Year 8 Bridge Knowledge Organiser - KS3

Knowledge you will gain

Definition of a Structure- A structure is something built: a building, bridge, framework, or other object that has been put together from many different parts

What are the 4 different types of structures?- Shell, Man-made, Natural and Frame.

How have bridges developed over time?- They were developed/ reinforced with branches and rope to add width and strength to the structure.

To be able to understand the strength and difference between shapes-Triangle- The triangle stays strong and rigid. It resists being distorted by stress. Square- The square is NOT as strong and collapses to one side.

Triangles MUST be included in designs to make them strong.

To be able to name the 5 forces and give examples- Tension/Tensile, Compression, Bending, Torsion and Shear.

What are the 3 types of Bridge loads?- Dead load, Live load and Wind load.

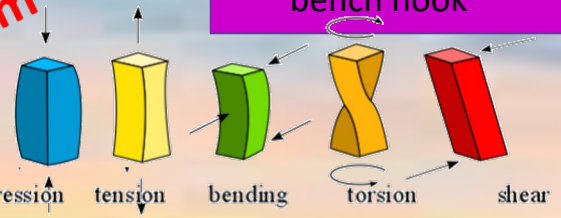
Tools and resources you will be introduced to, to build your Schema and knowledge

-Working drawing sheet
-Square section wood
-Card
-Tenon saw
-Coping saw
-Junior hacksaw
-Bench hook
-Masking tape
-Butt joint

Previous Knowledge:

- Measuring and cutting timber
- Using a junior hacksaw and bench hook

5 Forces



Vocabulary	
Structure	A structure is something built: a building, bridge, framework, or other object that has been put together from many different parts
Triangulation	Triangulation is the tracing and measurement of a series or network of triangles. Triangulations is used in the construction of buildings; this is because of its strength.
Modelling	The activity of making three-dimensional models.
Prototype	A first or preliminary version of a product.
Design constraints	Design constraints are limitations on a design.
Dimensions	The measurements of a product i.e., Height, width, depth.
Scale drawings	Scale drawings is a product drawn to size.

Brief description of the project-**Design**, **develop** and **make** a bridge that is constructed soundly and can withstand **compression** yet is still **aesthetically pleasing.**
When manufactured, we will be **checking the bridges strength** using a tub which will be gradually **filled with water**.
The strongest bridge wins!!

Types of structures

Things to look for in your Bridge project:
Ensure you use triangles to strengthen your bridge.
Use any spare card to reinforce this strength and hold members together