



DT

# Year 2 Knowledge Organiser— Dynamic Drawbridges



DT

## Vocabulary

Key Vocabulary	Definition
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.
Bascule	a type of bridge with a section which can be raised and lowered using counterweights.
fulcrum	the point against which a lever is placed to get a purchase, or on which it turns or is supported.
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.
Engineering	The process of creating and building structures and products.
raise	lift or move to a higher position or level.
load	a heavy or bulky thing that is being carried or is about to be carried.

## Key Questions

What is a drawbridge?

What mechanism is used to open and close a drawbridge?

How is friction important when designing a drawbridge?

## Key Engineer Joseph Strauss

January 9, 1870 - May 16, 1938



### Key Facts

Joseph Baermann Strauss was an American structural engineer of German descent, who revolutionized the design of bascule bridges.

He was the chief engineer of the Golden Gate Bridge, a suspension bridge

Strauss was hospitalized while in college and his hospital room overlooked the John A. Roebling Suspension Bridge. This sparked his interest in bridges.

At that time, bascule bridges were built with expensive iron counterweights. He proposed using cheaper concrete counterweights in place of iron. When his ideas were rejected, he left the firm and started his own firm, the Strauss Bascule Bridge Company of Chicago, where he revolutionized the design of bascule bridges.

## 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