All About Canals

Who built the first canals?

Ancient canals The first canals were built hundreds of years ago in Egypt, Mesopotamia (modern-day Iraq and Syria), China and India. They were usually small channels built to take water from rivers to fields to grow crops. Some larger canals were built to transport cargo such as grain.

The Romans and canals In Britain, the Romans built the first canals along with roads and cities. Some people think they built the Fossdyke Navigation in Lincolnshire. It connected Lincoln, an important Roman town, to the River Trent.

Mud, weeds and potholes After the Romans left, canals silted up and became unnavigable. Roads fell into disrepair. Some bulky goods such as timber, stone and coal were transported by river. But there were big hazards such as fierce currents, low bridges and weirs.

The coming of the canals

More coal, please Much, much later, by the mid-1700s, Britain was becoming an industrial country.

As industries grew, manufacturers needed more coal to power machines, mills and furnaces. Businessmen hit on the idea of building canals to deliver coal faster.

The Duke of Bridgewater (1736–1803) The Duke of Bridgewater owned coal mines near Manchester. He gave money to build a canal to deliver coal from his coal mines to his factories.

Business booms The Bridgewater Canal was opened in 1761. It was a great success. The cost of coal halved, business boomed and lots of companies were set up to build more canals. Within 80 years, over 3500 miles of waterways linked the great ports to all the industrial areas of Britain.

Canal engineers

Building canals meant solving big engineering problems. This attracted great engineers.

James Brindley (1716–1772) James Brindley trained as a millwright. The Duke of Bridgewater heard about his reputation for inventing and fixing machinery and asked him to help plan the Bridgewater Canal.

Contour canals James' canals followed the natural contours of the land. They were easy to dig because they avoided obstacles like hills but they were long, winding and expensive to build.

The Grand Cross After the success of the Bridgewater Canal, James planned a great network of canals to connect the four main rivers of England (the Mersey, Trent, Severn and Thames) – just like motorway and train networks today. The network was called The Grand Cross because it looked like a giant cross spread over the country.

Planning and building canals attracted other clever engineers. New technology and more experience meant problems such as moving boats uphill could be solved in different ways.

William Jessop (1745–1814) William Jessop was the chief engineer of the Grand Junction Canal. He designed wide locks to take big boats. Bigger boats meant more cargo – and more money!

Thomas Telford (1757–1834) Thomas Telford was the son of a shepherd. One of his great achievements was designing Pontcysyllte Aqueduct in North Wales. It was one of the first civil engineering projects to use cast iron.

Digging the canals

Teams of navvies (short for navigators) dug the canals. Navvies used picks, spades and muscle power to dig the canals. They made them waterproof by lining them with clay and treading it down hard, or by driving cattle along the channel to trample the clay down. This is called 'puddling'.

By Canal and Rivers Trust

Challenge 1

1 According to the text, the first canals were built in Mesopotamia and three other places. Name the three other places.

.....

3 marks

2 According to the text, why did canals built by the Romans become unnavigable? Tick one.

They silted up ☐ The Romans left ☐ They fell into disrepair ☐

1 mark

3 Why was it dangerous to transport goods by river? Give three of the dangers.

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3 marks

4 Reread the section with the heading 'The coming of the canals'. Why did growing industry result in more canals being built?

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1 mark

5 How do we know the Bridgewater Canal was a success? Give two examples of its success.

a) .....

b) .....

2 marks

Challenge 2

1 Reread the section with the heading 'Business booms'. Find and copy another word that is used for canals.

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1 mark

2 'Building canals meant solving big engineering problems.' What does 'solving' mean in this sentence? Tick one.

Gluing together ☐ Finding an answer ☐ Starting ☐

1 mark

3 Reread the section with the heading 'Contour canals'. Complete the table with information from the text.

Advantage of contour canals	Disadvantages of contour canals
a) ..... to dig	long, b) ..... and c) ..... to build

1 mark

4 Reread the section with the heading 'The Grand Cross'. Find and copy a word from the text that means the same as join.

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1 mark

Challenge 3

1 According to the text, what was one of the problems that was solved by the canal engineers?

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1 mark

2 How did William Jessop help businessmen to make more money?

.....

.....

1 mark

3 Look at the section with the heading 'Digging the canals'. What information in the text tells us that digging the canals was hard work for the navvies?

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1 mark

4 According to the text, 'puddling' was used to... Tick one.

drive cattle. ☐

dig canals. ☐

waterproof canals. ☐

1 mark

5 Draw lines to match each heading to the correct summary.

Who built the first canals?	Canals built in the Industrial Revolution
The coming of the canals	Famous canals and the men who built them
Canal engineers	Canals of the ancient world

1 mark

Total: _____ / 19 marks

Had a go ☐ Getting there ☐ Got it! ☐