



Llangollen Canal Fact File



These notes are designed to help you with homework and other projects.

It will help you to discover:

- * Why the canal was built
- * Who helped to build the canal
- * Why the Llangollen Canal was once named the Ellesmere Canal.



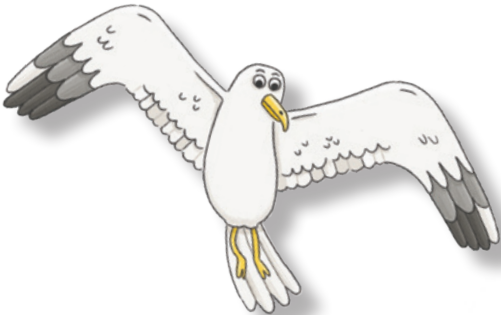
The Llangollen Canal is one of the most beautiful canals in Britain.



The Llangollen Canal is a narrow canal. It is 44 miles long and runs from Hurleston Junction near Nantwich in Cheshire, to Llangollen in Wales.



Llangollen Canal



Llangollen Canal

Changing names

Originally, the **Llangollen Canal** was part of the **Ellesmere Canal**. Much later, in 1957, the canal was renamed the **Llangollen Canal** to make it better known.

A very special canal

Today, part of the Llangollen Canal is a **World Heritage Site**. It's one of the most popular canals for boaters and about 15,000 boats a year chug slowly along this spectacular canal. That's more traffic than when the canal carried cargo!

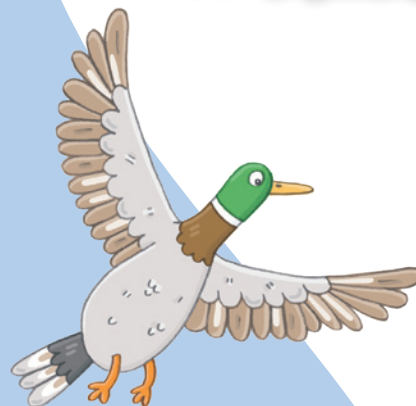


The 11 mile (18 km) section of the Llangollen Canal between Horseshoe Falls and Glendrid Bridge near Chirk, is a World Heritage Site.



What is a World Heritage Site?


A World Heritage Site is a natural or artificial site, an area, or a structure of outstanding international importance. These top sites are given special protection to save them for future generations.



The Llangollen Canal is as important as Stonehenge!



The old Ellesmere Canal



When people planned the Ellesmere Canal there were arguments over which route it should take.

Some wanted the western hilly route via the coal mines near Wrexham. Others preferred an easterly route which was easier and cheaper to build because it was less hilly. Eventually the western route was chosen.

Building the Ellesmere Canal



Construction began with the central section and some branches (side canals). But the canal company ran out of money. It was decided not to complete the canal to Chester or Shrewsbury. Instead the Whitchurch Branch was joined to the Chester Canal at Hurleston Junction.



The old Ellesmere Canal.



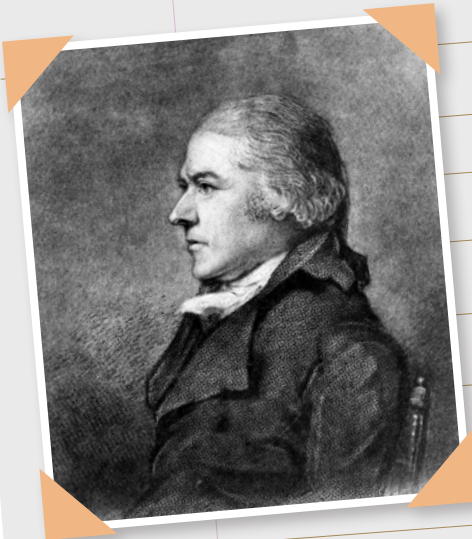
One canal becomes three

The original Ellesmere Canal was split into three: the **Llangollen Canal**, the **Montgomery Canal** and the **Shropshire Union Main Line Canal**.



Building Ellesmere Canal

Two of the greatest early canal engineers helped to build the Ellesmere Canal.

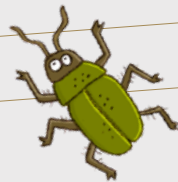


William Jessop (1745-1814)

William Jessop was appointed senior engineer for the Ellesmere Canal. He designed and planned it, but navvies dug the channel, stonemasons hacked out the stone lock chambers and tunnels, and builders constructed bridges and other canal buildings.

William Jessop

As well as canals, bridges and aqueducts, William also designed docks and harbours.



Thomas Telford (1757-1834)

Thomas Telford was appointed to design structures such as aqueducts and locks. Thomas had new ideas and came up with experimental designs for many new structures (see pages 8,9 and 10).

Thomas Telford

Thomas was one of the first people to use cast iron for large structures such as bridges. He had to invent new techniques, such as how to seal the iron connections to make sure they didn't leak.

William helped Thomas to become a successful engineer and the two men became good friends.





Wrenbury Lift Bridge

The lift bridge at Wrenbury is easily lifted when boats need to pass through.

Lift bridges are smaller and cheaper to build than stone bridges.



Chain Bridge

Chain Bridge was built in 1817. Two years later, a French industrial spy sketched Chain Bridge along with other structures in the area. At that time, British engineers were creating exciting structures with new materials – so he stole the idea!

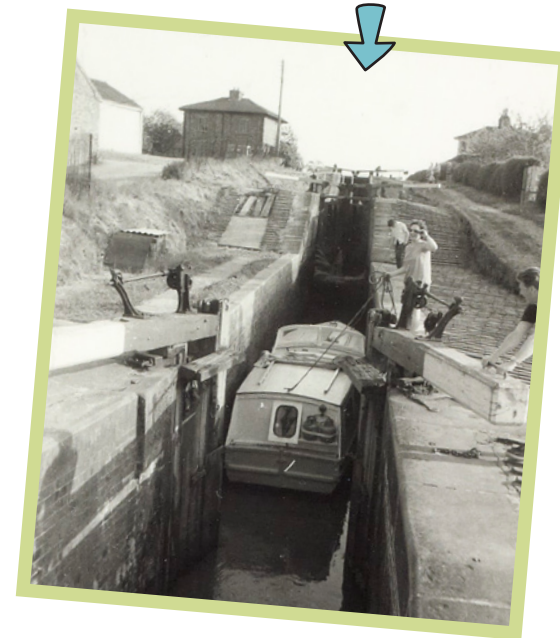


Chain Bridge is a footbridge suspended by chains. It was one of the first chain bridges in the world.

Grindley Brook Staircase Locks

There are three staircase locks (where one lock opens directly into the bottom of the next lock) near the village of Grindley Brook. There are three more locks in the village. Together the locks raise boats up from the Cheshire plains into the Welsh hills.

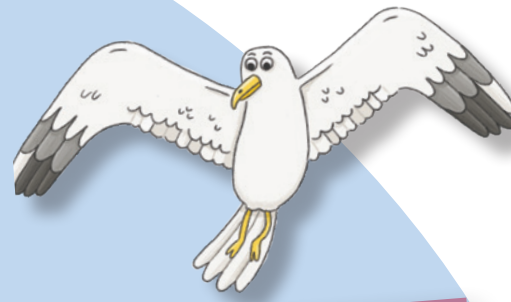
Thomas Telford visited the house overlooking Grindley Brook Staircase Locks while supervising their construction.



Aqueducts and tunnels

Pontcysyllte Aqueduct

Thomas Telford designed this amazing piece of engineering. It was completed in 1805 and it's still the **highest** and **longest** aqueduct in Britain. Thomas used **iron** to build the trough which carries the Llangollen Canal across the aqueduct. Iron had never been used in this way before and people were afraid that the aqueduct would fail.



You can walk across Pontcysyllte Aqueduct along the towpath or cross it by boat. But don't look down – it's very scary!

Chirk Tunnel

Chirk Tunnel opens out at the end of Chirk Aqueduct. Boats cannot pass each other in the tunnel but fortunately it is straight enough to be able to see if a boat is already inside.



Chirk Aqueduct.

Every 10 years or so Pontcysyllte Aqueduct is drained for maintenance. But first the plug must be pulled out!



Chirk Aqueduct and Chirk Tunnel were also designed by Thomas Telford.

The River Dee

Canals need a supply of water, as water is lost along the canal when locks are used.

This is because water moves down the locks and not back up again. When the old Ellesmere Canal was being built, it became clear that the streams along the route would not provide enough water to keep the canal working. **The solution** was to use water from the River Dee.



The Pontcysyllte Aqueduct crosses the River Dee.

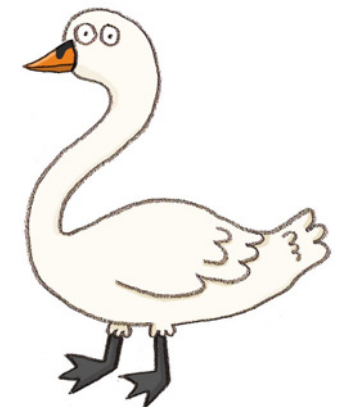


Horseshoe Falls.

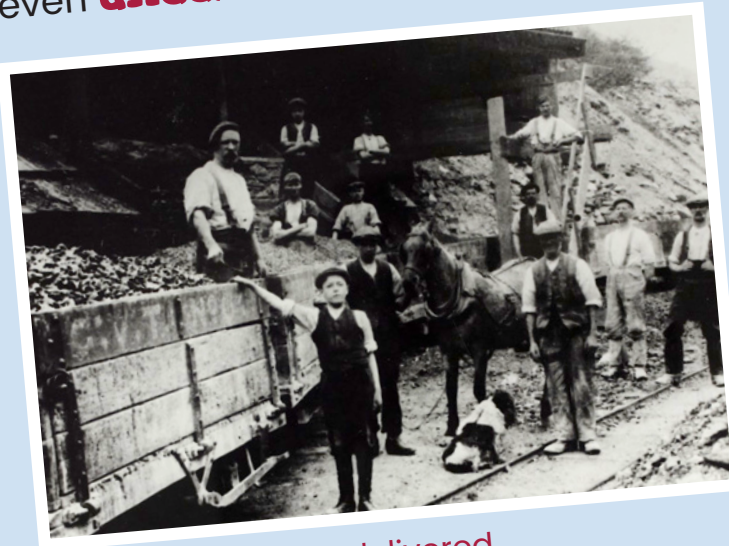
Horseshoe Falls

Thomas Telford designed the crescent-shaped Horseshoe Falls to draw water from the River Dee into the old Ellesmere Canal. The weir is 140m long but only 1.22m high. This makes it less likely to be damaged by floods.

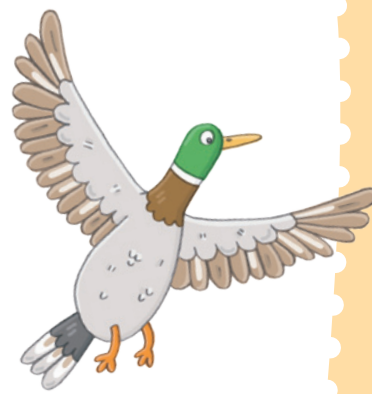
Horseshoe Falls are built of **stone**. Over 13 million gallons (59 million litres) of water a DAY drop over the weir into the canal!



The Ellesmere Canal was an excellent way of moving bulky cargo such as **building materials** (slate, clay), **limestone** (used in the iron industry) **lime** (used as a fertilizer on fields), **coal**, **grain** and **malt** (for brewing) - and even **cheese!**



Loading coal to be delivered by rail to the canal side.



The iron industry

The iron industry was important because it had so many uses - from tools to steam engines. All the raw materials for making iron (iron ore, coal and limestone) were found in North East Wales.



Pig iron was delivered to the canal side and loaded straight onto narrowboats and taken to local forges and foundries to be made into other things.



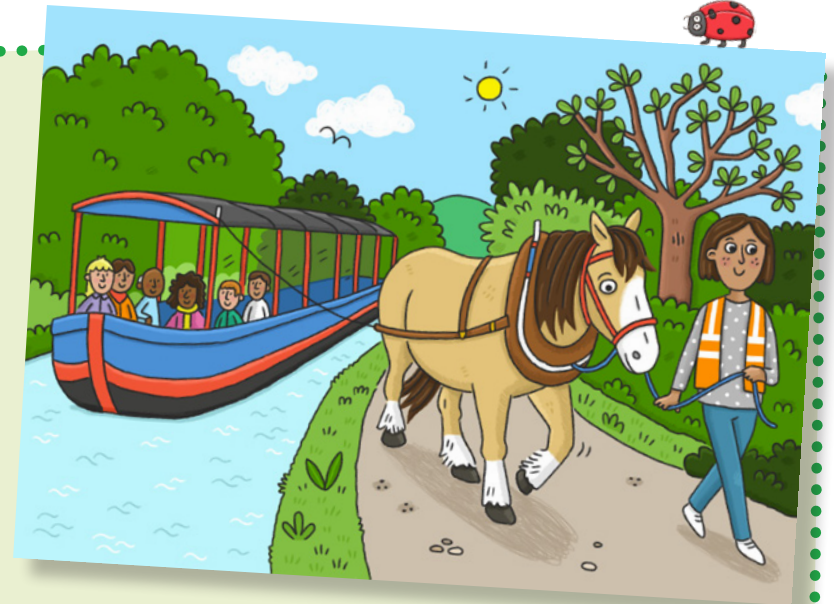
Iron is made in a **blast furnace**. **Iron ore**, **limestone** and **coal** are heated together to extract the iron. The molten metal runs out into a bed of sand and then it's called '**pig**' iron.

Boats



The boats using the Llangollen Canal were **pulled by horse** until the introduction of **motor engines**. Some boats continued to be pulled by horse even after the introduction of motor boats.

Boats were not just for cargo. In 1884, a horse-drawn passenger boat service for sightseers started. People can still travel by horse boat today starting from Llangollen Wharf.

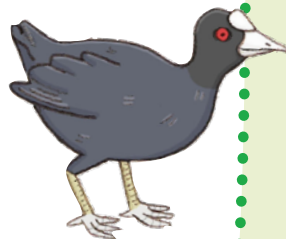


This horse-drawn inspection boat is checking that everything on the canal is in working order.

Holiday boats and cruisers are so popular on the canal today that it probably carries more traffic than when it first opened!



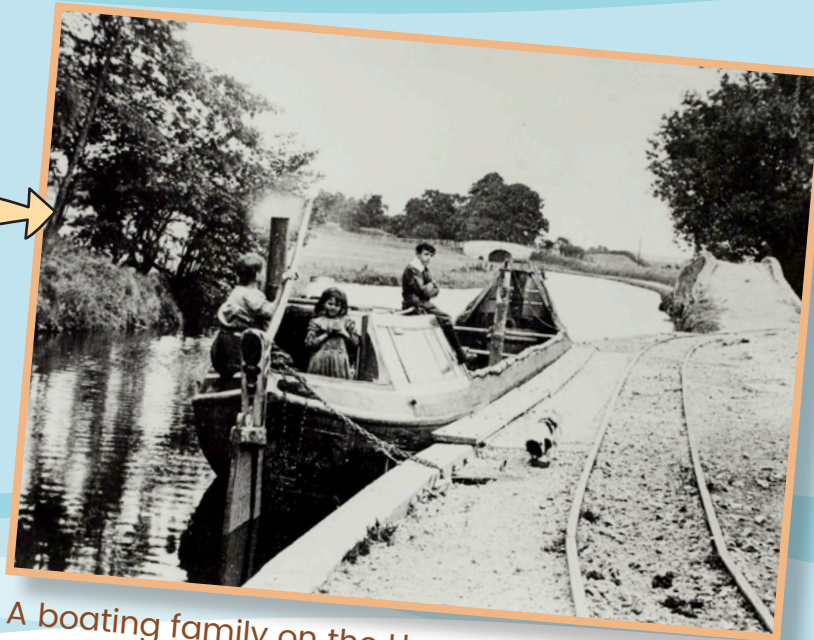
This boat is crossing the Pontcysyllte Aqueduct.





Living on the canal

Working on boats usually ran in families, with sons following their fathers to work on the canal. Boaters were often born near the canal. Sometimes, where families lived on boats, children were born on the boats themselves.



A boating family on the Llangollen Canal.

The working day

A working day often **started at dawn** and didn't finish until it was dark. Sometimes it was just men that worked on the boat and went home when they could. When a whole family lived on a boat everyone was involved in the work – including the children.



Children were often given the task of leading the horse.

Boaters' children

Children were **up at 4am** to help get the boat going. They would not get to bed until late. Boats were always on the move so it was very difficult for children to go to school regularly.



This boy is riding the horse that pulls the boat.

The Llangollen Canal survives



Many canals were **abandoned** as transporting cargo by rail and road became quicker and cheaper. But the Llangollen Canal **remained open** to carry water from the River Dee to Hurleston Reservoir and then to **local homes** and **industries**.

Hurleston Locks

The Llangollen Canal begins with a flight of **four locks** at Hurleston Junction. The locks raise the water level more than 34 ft (10.4 m) to enable boats to climb up from the flat Cheshire plains to the Welsh hills.



Hurleston Locks.



Hurleston Reservoir.

Hurleston Reservoir

Canals are artificial so they need a supply of water. Hurleston Reservoir was built to store water to feed the canals to Chester and Middlewich. Water from the reservoir still supplies water to local houses. Perhaps you've drunk some of the **50 million litres** of water that travels along the canal each day!



Hurleston Reservoir was one of the last structures to be built on the canal.