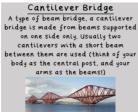
Caroline Haslett Primary School - DT Topic: Mechanics Year 4

Knowledge

• There are different types of bridge that we see today.

Beam Bridge
This is the oldest and simplest of
the four types of bridges, Simply a
beam, placed across two points.
Originally people used a
long piece of stone or tree trunk to
cross small streams.





Arch Bridge
This type of bridge was invented by
the Romans. They realised that
a wedge-shaped stone called
'voussoirs' could carry heavy loads
if built in the shape of an arch



- Isambard Kingdom Brunel, born in 1806, is considered one of the most influential people in engineering history.
 - Emily Roebling, born in New York in 1843, was a pioneer female in construction or engineering.





Vocabulary

- Structure a building or object constructed from several parts.
- Prototype a practise version of a final product to help develop an idea.

Super structures

- **Reinforce** strengthens an object using additional materials.
- **Bracket** an object used to strengthen and support a structure.
- **Gusset** a type of bracket used to strengthen a corner or angle.
- Truss pattern brackets organised in a triangle pattern to strengthen a structure.

Design, make, evaluate.

- 1. Explore describe the different types of bridge, and some historical structural achievements.
- 2. Design a bridge to hold a significant weight and create a prototype. Consider how to strengthen, stiffen and reinforce.
- 3. Make a final product.
- 4. Evaluate how much weight could the super structure hold? How could the product be made better, stronger or more sustainable?

Skills

- Researching different types of bridge and learning about significant engineers in history.
- Use research to design own bridge with the challenge to hold a heavy weight.
- Create and test a prototype.
- Use wood, hacksaws and glue guns to safely create a bridge, following careful health and safety information.
- Measure accurately to the nearest millimetre.
- Evaluate product by testing to see if it can withstand a heavy weight being placed on top.