

## Year 3 Design and Technology River Structures

Vocabulary	
aqueduct	An arch-based structure to carry water vehicles.
viaduct	An arch-based structure to carry road or rail.
mechanism	A system of parts working together in a machine.
levers	A plank or ridged beam that is free to rotate on a pivot. It is perfect to lift heavy things.
pneumatics materials	Mechanical movement made by compressed air or fluid.
Swing bridge	A bridge with a piece that swings around.
Lift bridge	A bridge with a part that lifts whilst remaining parallel to the ground.
Bascule bridge	A bridge with two sides that lift.
Tilt bridge	A bridge with a part that can tilt.

### Key Questions:

- Why are some bridges designed differently to others?
- What is the purpose of a bridge?
- Name 3 famous UK bridges?
- Who were their designers?
- What was the mechanism that the bridge is famous for?
- Which mechanism system will you include in your design?



Tower Bridge, London (Bascule)



Millennium Bridge, Gateshead (Tilt)



Tees Newport Bridge (lift)



Swing Bridge, Newcastle (swing)



Aqueduct



Viaduct

Skills
To work collaboratively to research the existing solutions for crossing a river.
To develop design skills using sketches, plans and detailed diagrams.
To use designs and plans to inform the selection of appropriate materials.
To trial and test products.
To understand and use a mechanical system in a product.
To evaluate ideas and products against a design criteria.

