



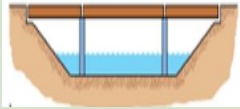
Somerset Bridge Primary School
Aspire - Brave - Care - Collaborate

Design and Technology

Autumn: Year 5

Bridge Construction ✓

Beam



Arch



Truss



Suspension



Cable stay



Cantilever



Isambard Kingdom Brunel ✓

He was a famous engineer whose designs changed the lives of many people.

Isambard Kingdom Brunel was born on 9th April 1806 in Portsmouth and he died on 5th September 1859.

Brunel was the chief engineer of the Great Western railway, and he designed the railway line between London and Bristol. He also designed the Temple Meads station in Bristol, and Paddington station in London.

He designed a bridge over the Avon river gorge in Clifton, Bristol – this later became the Clifton Suspension Bridge.

Brunel also designed fast ships: the SS Great Western, the SS Great Britain and the SS Great Eastern.

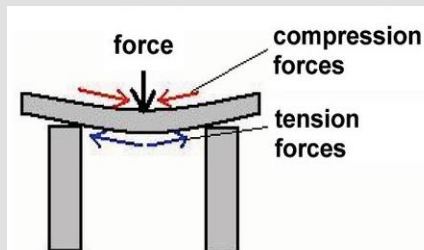
How forces affect bridge design

Compression



Compression is a force that pushes down or squeezes a bridge.

Tension

Tension is a force pulling outward.



Key Vocabulary ✓

Constructed	To build or make something.
Annotated sketch	A detailed drawing that has notes saying what has been drawn and why it has been drawn.
Cross-sectional diagram	It is a labelled diagram that shows how something works or how the parts of something are arranged. In a cross-section, a piece is cut out of the diagram to allow you to see it in more detail.
Inventions	Creating something new.
Inventors	Someone who creates something new.
Pulley 	Moves heavy objects up or down using a small wheel over which a rope is attached.
Gears 	A gear is a wheel with teeth that engage with the teeth of another wheel in order to change the speed or direction.
Reduce workload	To decrease the amount of work to be done.

Using a saw to cut wood:

1. Mark the cut line.

2. Create the starting cut.

3. Angle the saw accurately.

4. Hold elbows close to your body.

5. Grip the handle correctly.

6. Use an accurate stroke (long and short).