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Tapton Lock – Self-Guided Learning Resources

Landscape and Heritage Activities for Learning Outside the Classroom

The story of the origins, rise and eventual decline of the Chesterfield Canal is unique. Many of its features are distinctive and have given rise to unique attributes – even the boats used on the Canal were strikingly different from those used in other regions. Nevertheless, it also encapsulates in microcosm many of the key developments and contributions made by water transport to the Industrial Revolution throughout England. (Chesterfield Canal Partnership)

Purpose of this pack

The building and development of a canal network played a key, although short lived role in the development of UK transport and industry. This network largely remains today providing green corridors valuable to both human and wildlife populations.

There is a wealth of information available from a number of organisations on the topic of canal heritage. Some of the resources here have been specifically produced for this pack although much of the content has been produced by other organisations. The pack aims to collate resources and information that will be of use to schools and settings visiting Tapton Lock and the Chesterfield Canal. All information is credited where appropriate. Please follow up any specific topic interests by following the links and if you find any element of this pack particularly useful please do contact the relevant organisation and let them know.

Pack contents

Pre-Visit Activity

Aims of the activity:

- To develop chronological understanding focusing on the construction and changes to the canal during different time periods
- To use historical sources, maps and images to introduce the role of canals and waterways in the history of transport and trade in the UK.

Resources: 1769 Map, Canals and Rivers Map England and Wales, Chesterfield Canal Timeline

Activity guidelines:

Use maps and images to explore the route of the Chesterfield Canal. As a class group use the above resources to explore Chesterfield Canal in its broadest context. Use maps to trace the route and highlight the relationship between trade and transport.

As a class or in smaller groups identify answers to the following

- Why was Chesterfield Canal built?
- Who or what decided the route the Chesterfield Canal would take?
- What was Chesterfield Canal used for?
- Why did the Chesterfield Canal fall into disrepair?
- What is the Canal used for now? Discuss the current condition and use of the canal (from current information and previous visits, how will the group find out more?)

Teachers notes:

Use this opportunity to introduce the activities that pupils will complete as part of their canal visit.

Possible on site supplementary activity:

All suggested on site activities will provide context and opportunities for a more focused study of the area.

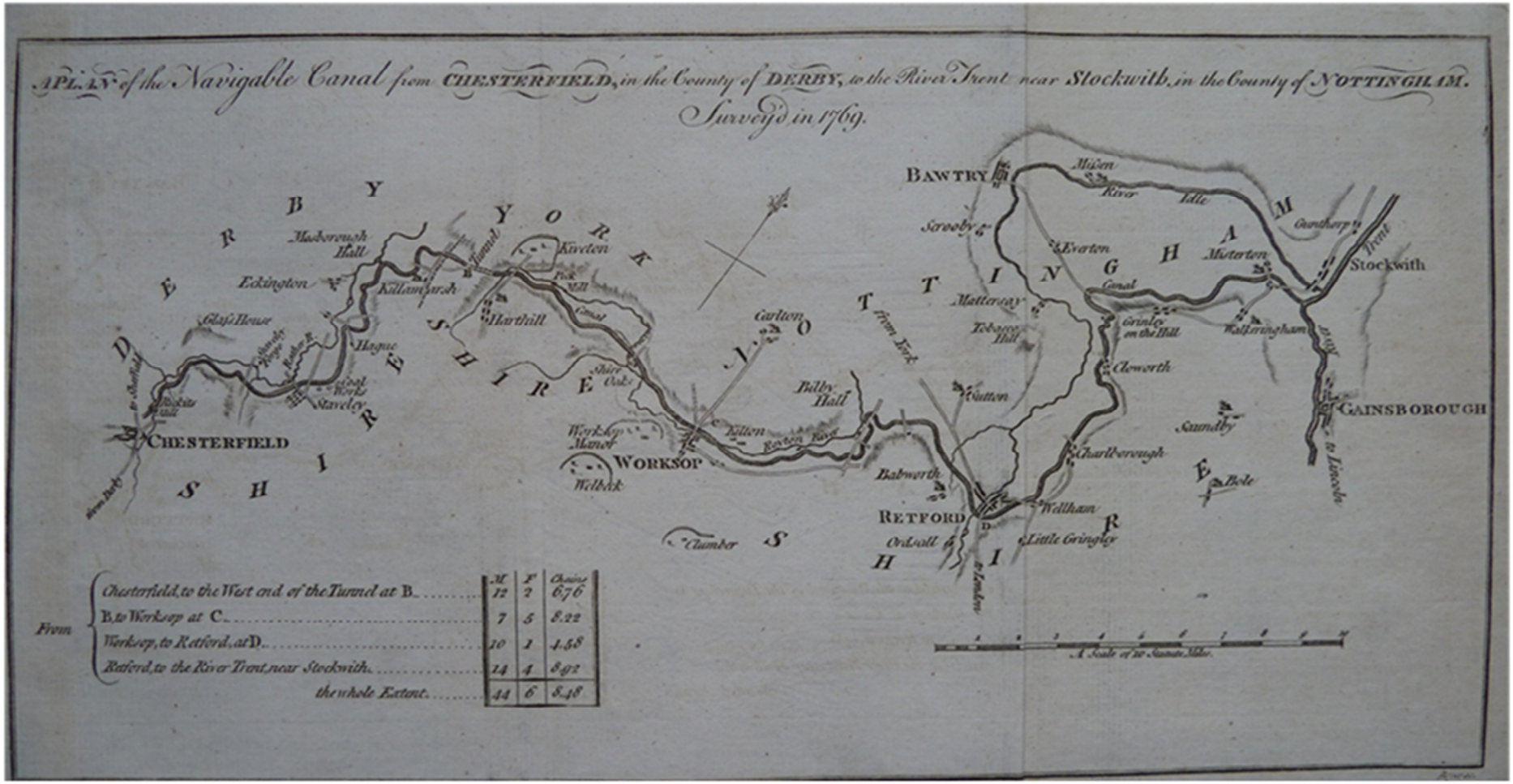
Possible follow-up activities:

Investigate the difference between Canals and Rivers London Canal Museum - http://www.canalmuseum.org.uk/education/teacher/keystage2-lp.htm

Chesterfield Canal 1769 Map

A map of the route surveyed by John Varley, under instruction from James Brindley, in 1769. The first public meeting was held on 24th August 1769 at the Red Lion in Worksop. The Parliamentary bill for the construction of the canal did not receive royal assent until 28th March 1771. Work started in October 1771 and the entire canal was officially opened on 4th June 1777.

http://www.chesterfield-canal-trust.org.uk/index.php/latest-news/in-print/165-1769-map



Canals and Rivers Map England and Wales – Full map can be downloaded from the Waterways Organisation website

https://www.waterways.org.uk/boating/route_planning/canal_map

The Chesterfield Canal runs west to east across the north-south grain of the country. This reflects the patterns of trade established in this area by the 1300's. At that time the fledgling Lead and Iron industries of North Derbyshire and South Yorkshire found their main outlets via pack horse to the inland port of Bawtry at the head of reliable navigation on the River Idle. From Bawtry, cargoes were dispatched to Hull and onward to eastern England, London and the Low Countries. In return it imported goods from throughout Europe and Scandinavia. By 1350 Bawtry was one of the principal ports for South Yorkshire and North East Derbyshire.

Chesterfield Canal Timeline

Adapted from 'A Brief Introduction to the History of the Chesterfield Canal' published on the Chesterfield Canal Partnership website
http://www.chesterfield-canal-partnership.co.uk/canal_history.html

Date	***Event***
late 1600's	*The river Idle navigation underwent improvement during the late 1600's but trade from South Yorkshire fell away as a consequence of the improvements to the River Dun (Don).*
1720's onwards	*Trade from Chesterfield and North East Derbyshire began to be hampered by the poor state of the roads to Bawtry and high tolls on the Dun Navigation. In Chesterfield thoughts began to turn to replacing the road with a canal and by 1768 there was sufficient local interest to engage the services of a civil engineer; James Brindley.*
1769 ***Canal planning***	*James Brindley had an enviable reputation as a canal engineer. Many schemes were clamouring for his services and as a result he sent one of his assistants, John Varley, to undertake the initial survey. In early 1769 Varley surveyed a route from Chesterfield to Shireoaks that was almost identical to the route eventually constructed.* *In December 1768 the notion of the canal began to circulate in Retford. Inspired by a visit to the Bridgwater Canal (designed by Brindley) the headmaster of Retford Grammar School, the Reverend Seth Ellis Stevenson, began a vigorous campaign to bring the canal to Retford. Approaches to the Chesterfield promoters brought a positive response and by June 1769 Varley was again in the field this time searching out a route via Worksop and Retford to West Stockwith.* *In August when the first public meeting was held in Worksop to promote the canal, Brindley supported the Retford route. At that same meeting parties from Gainsborough made strong representations that the canal should terminate on the Trent at Gainsborough not West Stockwith. There followed a brief but spirited campaign between the two camps which was settled by the intervention of the Reverend Stevenson. When, in January 1770, Brindley spoke to another crowded meeting at the Crown in Retford he was able to announce that the route would be Chesterfield -- Worksop -- Retford -- West Stockwith.*
1772 ***Canal Construction underway***	*The early records of the canal company have survived and provide an almost unique insight into the construction of the canal. They show the struggles of local shareholders to come to terms with this new technology and to overcome the inevitable crises which followed the death of James Brindley.*

(Death of James Brindley)	
1775-1777 ***Canal Opening***	*The Chesterfield Canal opened in stages and was finally opened throughout in 1777 with the completion of the Staveley "Puddle Bank". Initial returns were poor and the Company struggled in the face of the economic recession which followed the loss of the American colonies the previous year. Nevertheless, within ten years the canal began to show a modest dividend and steady trade in all manner of goods was established, including: Agricultural produce, Malt, Hops, Sail Cloth,* *Gravel, Bricks and Tiles, Coal and Coke, Iron Ore, Iron Bar and Cast Iron products, Lead, Lime and Marble*
1789 ***Tramways to 'Raile ways'***	*Much of the trade reached the canal via an intricate network of feeder tramways, plateways and railways, including the earliest known "raile way" in Derbyshire from Norbriggs Wharf to Norbriggs Colliery and dating from 1789. These tramway feeders mostly brought coal and local ironstone to the canal although the tramway from Whittington which terminated near Bilby Bridge also brought iron castings, chemicals and glass to the canal. These tramways flourished from the 1790's through to the 1830's and 40's when several appear on the first Ordnance Survey maps. In the coalfield and iron working areas most went out of use by the 1850's with only one or two lingering on until the 1870's. In the limestone areas tramways continued to carry stone to the canal until the 1920's.Once the early trade depression concluded the canal settled down to a steady if not spectacular life with a steady stream of modest dividends.*
1840's ***Arrival of Stephenson's Railway***	*Long distance railway competition arrived in the 1840's with the opening of the North Midland Railway from Derby to Leeds.* *During the late 1830's the company sought powers to convert the canal into a railway and, when this was seen to be impracticable, to build their own lines alongside the canal route. These attempts floundered in the railway politics of the day and by 1842 the canal company had settled on an agreed sale to what was to become the Manchester Sheffield and Lincolnshire Railway.*
1860's ***Canal use declines dramatically***	*Ownership by the railway company initially stimulated additional trade on the canal; the MS&LR opened an interchange siding and wharf near Kiveton Park Station and attempts were made to compete on through tariffs with the Midland Railway. Certainly the canal receipts for the period from c.1840 to around 1860 remain relatively buoyant, but by the late 1860's revenues had begun to seriously decline and it was clear that the canal was unable to compete with the speed of the railways. By the 1880's the MS&LR had begun to think of expansion southwards and the creation what became its "Derbyshire Lines". Once the Derbyshire lines were completed the majority of canal side customers were connected to the railway system or had a very local*

	station and as a result trade on the canal fell away quite dramatically.
1900's ***Canal falls into disrepair***	*The arrival of a parallel railway route accelerated the inevitable decline in trade. By the early 1900's most manufactured goods and sundries trade had been lost and the cargoes which remained were low-value and high-bulk; coal, coke, stone, bricks, aggregates and grain.* *The western end of the canal was isolated by the partial collapse of the Norwood Tunnel in October 1907. All trade west of Norwood ceased around 1914-18. For some time after the war the canal remained in water to supply various industries but in many places became overgrown and neglected. In the interwar years in Killamarsh, rowing boats where hired out on the length near Bridge Street. By the 1960's the canal was no longer required for water supply and sections were sold off and gradually infilled.* *To the east of the tunnel the decline was more gradual and regular cargoes continued from Shireoaks Colliery, Worksop and Gringley to the Trent until the late 1950's with the last sporadic commercial carrying being in the early 1960's. Fortunately this coincided with the rise of the preservation movement and attempts to downgrade the entire canal to remainder status were defeated. In 1976 the Chesterfield Canal Society was formed to promote the use of the canal and its eventual restoration.*
1998	*The Chesterfield Canal society became a registered Charitable Trust.* *Chesterfield Canal Partnership. 2020 Vision: A Strategy for the Restoration and Development of the Chesterfield Canal (Third edition, revised 2006) can be viewed here http://www.chesterfield-canal-partnership.co.uk/docs/CCP%202020%20Vision.pdf*

Tapton Lock Visitor Centre and Chesterfield Canal Trail

Aims of the activity:

- Explore the site and features

Resources:
Chesterfield Canal Trail

Activity guidelines:
Find and record evidence of historical and current use of Chesterfield Canal by completing the Chesterfield Canal Trail starting at the Tapton Lock Visitor Centre.

Teachers notes:
Collect photo evidence to use for follow up activities.

Possible on site supplementary activity:
This activity can be used as introductory activity and combined with any other on-site activity described here for an extended visit or number of consecutive visits.

Possible Follow-up Activities
Use photos to create a display, pupils can add descriptions of exploring the canal.

Chesterfield Canal Activity Trail.

This photo shows the Visitor Centre as it was around 1880.
How have things changed?
What has stayed the same?

There are 9 points marked on the map ★ Can you find the answers to the clues at each point?

★ 1. What's the number on Tapton Tunnel?
Name 5 types of bird or animal which live on the canal (you can spot their pictures in the murals or find their names on the tunnel wall).

★ 2. Under the wide bench are some planks. Where do they go and what are they for? (Look along the canal edge, near the lock gate - Ask in the Visitor Centre if you need a clue)

★ 3. How far is it to Istanbul? Which country is Istanbul in ?

★ 4. How is Rita Walker remembered?

★ 5. What are the missing words?

FORD LANE LOCK	
Re-opened	JOHN HUNT
....	.....
	.....
	.....
CHESTERFIELD CANAL SOCIETY	.....

6. What's this?

7.What 2 materials is the bridge made from?

What's the number of this bridge?

Walk under the bridge and find a plant like this growing in the wall.

This is called a Hartstongue Fern.

8. In the path there are 9 mosaics. Can you unscramble these letters to give the names of the pictures?

EDOHGEGH, …….

UFWRSEOLN, …….

IBDR, …….

RGFDNLYAO …….

ETBELE, …….

FIHS, …….

NUS, …….

NESKA …….

9. Look at the information board. Can you list 5 items of cargo that the canal boats used to carry?

…….. ……..

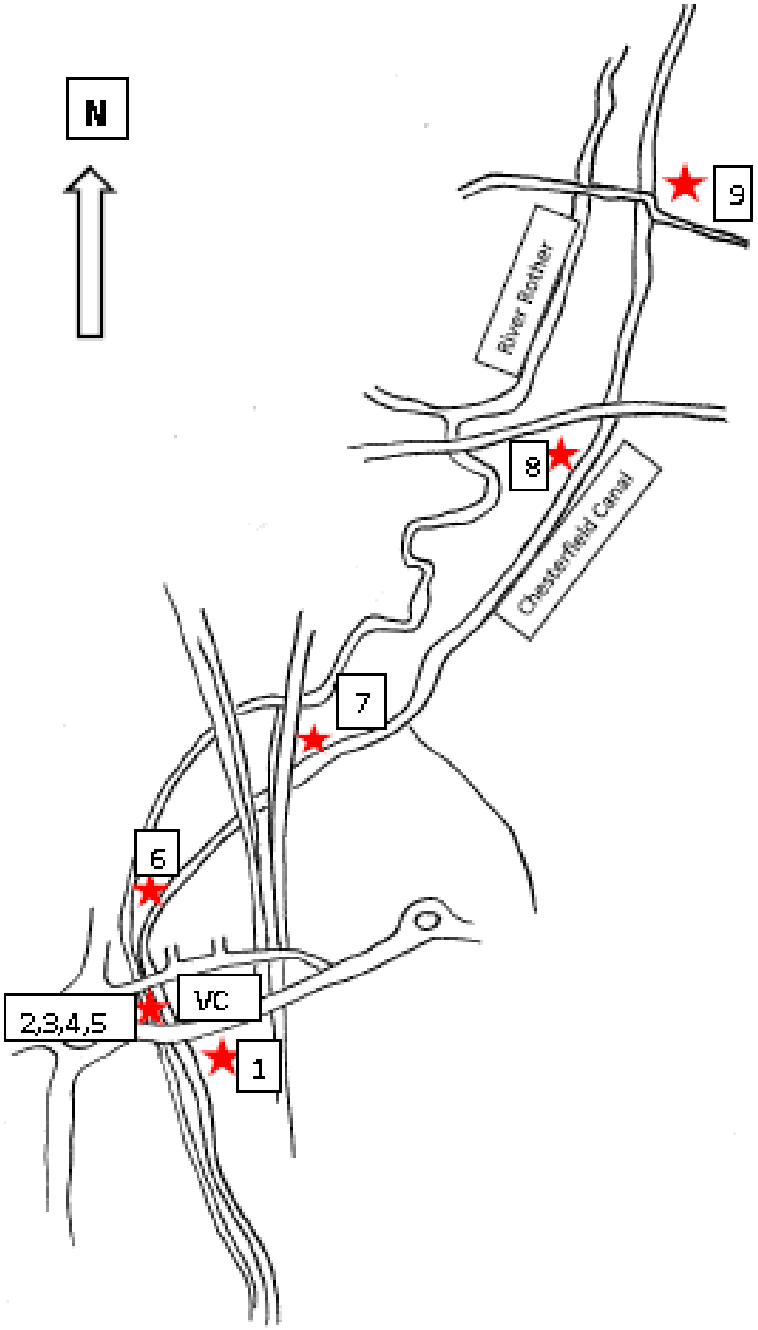
…….. ……..

……..

Map for Chesterfield Canal Activity Trail.

Route shown by ★ is about 1mile in each direction.

VC is the Visitor Centre.



Canal Dipping

Aims of the activity:

- To explore the underwater canal habitat and meet some of the species that commonly make their homes in canals

Resources:

'Tapton Lock Canal Dipping Guide'
Pond dipping equipment (available from the Tapton Lock Visitor Centre by prior arrangement)

Activity guidelines:

Detailed in the pack above

Teachers notes:

Detailed in the pack above

Possible supplementary activity:

Mini beast hunting
Water Vole V's American Mink
Canal and River Explorers Canal and River Habitats Topic Pack https://canalrivertrust.org.uk/explorers-resources/88-WH_TopicPack05_V8.pdf

Mini Beast Hunting

Aims of the activity:

- To investigate the canal side habitat and identify a number of different species

Resources:
'Tapton Lock Mini Beast Hunting Guide'

Activity guidelines:
Detailed in the pack above

Teachers notes:
Detailed in the pack above

Possible supplementary activity:
Canal Dipping
Water Voles V's American Mink
Canal and River Explorers Canal and River Habitats Topic Pack https://canalrivertrust.org.uk/explorers-resources/88-WH_TopicPack05_V8.pdf

American Mink V's Water Vole

Aims of the activity:

- To understand why and how American Mink are depleting the Water Vole population.

Resources:
Water Vole Postcard available from Tapton Lock Visitor Centre or print out from the next page.

Activity guidelines:
Whilst visiting Chesterfield Canal try and spot a Water Vole or evidence that a Water Vole is living nearby

Teachers notes:
This is an informal activity to be used whilst exploring the canal. It can be used as an introduction to further work on habitats and food chains.

Possible supplementary activity:
Canal Dipping
Mini Beast Hunting
Canal and River Explorers Canal and River Habitats Topic Pack https://canalrivertrust.org.uk/explorers-resources/88-WH_TopicPack05_V8.pdf

The Water Vole

Water Vole © Andrew Parkinson, 2008

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3 Clues to confirm Water Vole are near.....

Clue No 1. You will hear a PLOP sound.
Water Voles will quickly dive underwater if they see you approaching before you notice them.

Clue No 2. You will notice a small pile of broken stems at the water's edge.
Water Voles often sit in one place to eat; their distinctive teeth cut stems at a 45° angle.

Clue No 3. You will see a small pile of odourless droppings.
Water Voles will use a particular area as a toilet (latrine). Droppings are dark green when fresh with rounded tips ('tic tac' or pill shaped).

If you are lucky enough to catch sight of a Water Vole, it is likely to be swimming by with its body high in the water, much like a dog. The only other animal that looks similar to the Water Vole is the Brown Rat.

Only Water Vole:
- have very small, almost covered ears,
- have a slightly furry tail.

Chesterfield Canal is home to a wide variety of plants and animals including the endangered Water Vole. Water Voles live in burrows above and below the water line and often feed close to the burrow entrance, which is small enough (about 8cm diameter) to keep out most predators (otters, stoats, weasels, brown rats, domestic cats, pike, herons and barn owls) but not the American Mink.....

Wearing mink fur became fashionable in the 1920's. To supply this demand, American Mink were imported to be farmed in Britain. Fur farming has been banned in the UK since 2000. Escaped and released American Mink are thriving in the wild and, with no natural predator, the population is growing. American mink are neither squeamish about killing nor fussy about what they consume. With little natural defence against the American Mink the Water Vole population is declining rapidly.

Please pop into the Tapton Lock Visitor Centre and log your sighting on our wildlife sightings map

Boat Building Competition

Aims of the activity:

- Construct a boat suitable for transporting heavy loads

Resources:

A wide range of materials could be used for this activity. You could create an origami boat (instructions overleaf) or use junk or natural materials only.

Activity guidelines:

1) Select Materials - Before you begin this activity decide which materials will be used to create the model boats. If you are planning to conduct a whole class experiment you may choose to use the same materials for all boats or select a number of different designs/sizes etc., to test.

2) Build boats - The canal boats were cleverly engineered with flat bottoms (meaning they didn't require deep water) and despite being long and narrow were able to carry very heavy loads without toppling over.

3) Test Boats – Find out which boats float in the canal or large container of water (if using the canal please observe The Canals and Rivers Trust water safety advice found here https://canalrivertrust.org.uk/explorers-games/water-safety-lesson-plan.pdf). Take a net along (or borrow one from the Visitor Centre to fish the boats out. Gradually load the boats with weights and record the results. Which boat can hold the most weight without sinking or toppling?

Teachers notes:

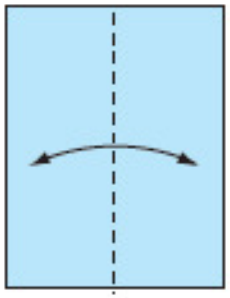
Encourage pupils to make predictions about which boat will perform best and discuss their theories.

Possible on site supplementary activity:

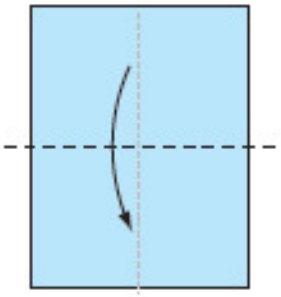
Adapt boats using the knowledge gained from the above activities; is it possible to improve the performance?

Origami Boat Instructions

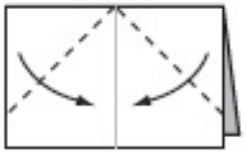
origami-fun
www.origami-fun.com



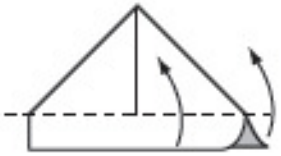
1. Start with a rectangular piece of paper, coloured side up.
Fold in half, then open.



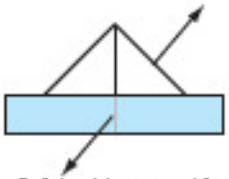
2. Fold in half downwards.



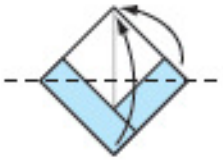
3. Bring corners in to centre line.



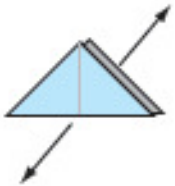
4. Fold uppermost layer upwards &do the same to the back. Crease well.



5. Pull the sides out and flatten.



6. Fold front layer up to top, then do the same at the back.



7. Pull the sides apart and flatten.

8. Gently pull the top parts of the model outwards, making a boat shape.

9. Flatten well to crease all folds. Then open out slightly forming a boat shape. Finished Boat

Boat Design

Aims of the activity:

- Create detailed scale plans for your own narrow boat.

Resources:

Squared paper
Pencils
Rulers
Images of the inside of canal boats

Activity guidelines:

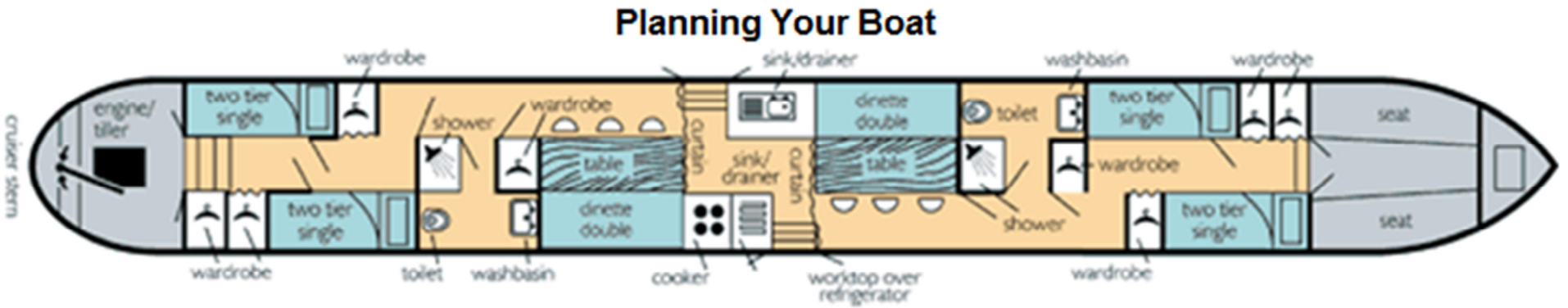
Using squared paper give an idea of how big a canal boat living area was and get children to design their own ‘small space’ – needs to have a bed, kitchen/cooking area, sitting and storage. Encourage pupils to plan using different shapes and design ideas and to use scale drawing. They could design a whole boat or just the traditional ‘boatman’s cabin’ which would have been a small section at the back of the boat.

Teachers notes:

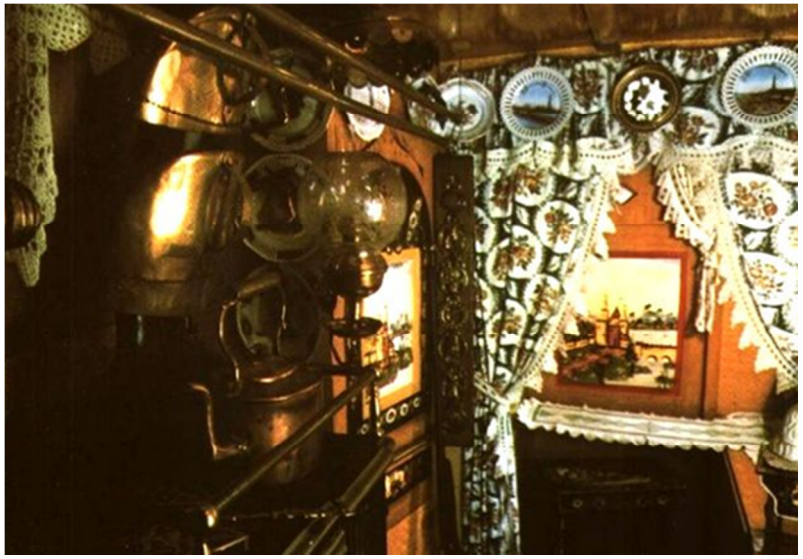
Boat dimensions: “Its width which must be less than 7 feet (2.13 m) wide to navigate British narrow canals. Some old boats are very close to this limit (often built 7 feet 1 1⁄2 inches or 2.17 metres or slightly wider), and can have trouble using certain narrow locks whose width has been reduced over time because of subsidence. Modern boats are usually produced to a maximum of 6 feet 10 inches (2.08 m) wide to guarantee easy passage throughout the complete system. Because of their slenderness, some narrow boats seem very long. The maximum length is about 72 feet (22 m), which matches the length of the shortest locks on the system. Modern narrow boats tend to be shorter, to permit cruising anywhere on the connected network of British canals - including on canals built for wider, but shorter, boats”.

Boatman’s Cabins: “The rear portion of the boat became the "boatman's cabin", familiar from picture postcards and museums, famous for its space-saving ingenuity and interior made attractive by a warm stove, a steaming kettle, gleaming brass, fancy lace, painted housewares and decorated plates. Although such descriptions rarely consider the actual comfort of a [sometimes] large family, working brutally hard and long days, sleeping in one tiny cabin, many shore-bound workers endured harder, indoor trades in less healthy conditions and in worse accommodation, where the family was separated for long hours rather than being together all day. The lifestyle afloat, by definition itinerant, made it impossible for children to attend school. Most boat people were effectively illiterate and ostracised by those living 'on the bank' who considered themselves 'superior'.

Modern Narrow Boat Floor Plan http://www.narrowboatbuilding.com/planning-your-narrowboat.htm



Traditional Narrow Boat Cabins



Here the cupboard door folds down so it has another use as a table. There wouldn't have been much living space on a narrow boat, features like this would have helped families to live more comfortably.

Canal Lock Engineering

Aims of the activity:

- To create a model lock and understand the engineering processes involved.

Resources:
Wall paper
Model boats
Pieces of drainpipe, water, plasticene etc.

Activity guidelines:
How do canal boats travel uphill? Investigate this question as a class by observing locks in operation during your visit to the canal (if possible) and/or watching videos explaining the process.

In small groups draw a diagram on the wallpaper illustrating how locks work (model boats might be useful for demonstrating how the boat moves through the lock or can be drawn in).

Outside – use materials to hand to try and create a working model lock. This will be tricky! What are the associated problems and how have they been solved in real life?

Teachers notes:

How do locks work?

What is a lock?
Locks are used to lift or lower boats from one level to another. They are found on almost all canals and rivers. A lock is a section of canal or river that is closed off by gates which control the water level so that boats can be raised or lowered as they pass through it.
What is a flight of locks?
A flight of locks (or lock flight) resembles a flight of stairs – it consists of a number of locks (or steps) one after another. Sometimes there is a stretch of canal between one lock and the next, and sometimes the locks are so close together that the top gates of one and the bottom gates of the next are one and the same – this is called a staircase flight.

Locks have two sets of gates (top and bottom) and a chamber which your boat enters into. Crucially, locks also have openings (or sluice gates) at the top and bottom and it is by opening these that water is allowed into and out of the chamber to raise or lower the water level - and hence the boat. You and your crew will open and close the paddles using a lock handle (or windlass) which you will carry with you on your cruise.

It may help you to visualise the lock as a huge bath with the taps (top sluices) at the higher end and the plug hole (bottom sluices) at the lower. This may remind you not to run the 'taps' when the 'plughole' is open, which would waste water and never allow the lock to fill.

Going up

1. Open the lock gate and take the boat into the lock. Remember to close the gate behind the boat

2. Open the sluice gate to allow the water to flow from the top pound into the lock

3. The boat will rise as the lock fills

4. Once the water level inside the lock is the same as the water level ahead in the canal, open the top gates and take the boat out

5. Remember to close both the sluice gate and the lock gate behind you to preserve water

Going down

1. Open the lock gate and take the boat into the lock. Remember to close the gate behind the boat

2. Open the sluice gate to allow the water to flow out of the lock

3. The boat will lower as the water level in the lock falls. Once the boat starts going down make sure that you keep its stern away from the gates - there is often a sill underwater on which your boat can become lodged causing serious damage and on rare occasions causing it to sink.

4. Once the water level inside the lock is the same as the water level ahead in the canal, open the bottom gates and take the boat out.

5. Remember to close both the sluice gate and the lock gate behind you to preserve water

Basic principles – things to remember

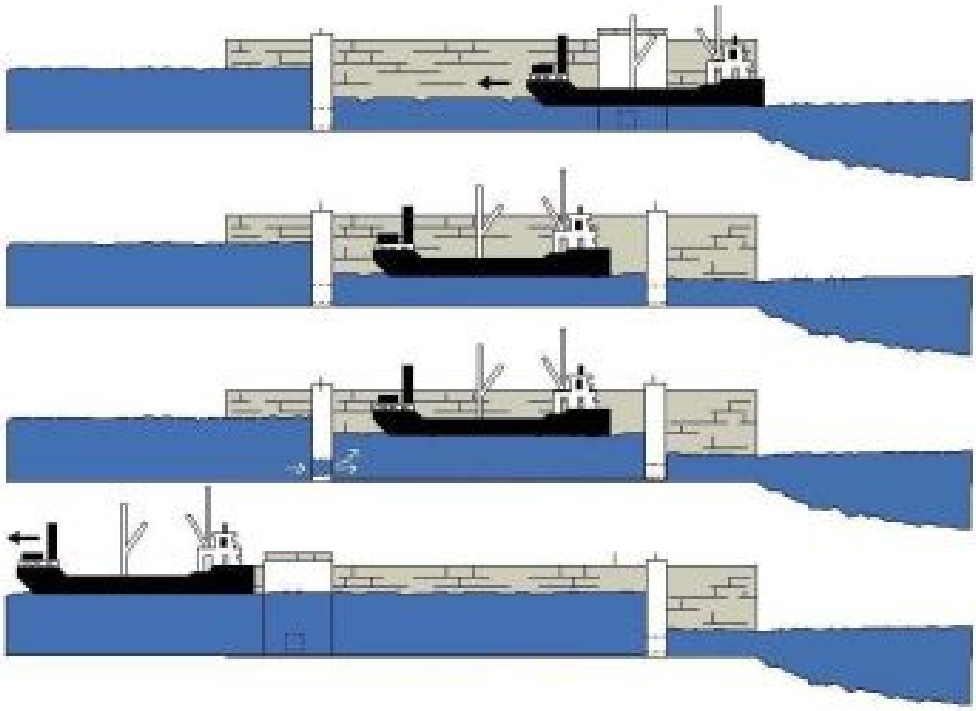
Water always flows downhill and lock gates are closed against the pressure of this water. The lock gates will not open until the water pressure (level) is equal on both sides.

How long does it take?

Passing through a lock will generally take from 10 to 20 minutes, depending how big the lock is and whether or not it was originally set in favour of the boat (it is always pleasing to meet another boat coming towards you on the approach to a lock – this boat will have just exited the lock on your level and therefore the lock will be set for you).

Information from the Canals and Rivers trust, you can also view a video of a lock here https://canalrivertrust.org.uk/news-and-views/features/how-do-locks-work

Conventional Lock



How a conventional lock works
© Parks Canada

How a conventional lock operates for a boat heading upstream:

1. The boat enters the lock at the lower level.
2. The lock gates and lower sluices close, making the lock chamber watertight.
3. The upper sluices are then opened, allowing the water to enter the lock by gravity and raise the boat.
4. When the water level in the lock is the same as that in the upstream portion of the canal, the upper gates are opened and the boat continues its journey upstream.

For boats heading downstream, the operation is reversed:

1. The boat enters the lock at the upper level.
2. The upper lock gates and sluices are closed to make the lock chamber watertight.
3. The lower sluices are then opened, allowing the water that is above the level of the lower water level to flow out.
4. When the water level is the same on both sides of the lower gates, they are opened and the boat continues on its way downstream.

Canal Art – Roses and Castles

Aims of the activity:

- To explore aspects of traditional canal boat life via traditional folk art

Resources:

Paper plates
Pastels or paints
Templates if required
Examples of canal art
How to paint a rose instructions

Activity guidelines:

Paint paper plates black and add traditional folk art using pastels or paints. The paints can be painted before visiting the canal or this activity can be carried out after a visit to the canal.

Teachers notes:

When the first narrow boats travelled the canals, men worked on the boats while their wives and children lived in houses. There were no pictures on the boats. Later, when the railways began, trains took much of the carrying trade away from the boats. The boat owners could not charge so much to carry things, and could not pay their men so much money. The boat men and their families lost money, and could not afford to pay rent on their houses, so they all moved and lived on the boats full time instead. When the wives moved onto the boats, they wanted to make them look beautiful, and the paintings began. Sometimes they painted the picture themselves, or paid someone at the boat yard to paint it for them. Very few painters were artists, they were mostly just clever boat builders! No-one really knows why they chose flowers and castles to paint.

London Canal Museum http://www.canalmuseum.org.uk/education/teacher/ks2activities-rosesandcastles.pdf

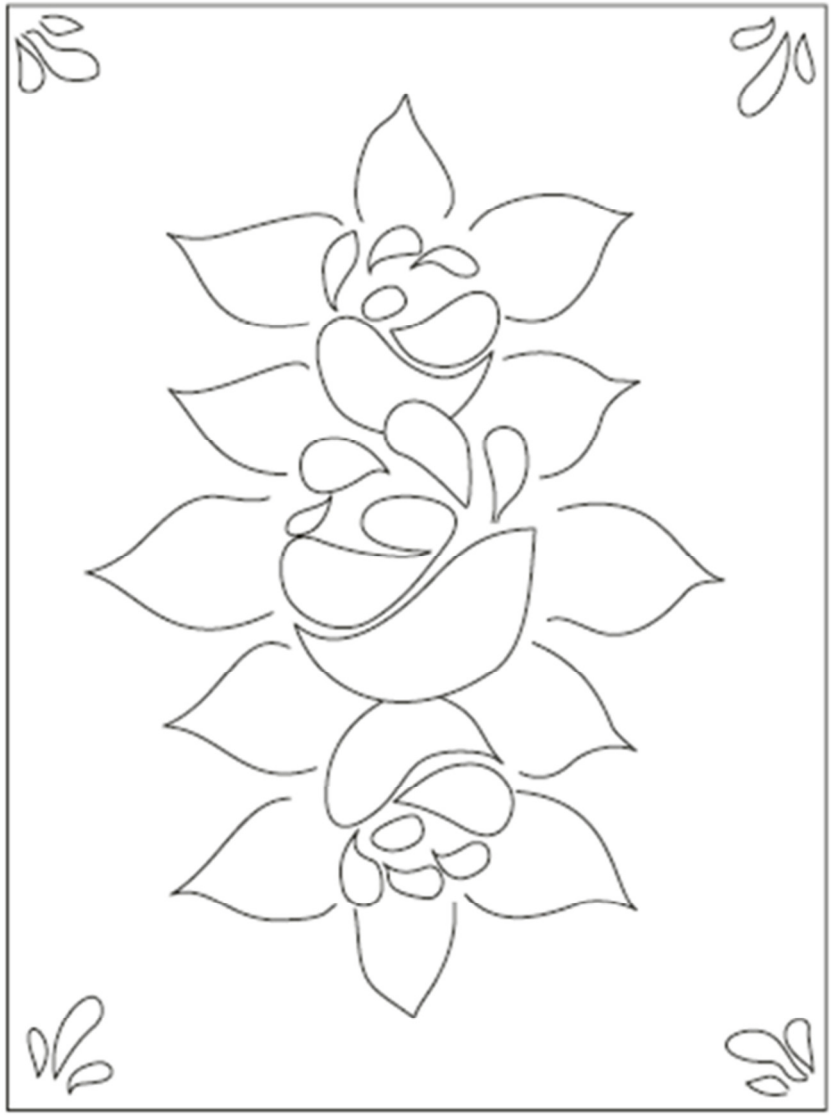
This traditional style of art covered everything, from a water can, to the washbasin and even the horses feed tin. On the most elaborate side roses decorated all over the outside of the boat and its equipment, entwined with lettering on the cabin side, on the rudder and even appeared on horse harnesses. This delightful style of British folk art is surviving well and is still giving pleasure; old examples are now treasured and displayed in museums.

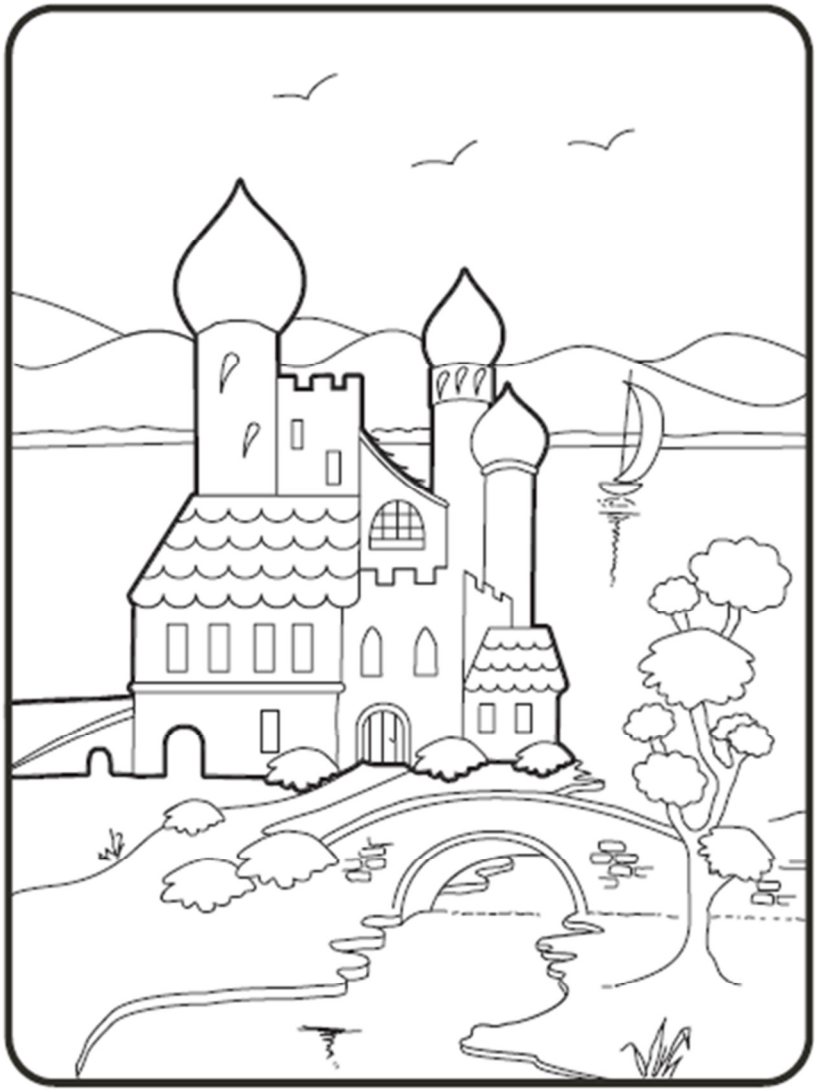
http://www.chestercanalheritagetrust.co.uk/Canalart.htm

How to paint a canal rose

Roses are probably the most popular and most commonly associated with canal art, they are built up in stages or layers. Layers of colour and shape overlap until you are left with the final piece as shown below.

Templates - from the Wild Over Waterways website https://www.waterways.org.uk/waterways/activities/wow/wow





Canal Images

Aims of the activity:

- Create an image of the canal landscape

Resources:

Pencils, paints, pastels or glue and collage materials
Paper
Blankets or foam tiles (to sit on if required)
Camera (if images will be completed back at school)

Activity guidelines:

Find a space where the group can spread out and spend at least 30 minutes on this activity. Encourage pupils to think about what will be included or omitted from the picture and how elements such as the reflection upon or movement of the water will be represented.

Teachers notes:

If this activity is to be carried out back at school after a visit to the canal, take pictures and collect natural materials that will help pupils recall the image.

If pupils struggle to start this activity it could be introduced by using the ‘human camera’ activity (notes below) or making/taking along frames to help pupils decide on the view they would like to capture.

Possible on site supplementary activity:

This landscape scale activity works well alongside very focused activities such as canal dipping.

Human Camera Activity
Location: Anywhere with a view!
Audience: KS1 & 2
Equipment: None (art materials optional)
Time: 10 minutes - longer if creating subsequent art work

An observation activity that aids appreciation of nature

Activity Description: Get into pairs. One child is the camera and the other is the photographer. The photographer stands behind the camera. The camera closes their eyes. The photographer choses a subject and carefully moves the camera into position. To operate the camera the photographer taps the camera on the shoulder twice to open the shutter (eyes) and, after 10 seconds, taps twice to close the shutter (Eyes). The camera remembers the photograph which can then be 'processed' by sketching or collaging what they have seen. Ensure the camera and photographer swap over. Encourage a range of pictures, For example close ups, landscapes, panoramas, looking skywards. You could do this activity in the same location at different times of the year; the group can then compare their favourite 'photograph' from each occasion and season.

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Activity originally taken from Joseph Cornell, Sharing Nature with Children ISBN 1-883220-73-4 adapted here from http://www.ashdownforest.org/enjoy/education/docs/school_human_camera_activity_card.pdf

Twig Frame

Instructions and other stick craft ideas can be found at Thrifty Fun
http://www.thriftyfun.com/Crafts-Using-Tree-Branches.html

Follow up Activity Ideas

- Investigate the difference between Canals and Rivers London Canal Museum - http://www.canalmuseum.org.uk/education/teacher/keystage2-lp.htm

- Should the canal be preserved? Explore current plans in the Chesterfield Canal Vision Plan and debate this question. www.chesterfield-canal-partnership.co.uk/docs/CCP%202020%20Vision.pdf

- Use the Canal and River Explorers Canal and River Habitats Topic Pack and activity sheets to further explore the canal environment https://canalrivertrust.org.uk/explorers-resources/88-WH_TopicPack05_V8.pdf

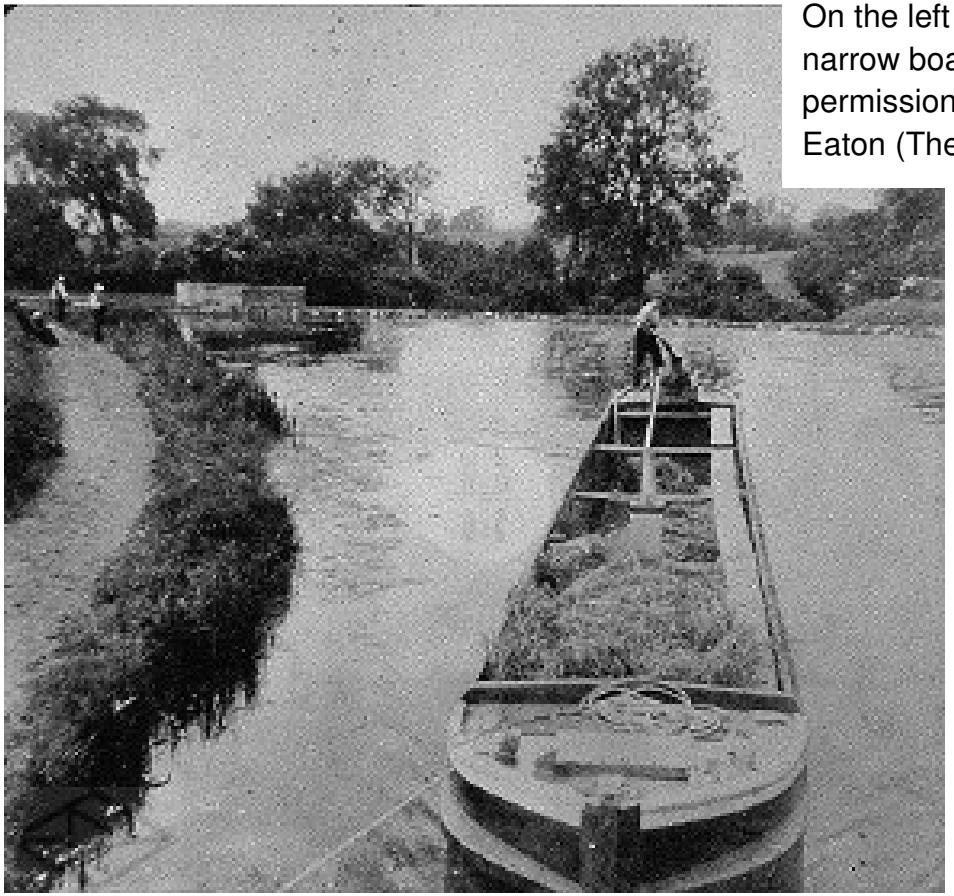
More Information

Chesterfield Canal Trust - www.chesterfield-canal-trust.org.uk/
Chesterfield Canal Partnership - www.chesterfield-canal-partnership.co.uk
Canal and River Explorers - https://canalrivertrust.org.uk/explorers
London Canal Museum - www.canalmuseum.org.uk/
The Inland Waterways Association (Wild Over Waterways) - www.waterways.org.uk/waterways/activities/wow/wow

Images of the boats used on Chesterfield Canal – Amongst the boats using the Chesterfield Canal there was a particular style of boat only ever used here. They were called ‘Cuckoo Boats’. There are two theories about the naming of these boats.

1) The route of the Chesterfield Canal follows the Cuckoo Dyke through Nottingham.

2) The boats were named this way as they looked quite different to other boats being used at the time (Cuckoo’s lay their eggs alongside the resident’s eggs in the nests of other species of birds. As all of the chicks mature the Cuckoo will stand out as it will look much different to the other chicks and is generally much larger).



On the left is a rare photograph of a loaded Chesterfield Canal 'cuckoo' styled narrow boat under tow at Clayworth Bridge - possibly in the 1940s. By kind permission of the former landlady of The Steamboat Inn, at Trent Lock, Long Eaton (The Historic Narrow Boat Club http://hnbc.org.uk/boats/cuckoo-style)

Images of the construction/reconstruction of Chesterfield Canal

Below Bluebank Lock, nr Brimington

Renishaw

Images of Chesterfield Canal in the past

Staveley Iron & Steel works, between Dixons Lock and Hollingwood

Canal Construction and Development Notes (http://www.chesterfield-canal-partnership.co.uk/canal_history.html)

At first sight the Chesterfield Canal appears to be a typical early meandering contour canal, however, it also displays civil engineering features which presage the later, straighter, cut and fill canals. These include the overall boldness of the route, the first extensive use of locks in multiple flights and the use of embankments and cuttings to shorten the line. In consequence the physical remains of the canal include several pioneering civil engineering features and unique survivals of late 18th century canal construction. Many of these structures are listed ancient monuments.

Brindley's death in 1772 resulted in the works being carried to completion by his assistants John Varley and Hugh Henshall and it is a moot point if some of the innovations seen on the canal were designed by Brindley or were the work of his assistants. Whatever their origins, the civil engineering advances on this canal warrant greater recognition.

The canal was built as a narrow canal from Chesterfield to Retford. At Retford the canal became wider and the locks from there to the Trent were built to broad beam (Trent Flat or Barge) dimensions. The intention was to have broad beam boats working to Retford but the presence of several pinch points and narrow bridge holes meant that this vision was not realised and Trent boats never did reach Retford!

From the outset the canal had several short branch canals or arms of which the Norbriggs Cutting at Mastin Moor was the longest at 1.25 miles. Shorter arms led to coal wharfs at Killamarsh (Church Lane) and Staveley (Bellhouse Lane, Lowgates) and to stone quarries at Cinder Hill and Lady Lee (Hilthe Lady Lee Arm), near Worksop.

The construction of the MS&LR's "Derbyshire Lines" in the late 1880's had marked consequences for the Chesterfield Canal. The planned railway route south followed a straight course and was to cross and re-cross the original line of the canal. The MS&LR wanted to close the canal but Parliament, keen on competition, inserted a clause into the Act of Parliament for the Derbyshire Lines requiring the MS&LR to keep the canal open. In consequence, and to try and avoid the cost of numerous bridges, a number of canal diversions were carried out. These were:-

Killamarsh to Renishaw (the "Long Straight" or "Railway Mile"); the length of canal to the west of the railway and cut-off by its construction was abandoned but can still be traced today.

Renishaw to Hague Lane; here the cut-off sections were largely removed or buried by the construction of the Goods Yard of Renishaw Central Station. One small fragment of channel remains in woodland on the west side of the former yard.

Hounsfield Bridge to Staveley Works; the isolated section was again west of the new railway and ran around the margins of the Staveley Pipe Works. Any trace of the Brindley route has been destroyed through a combination of works redevelopment, opencast coal extraction and land reclamation.

Chesterfield Wharf. The original 1777 Wharf was isolated from the canal by the Railway and Chesterfield Central Station. The River Rother adjacent to the East side of the railway was straightened and deepened and a new wharf was constructed upstream on the edge of the new railway goods yard. This was an unprepossessing brick basin approximately 100ft by 30ft known as the "Great Central Wharf" – it had a very short life opening in 1892 and closing by around 1905 due to the decline in trade.

All of these new sections were constructed quickly and all were in use by the opening of the railway from Beighton Junction to Staveley Central and thence to Chesterfield in June 1892. Eventually this became part of a new route to London. On 1st August 1897 the MS&LR changed its name to the Great Central Railway.

The Canal Industries and their Communities (http://www.chesterfield-canal-partnership.co.uk/canal_history.html)

The arrival of the Chesterfield Canal helped to shape the landscape and communities through which it passed.

This effect was most marked in Rotherham and North East Derbyshire where towns and villages expanded dramatically or where entire new communities came into existence as industries sprang up alongside the canal. The pattern of settlement it helped shape was built upon by the railways and to a great extent persists today.

The origins of the canal are closely tied to the Derbyshire lead industry and the iron foundries at Staveley and Renishaw. The presence of the canal encouraged the growth of these ancient industries and led to the precocious expansion of the Derbyshire Coal industry; feeder tramways from pit to canal include the first record of Newcastle style “raileway” in Derbyshire (1778). A similar tramway led to the glassworks at Whittington. The arrival of the canal and the relatively breakage free transport which it offered resulted in the expansion of the glass industry and its associated chemical industries.

To some extent the canal in North East Derbyshire entered an already partially industrialised landscape and, through providing cheap transport, permitted the rapid growth of ancient industries and the appearance of many new industries. As a result the canal served practically all the key heavy primary manufacturing industries of the industrial revolution.

In contrast the eastern reaches of the canal initially traversed an almost entirely rural landscape. The arrival of the canal occurred at a time of major reorganisation of the landscape and many of the new model farms constructed by the larger estates at this time had their own wharfs and used the canal to export their produce.

Throughout the Nottinghamshire length the canal again permitted local craft activities to expand and industrialise where raw materials existed. For example the growth of the brick and tile manufactories at Misterton and Gringley can be tied to both the ease of export of the finished product and to the ease of importing Derbyshire coal as fuel. One unique trade brought cargoes of Trent silt or warp to brickworks like those at Walkeringham for drying and grading to produce polishing powders used in the Sheffield cutlery finishing trade. Some of these industries were ephemeral and have left scant record bar a few entries in a boat book; others proved long lived – the last cargo from Walkeringham Brick Works was carried in 1955 – and have left a rich archaeological legacy.

The canal therefore runs through two regions with very different histories and in consequence landscapes.

The waterway was also used for more than transport. Water power was a vital element in the rural economy until the twentieth century and, especially on rivers, conflicts between mill and navigation interests were common. At Norwood for example the bywash water from the flight drove a sawmill and woodworking shop.

In such a low lying district the waterways also played a key role in land drainage. Conversely, waterways were often key water suppliers with water being abstracted for industrial purposes as varied as brewing, irrigation, chemical works and brick making. All these activities have left a further legacy along the water corridor.