

Our School Values	
Love	We show love by learning and exploring different materials, mechanisms, designers and architects.
Unity	We show unity by helping each other and sharing techniques.
Courage	We show courage by sharing and talking about our designs.
Inspiration	We show inspiration by expressing ourselves and being proud of what we have achieved.



## Year 5

### Design Technology

### Structures—Bridges



NC Objective:

Use a wide range of tools and equipment to perform practical task (for example, cutting, shaping, joining and finishing) accurately

### Knowledge I already know

To understand how a pulley works (Year 2)

I know how to make a pulley (Year 2)

A mechanism lever is simply a plank or ridged beam that is free to rotate on a pivot.

A set of things called a system working together is part of a mechanism

### Knowledge I will learn

To understand how bridges work

To build a structure

Skills that I am going to learn:

To use coping saws, bench hooks and a workstation safely.

To apply my understanding of structural design to a final piece.

### Key Vocabulary

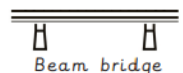
Word	Definition
Arch bridge	A bridge which is built with a curved arch
Beam bridge	A bridge, which is built with horizontal beams and vertical pillars.
Bench hook	A tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing
Mark out	To measure and mark out where a piece of material needs to be cut or shaped.
Structure	The form of an object
Suspension bridge	A bridge which is supported by vertical cables and suspended by cables, which run between pillars that are connected onto either end of the bridge.
Truss bridge	A bridge which is built from a series of triangular beams.



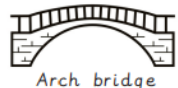
Truss bridge



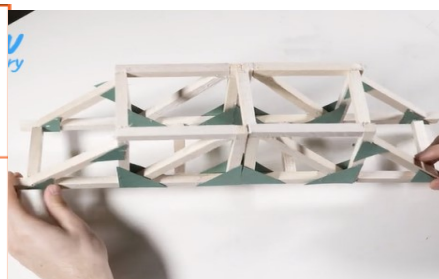
Suspension bridge



Beam bridge



Arch bridge



LI: I can create a range of beam and arch bridge designs

LI - I can create a truss bridge and understand how triangles can reinforce bridges.

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LI I can measure and cut accurately and safely using a saw and set square

LI: I can assemble accurately follow a template to create a wooden truss bridge.

Investigate strength of simple bridges with card.

Explore how trusses can strengthen bridges..

Create a spaghetti truss bridge.

Assemble parts ready for wooden truss bridge.

Build wooden truss bridge.

Test wooden truss bridge for strength.