



DT

Year 1 Knowledge Organiser - Drawbridges

Vocabulary

Key Questions

Key Engineer

Isambard Kingdom Brunel

1806- 1859



What materials are strong enough to make a bridge?

What makes a bridge strong?

Why do we need bridges?

What mechanism is used to open and close a drawbridge?

Key Vocabulary	Definition
stable	an object that is not likely to give way or overturn
design brief	the steps that you need to create and finish a project
prototype	a first edition of something that is new
balance	an even distribution of weight to keep something upright
construct	build or make something
trusses	a framework that supports another structure
arches	a curved symmetrical structure
suspension	a system of springs to support a structure and stop it moving
Drawbridge	a bridge, especially one over a castle's moat, which is hinged at one end so that it may be raised to prevent people crossing or to allow vessels to pass under it.
Lever	a rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end when pressure is applied to the other.
mechanism	a system of parts working together in a machine; a piece of machinery.
pulley	a wheel with a grooved rim around which a cord passes, which acts to change the direction of a force applied to the cord and is used to raise heavy weights.

Key Facts

Went to school in England and France

Brunel was the son of a French engineer, Marc Isambard Brunel, and he showed great skill at drawing and geometry from a very early age.

Brunel worked with his father on a project to create a tunnel under the River Thames. He was badly injured in 1828 when the tunnel became flooded.

In 1830, Brunel won a competition to design a bridge to span the River Avon. Work started on his Clifton Suspension Bridge, but it wasn't completed until 1864 (after Brunel's death).

He designed tunnels, bridges and viaducts for Great Western Railway.

Isambard Kingdom Brunel designed Paddington Station and it opened in 1854.

He also designed the first steam ship to travel across the Atlantic.

Work Examples



Timeline

Edmund Cartwright 1743— 1823	Isambard Kingdom Brunel 1806-1859	Samuel Fox 1815-1887	Gustave Eiffel 1832- 1923	Joseph Strauss 1870—1938	Richard Reed 1973-present
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