

Structures: bridges and load

engineering

What you need: card strips of equal size, long enough for a 20 cm span (e.g. A4 cut lengthways into matching strips) · scissors · masking tape · book stacks or wooden blocks as bridge supports · 30 cm ruler (to set a 20 cm gap) · coins or metal washers for load testing

Words to use

Load · Span · Bridge shape

Our question

Which bridge shape holds the most load before it fails?

I predict...because...

Our design choice: how we will form the folded ridges, and make the truss triangles

Bridge shape, card used and load held

Bridge shape	Strips used	Load held (count)	Class load held
Flat			
Folded			
Arched			
Trussed			

Which bar is tallest? What does that tell us about shape?

Would the ranking stay fair if one group used a shorter span?

Did the strongest shape also use more card from the budget?

Which shape held most in our group, and did that match our prediction?