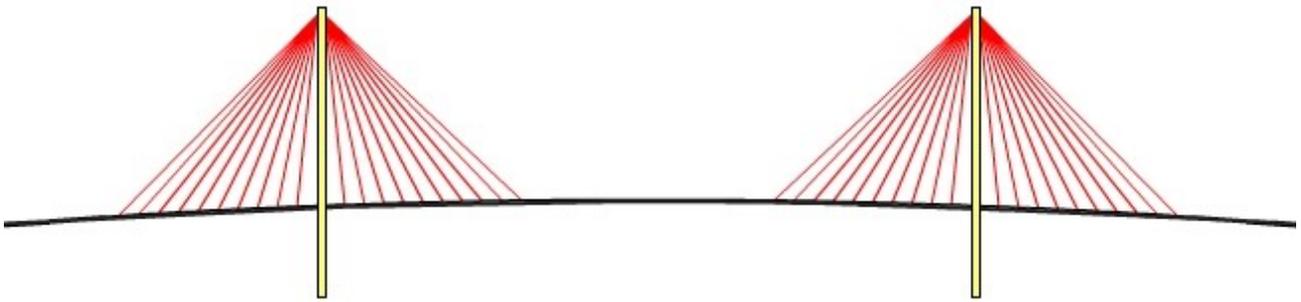


Bridge building exercise 2



Learning objective

To develop students' knowledge of structures by:

- investigating bridge structures
- using their D&T skills and knowledge to build a bridge that supports a load.

Design Brief

Design and make a model bridge that will stand on a shelf in the Design and Technology display cabinet. When completed, the bridge will support small products made by students in D&T lessons.

Specification

- The bridge must have a suspension or cable stayed structure.
- The bridge must span the width of the D&T display cabinet.
- The ends of the suspension cables / cable stays must be fixed to the sides of the display cabinet.
- The bridge frames must be free to pivot on the shelf.
- The deck must be made from flexible sheet material such as card.
- The bridge must support D&T products that will be placed on it.

Assignment Guidance

- Measure the internal width of your D&T display cabinet. Your bridge must span the width of the cabinet precisely.
- Study the bridges animation and photographs of bridges, especially those bridges that are suspension bridges and cable stayed bridges.
- Use your knowledge of structures to design a suspension bridge or cable stayed bridge that will fit precisely between the sides of the D&T display case and that will support various D&T products.
- Draw your design.
- Make your design using the materials provided.
- Work in pairs to make one bridge.
- You should have your own copy of the designs.
- You should use a digital camera to photograph your finished bridge.
- Test your bridge to check that it will safely support the loads it was intended to support.
- Use DTP software to write an evaluation of your bridge. Include a photograph of your bridge on the evaluation sheet.