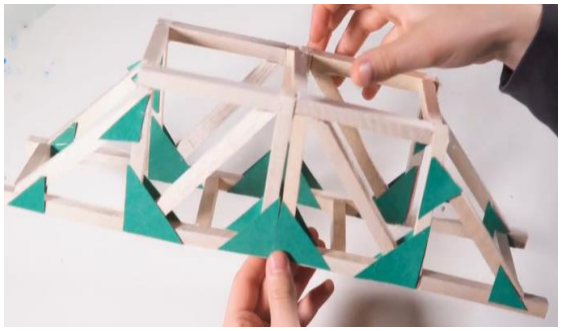
Year 5: Building Bridges Knowledge Mat

Subject Specific Vocabulary

functionality	Being useful, practical and right for the purpose something was made.
accurate	Correct and without any mistakes.
design specification	A list of criteria a product needs to meet.
design decisions	The decisions made in the designing process.
compression	Pressure which squeezes an object.
reinforce	To make a structure or material stronger, especially by adding another material or element to it.
refine	To make minor changes to improve or perfect something.
triangulation	The use of triangular shapes to strengthen a structure.
rigid	A material that is unable to bend or be forced out of shape; not flexible.
tension	A force pulling on a material or structure.

Product Outcome



Triangulation

Latchford viaduct showing triangulation.

Important Knowledge about Bridges

- ❑ I can identify a range of structures in my local area including beam bridges, arch bridges and truss bridges.
- ❑ I know how triangulation is used to reinforce structures.
- ❑ I know how to make a truss bridge that will hold a weight.

- ❑ I know how the framework of a bridge affects its strength.
- ❑ I can effectively design a structure that can hold a weight, withstand compression, is cost effective, is well reinforced, and fits with the local environment.

- ❑ I can design using an exploding diagram and annotated sketches.
- ❑ I know how to use a saw, sand edges and securely join my structure.

- ❑ I know how to strengthen, stiffen and reinforce my structure.
- ❑ I can amend and improve my design and structure against the design criteria.