCIENCE WEEK 2023

CREST AWARDS

BRIDGE BLUNDER

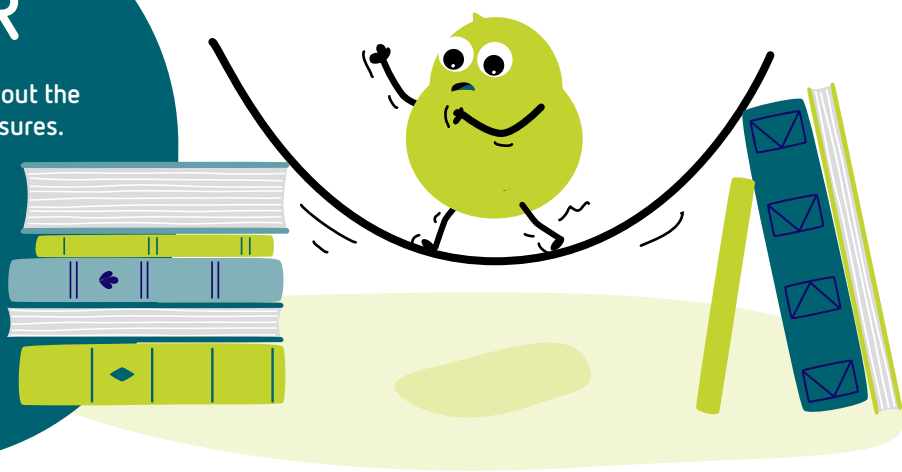
This activity is designed to get you thinking about the connections between weights, forces and measures.

Check out our video demonstration here: bsa.sc/YouTube-CREST-Bridge-blunder-demonstration

Can you build a model bridge that supports heavy weights?

45 – 60 minutes

Skill set: Creative, Imaginative, Logical



Kit list

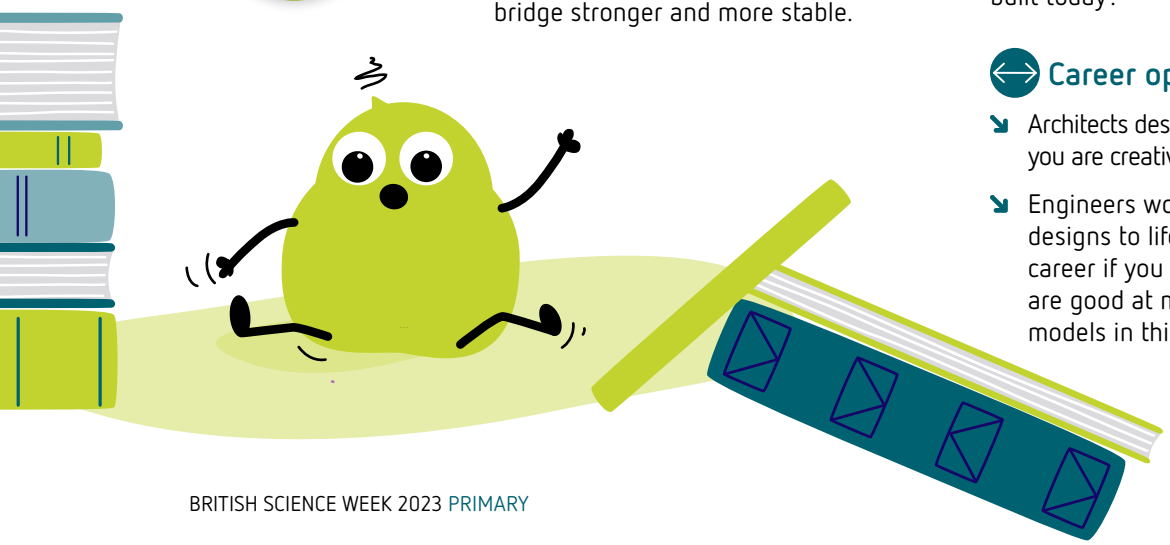
- A4 paper
- Weights or other equipment to act as 'weights' (like coins, blocks)
- Blocks or similar to create the gap for the bridge – or gap between chair and tables
- Sellotape

VIDEO AVAILABLE

Instructions

You are going to test the best design for a bridge. Think about which shapes are the strongest.

1. Using paper and a small amount of tape, make your bridge. You can cut, roll, or fold the paper if you wish. This is not your final bridge, just a way to try out your ideas!
2. Test your bridge with weights. Think about how to make this a fair test; does it matter where you put the weights?
3. Record the maximum weight your bridge could hold. What could you change to make the bridge stronger?
4. Using your findings from the first test, make one final model and test with the weights again.
5. Show your bridge to the rest of the class. You could take pictures and add notes about what you think might make your bridge stronger and more stable.



Watch out

- Avoid weights falling from a height.
- If bridges are high, you will need a bucket of sand or cardboard box filled with crumpled paper underneath to catch falling weights.

Next steps

This activity is one of the CREST SuperStar challenges. Why not try some of the other fun activities here: primarylibrary.crestawards.org/#SuperStar.

If you are an adult wanting to run CREST Awards with your pupils, visit the website for advice on how to get started: crestawards.org.

At home

What did people in ancient times use to build bridges? How does this compare to bridges built today?

Career options

- Architects design bridges and buildings, if you are creative this could be the job for you!
- Engineers work out how to bring these designs to life. This could be a great career if you like problem solving and are good at making things, such as the models in this activity.