DT – 3D Victorian Bridge (Year 6)

Design Make Evaluate

Outcome: To design a strong model bridge using paper strengthening techniques

Prior Knowledge and Skills	
Structures:	
	Successfully build a three-dimensional structure
	Accurately cut, shape and join the Iron Man to construct a strong, stable structure
	Use an electrical system to create light-up eyes
	Make a functional three-dimensional Iron Man with aesthetic qualities

Ideas and inspiration:

History – The Victorians





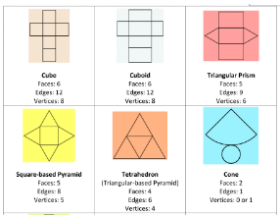
Isambard Brunel – Engineer for the Clifton Suspension Bridge





https://kids.kiddle.co/Isambard_Kingdom_Brunel

Maths – Nets



Completed 3D Victorian Bridge



https://cliftonbridge.org.uk/

Vocabulary:

design brief	the problem being solved and how to be successful
aesthetics	how good something looks
strengthen	to make stronger
abutment	supports at the ends of the bridge
pier	supports under the middle of the bridge
deck	the road part of the bridge

Developing Knowledge and Skills					
Knowledge:		Below	Just At	At	Above
	To discuss and explore the engineer Isambard Brunel				
	To understand how Isambard Brunel helped develop and shape engineering and construction by designing the Clifton Suspension Bridge				
Design:		Below	Just At	At	Above
	To create a design brief for the construction of a three-dimensional bridge, through peer discussions and research				
	To plan, design and sketch innovative ideas for a purposeful bridge with annotated and pictorial representations				
	To develop and apply mathematical knowledge of nets				
Make:		Below	Just At	At	Above
	To select the strongest nets, folds and joins to build a strong, stable three-dimensional structure				
	To make a purposeful three-dimensional bridge with aesthetic qualities				
Evaluate:		Below	Just At	At	Above
	To continually evaluate and modify the product to match the initial design brief and design criteria set				
	To evaluate the positive stages of the design and make process				
	To evaluate the challenges of the design and make process				
	To make suggestions for future improvements				

The best bit about my bridge was_____

_____

My bridge would have been even better if _____

_____

What have I learnt?

_____