



Unit of work
Bridges

Year group: 3

Prior learning

- Experience of using construction kits to build walls, towers and frameworks.
- Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.
- Experience of different methods of joining card and paper.

Knowledge

- To be able to name understand about Brunel's life and link this to the industrial revolution
- To be able to name and explain the purpose of: junior hacksaws, bench hooks, G-clamps, hand drills, drill bits, safety goggles and glue guns.
- To be able to name a range of materials such as: paper straws, plywood, wooden dowel, grey board and elastic bands
- To be able to explain how to work safe using DT equipment
- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in products.

Skills

- To be able to design a purposeful product based on a design brief
- To be able to select from a range of tools
- To be able to cut accurately and safely
- To be able to create a mock-up and suggest improvements
- To be able to make a product based on a design brief
- To be able to test and evaluate against the design brief.

Significant people: Isambard Kingdom Brunel



Brunel was one of the most versatile and audacious engineers of the 19th century, responsible for the design of tunnels, bridges, railway lines and ships.

National Curriculum

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

Vocabulary and definitions

Word	Definition
forces	force is the push or pull on an object with mass that causes it to change velocity
arch	a curved symmetrical structure spanning an opening and typically supporting the weight of a bridge, roof, or wall above it.
Swing bridge	a bridge over water that can be rotated horizontally to allow ships through.
levers	a rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end.
mock-up	a model or replica of a machine or structure
linkages	joining one or materials together
joining	link; connect.
materials	the matter from which a thing is or can be made
stronger	powerful and difficult to resist

