

DT—Year 3—Bridges

Design Brief

To design and make a bridge that will hold vehicles and that has a moving mechanism.



Vocabulary

bridge	Leeming	systems
Santiago	strengthen	pulleys
Calatrava	frames	levers
Thomas	diagonal	cut
Telford	structures	materials
Joseph	stable	tools
Strauss	base	safely
Gustave Eiffel	mechanical	accurately
Michael		

Year 2 Design Skills

- Explain what they are making and which materials they are using and why they have chosen them.
- Design products that have a clear purpose and an intended user.
- Use pictures and words to convey what they want to make.
- Say what they like and don't like about their product and explain why.
- Make products, using a range of tools to cut, shape, join and finish.
- Talk about how closely their finished product meets their design criteria.
- Explore objects and designs to identify likes and dislikes.
- Explore how products have been created.

Year 3 Design Skills

- Investigate existing products, including drawing them to analyse and understand how they are made.
- Plan a sequence of actions to make a product.
- Develop more than one design.
- Generate designs with annotated sketches.
- Refine work and techniques as work progresses, continually evaluating the product design.
- Identify strengths and weaknesses of their design ideas.
- Talk about how closely their finished product meets their design criteria and meets the need of the user.
- Disassemble products to understand how they work.
- Improve on existing designs, giving reasons for choices.

Mechanical System Skills

Year 2

- Attach wheels to chassis using an axle.
- With support cut strip wood/dowel using a hacksaw.
- Make vehicles with construction kits which contain free running wheels.
- Use a range of materials to create models with wheels and axles e.g. tubes, dowel and cotton reels.
- Use materials to practise drilling, screwing, nailing and gluing to strengthen products.
- Cut materials safely using tools provided.

Year 3

- Strengthen frames using diagonal structures.
- Investigate how to make structures more stable e.g. widening the base.
- Begin to use mechanical systems in their products e.g. pulleys and levers.
- Cut materials accurately and safely by selecting appropriate tools.

Design Process

Research

Look at a product to see how it has been made.

Skills

Practise and learn new skills to make the final product.

Design

Design the product using knowledge from research and skills learned.

Prototype

Make the prototype and identify any changes needed for the final design.

Make

Make the final product using skills learned.

Evaluate

Evaluate the final product.