

DESIGN TECHNOLOGY · Y3–Y6

Bridge Engineering Challenge

STEM design and make — KS2

Bridge types to research

1

Beam bridge

A flat beam supported at each end. Simplest type.

Example: most pedestrian footbridges

2

Arch bridge

A curved arch transfers load outward to the supports.

Example: stone bridges

3

Suspension bridge

Deck hangs from cables which are supported by tall towers.

Example: Golden Gate Bridge

4

Truss bridge

Uses a framework of triangles to distribute load efficiently.

Example: railway bridges

our challenge

Rules and success criteria

- MATERIALS: lolly sticks, card, masking tape, string — 30 pieces maximum
- SPAN: your bridge must cross a 30cm gap
- LOAD TEST: place pennies (or gram weights) on the centre until it fails



- MEASURE: record the maximum load in grams
- FAIR TEST: every group uses the same materials and the same span
- EVALUATION: which design type was strongest? Why?

