

Canal Mania

Teacher's Notes

This is an investigation of a significant turning point in British history - the development of the canal transport system.

During your visit to the Museum you will be able to see a preserved slice of the Black Country industrial landscape, complete with canal, canal boats and a range of industries that relied on the canal for the transportation of raw materials and finished goods. You will also be able to investigate the lives of the Black Country people who lived and worked on the canal.

Students can use the resources listed below for more in depth study, to determine the impact the development of canals had on life and industry in the Black Country and beyond.

Over View

From 1766-1900 the canal system was the main means of transporting goods in the Black Country and Birmingham. Without a cheap means of transport the local industries would not have been able to exploit the rich mineral resources of coal, iron ore, limestone and fireclay that were abundant.

The Black Country canals originally developed to supply coal to Birmingham. This extended to over 160 miles of canals, enabling raw materials and finished products to be shipped out all over the country and the world. The transport network linked collieries and ironworking industries with the ports of Bristol and Manchester.

The first Black Country canals - the Staffordshire and Worcestershire Canal (1766 - 72) and the Birmingham Canal with its arm to Wednesbury (1768 - 72), were built under the supervision of James Brindley, "the father" of the English canal system. The Birmingham Canal was an immediate success, halving the price of coal as soon as it connected with the Wednesbury mines.

There followed a frenzy of "Canal Mania" and the Black Country became criss-crossed in a dense network of canals, known as the Birmingham Canal Navigations (BCN).

The canals became so busy that gas lighting was installed beside the locks to permit round-the-clock operation. At its peak the BCN carried around 8.5 million tons a year – greater than any other local canal in Britain. Over half of this cargo was coal to supply the local iron, glass and brick industries. For most of the BCN's history, boats were open and horse drawn, often built without cabins for maximum carrying capacity. Journeys were generally short haul, with the cargoes such as limestone, coal and iron being moved relatively short distances within the Black Country region.

This intensity enabled a huge increase in movement of materials and products allowing the Black Country and Birmingham to become literally "the workshop of the world".

HISTORIC MAPS		
1.	Canal Map 1771	<p><i>“A Plan of the Navigable Canal from Birmingham in the County of Warwick to the Canal at Aldersley, near Wolverhampton with a Collateral Cut to the Coal Mines at Wednesbury.”</i></p> <p>This was published in a gentlemen’s Magazine, in October 1771 and is one of the earliest maps to show the Birmingham Canal as it was being built. Note the winding route. James Brindley, the engineer, avoided expensive embankments and cuttings by following the contours of the land. This did make the canals very windy and the route longer.</p>
2.	Black Country Canals	This shows the dense network of canals that developed across the Black Country. A clear difference can be seen between the “old main” of Brindley, and the much straighter new “Island Line” built by Thomas Telford.
OFFICIAL RECORDS		
		Because of the nature of the work, the canal families were constantly moving around the canal system and were not always accounted for on the usual census records. Any written information is difficult to trace and, because boat people were usually illiterate, not always reliable.
1.	1881 Census	This shows the details for a number of boats moored in Tipton at Malthouse Road, Factory Canal Bridge. The boats are named: Aimie, Roger, Derwent, Rose, Eliza, Salisbury and Roseanna and most are operated by a husband and wife team with a young mate.
2.	1911 Census Canal Boat “Apple”	<p>This shows the Fellows, Moreton & Clayton boat, Apple. Fellows Morton & Clayton Ltd were the largest and best known canal transportation company in England. They had a large fleet of boats which ranged far and wide over the canal system, carrying diverse cargos. There are two people living on the boat:</p> <ul style="list-style-type: none"> • Thomas Smith – the Captain. He is 29 years old and single. Notice that he has signed the census form with a cross – showing that he is illiterate. This would not have been unusual, as if he came from a boating family, he would not have had many opportunities to attend school. • John Payton – a Boarder. He is also 29 years old and single. It is likely that he assisted Thomas with the boat as he is listed as a boatman under occupation.
3.	1911 Census Dredging Boat	<p>This is for a canal dredging boat. There is only one person on board the boat – and he would have been working not living on the boat:</p> <ul style="list-style-type: none"> • Edward Amos, the Master, aged 49 and single. He is a worker for the Staffordshire & Worcestershire Canal Company and was born in Kidderminster. <p>The form has been signed by H. Sadler on behalf of Edward – which may mean that Edward was illiterate.</p>
ENGINEERING		
1.	James Brindley	The first Black Country canals - the Staffordshire and Worcestershire Canal (1766 - 72) and the Birmingham Canal with its arm to Wednesbury (1768 - 72), were built under the supervision of James Brindley, “the father” of the English canal system.
2.	Thomas Telford	In the 1820s the Birmingham Canal Navigations were suffering from severe congestion. Thomas Telford was called in to survey the canals for improvement.

		<p>He described Brindley's original canal as:</p> <p><i>"...little more than a crooked ditch, with scarcely the appearance of a towing path, the horses frequently sliding and staggering in the water, the hauling lines sweeping the gravel into the canal, and the entanglement at the meeting of boats being incessant"</i></p> <p>Telford was able to take advantage of considerable advances in engineering technology. He straightened and shortened the course of the Birmingham Canal Old main Line, taking seven miles off the original length and reducing the number of locks, through the use of massive cuttings and embankments.</p>
3.	Canal Bridges at the Museum	A huge number of bridges were needed to span the dense canal network – allowing pedestrians, horse-drawn traffic, and later trams, trolley buses and motor traffic to cross. The bridges show a range of different designs, shapes and materials.
4.	Galton Bridge	A Grade 1 listed bridge in Smethwick, designed and built by Thomas Telford in 1829. It is made of cast iron, cast by Horseley Ironworks.

DIFFERENT TYPES OF CANAL BOAT

	<p>The standard canal boat in the Black Country was the “narrowboat”. This was built to the maximum size the locks would allow and were usually 71 feet and 6 inches (20 metres) long and 7 feet (2 metres) wide. They could carry nearly 30 tons.</p> <p>Boats were initially powered by horses. They could carry more than thirty tons at a time with only one horse pulling - more than ten times the amount of cargo per horse that was possible on the road. The tow path found on one side of all canals was for the horses. Notice the tow path at the Museum by the bridge, and see how it is ridged to prevent the horses from slipping.</p> <p>Examples of the following boats can be seen at the Museum during your visit.</p>	
1.	Day Boat: Bessie	<p>Day boats worked short distances and were common in the Black Country. The boaters, all men, would undertake relatively short trips (up to 8-10 hours one way). They didn't live on their boats, but instead lived “on the bank” with their families.</p> <p>Day boats were often open boats, - known as “joey” boats, thought to be named after Joe Worsey, who owned several boat docks around the BCN and where hundreds of these day boats were made.</p> <p>Joey boats had a small cabin for shelter, and would carry bulk loads of cargo such as coal, iron ore, iron goods, limestone and clay. They were often double-ended so there was no need to turn them around for the return journey – important as it saved time, lessened congestion and meant they could be used in narrow canal arms and basins.</p>
2.	Wharf or Hampton Boats	<p>Wharf boats came into being from about 1870 onwards in order to transport the maximum amount coal possible using just one horse. They were longer than traditional narrow boats, and could carry up to 50 tons of coal. As they were so large, they could not go through locks so were only used in this area, working the highest level of the canal from coal yard to coal yard.</p> <p>The two large wooden boats sunk under water in the canal opposite the lime kilns are wharf boats, Prosper and Edna Irene.</p>

3.	Fly Boats: President	Flyboats worked day and night. They were for transporting high value, perishable goods as quickly as possible. They were built for speed with a different hull design to cut through the water and a rounded section rather than a flat bottom. They carried under 20 tons to enable them to travel faster, and had priority over other boats when entering locks. President carried lucrative goods such as tea, sugar, soap, tinned goods, paper and HP sauce.
4.	Family Boats: Diamond	Family boats were used for long distance traffic. The boatman and his family lived aboard. They were known in the London area as “Monkey” boats after the Tipton carrier Thomas Monk. They carried their cargoes – such as tea, spices, sugar and even gunpowder - under canvas cloths to protect them. Some boats were adapted to carry special cargoes. “Tank” boats - like Stour - carried bulk liquids such as tar and oil.
5.	Ice Breakers: North Star II	North Star II was built in 1868 and is now derelict. She is an oak ice breaker, sheathed in tarred canvas and metal plates. Icebreakers were shorter and wider than traditional narrowboats and were usually constructed from iron, or reinforced with iron sheets. They were dragged through the ice by teams of horses while up to 10 men, holding a rail or rope that stretched between the masts, would rock the boat, creating a shock wave that broke the ice. Horse drawn icebreakers could deal with 4 to 6 inches (10-15 cm) of ice.
6.	Canal Dredgers: BCN District No.1 Spoon Dredger	Dredgers were used to clear silt and rubbish off the canal bed. They were hand-operated with a team of three men. The “spoon” and crane on board were used to collect the silt, and then it was shovelled away by hand.

LIVING AND WORKING ON THE CANAL

1.	Working on the Cut 1	This gives an overview of the impact of the Factory and Canal Boat Acts in the late 19 th century, highlighting the overcrowding and insanitary conditions of some of the boat families and the lack of education for their children.
2.	Working on the Cut 2	Evidence given before a committee of the House of Lords sitting on the first London and Birmingham Railway Bill, June 1832 by MR. WILLIAM PARTRIDGE, Canal Carrier. It gives details of the boat traffic and cargoes travelling between Birmingham and London.
3.	Photograph: Canal Family	This shows Charley “Finney” and family at Owen Street, Tipton about 1900. The Canal Boat Act restricted the number of crew sleeping in the back cabin to 2 adults and 2 children so a fore cabin has been constructed for Charlie’s additional children.
4.	Photograph: Towing a Canal Boat	The boatman’s horse (or “hoss”) was usually well treated as the boatman’s livelihood depended on him. The horse would often learn the route, and when to stop and start.
5.	Photograph: Cargo 1	An example of an open day boat loaded with tubes from Stewards & Lloyds Ltd. in Bilston.
6.	Photograph: Cargo 2	This shows a canal railway interchange, demonstrating how the railways initially linked with the canal network.

7.	Image: Cargo 3	E. J. & J. Pearson made a wide range of fire bricks and tiles. This image shows the canal wharf where firebricks and other products were loaded up for transporting all over the country. The canal link was seen as something to promote.
8.	Black Country Summer	Etching by Black Country artist, Harry Eccleston showing a group of boys swimming in the cut. The image gives an impression of the canal having fallen into neglect, overgrown with reeds and filled with sunken narrowboats