

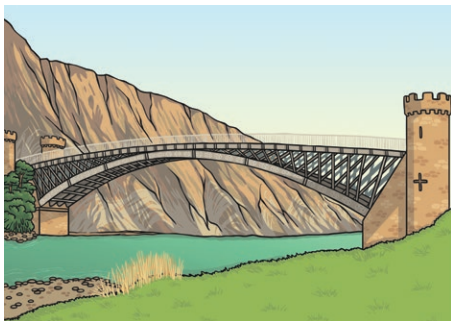
Scottish Engineer Thomas Telford

Thomas Telford was born in Glendinning, Dumfriesshire in 1757. He left school, aged 14, to become an apprentice stonemason. Thomas wanted to learn as much as he could about the building trade. He later moved on to work in Edinburgh, London and Portsmouth. Throughout this time, Thomas was learning more and more about construction; from the materials used, to the designing and managing of projects.



In 1786, Sir William Pulteney was so impressed with Telford's work, he found work for him on building projects in England. Sir William was also a director of the British Fisheries Society. The Society asked Thomas to design the town of Ullapool on the west coast of Scotland. In 1788, built to Thomas Telford's plan, Ullapool was established as a herring fishing station.

In 1792, Thomas designed the Montford stone bridge over the River Severn. The construction of this three-arched span bridge saw Thomas become known as one of Britain's greatest engineers. Telford went on to be among the first to use iron in bridge construction.



In 1793, Thomas built the Ellesmere Canal and the Pontcysyllte Aqueduct. This aqueduct involved a canal being built in the air. The aqueduct took ten years to complete. When it was finished, it was the tallest canal boat crossing in the world. It is around 38m high, supporting an iron trough that carries the canal over the river below. The aqueduct has

19 arches, each spanning 14 metres.

In 1801, the Government asked Thomas Telford to survey the roads across Scotland. Thomas Telford went on to build over nine hundred and twenty miles of road and one hundred and twenty bridges in the Highlands. During this time, he also built many harbours and jetties, as well as the Caledonian Canal which is sixty miles long.



Scottish Engineer Thomas Telford



In 1823, the Government provided £50 000 for the building of up to forty churches in areas without any church buildings. Telford was commissioned to produce the design. He developed a simple church plan and thirty-two of these were built and can still be seen today in the Scottish Highlands and Islands.

In 1826, Telford completed the Menai Suspension Bridge in North Wales. This bridge was the longest suspension bridge in the world at the time. It had sixteen huge chains that held up 176m of deck, allowing tall ships to pass underneath safely.



In his lifetime, Thomas Telford was involved in the construction of over 1000 miles of roads. If you were to lay all those roads in one long line, they would stretch from Inverness to Barcelona in Spain! However, Thomas Telford didn't just build roads; his work allowed Scotland to become a nation that could support and develop industry.

When Thomas died in 1834, as a sign of national respect, he was buried in Westminster Abbey. When a new town was being built in Shropshire in 1968, it was named Telford in his honour.

Questions

1. Where and when was Thomas Telford born?

2. What did Thomas want to learn about after leaving school?

3. How did Sir William Pulteney help Thomas Telford?

4. Which construction made Thomas Telford's name as one of Britain's greatest engineers?

5. Why was the Pontcysyllte Aqueduct seen as an amazing construction when it was finished in 1793?

6. What did Thomas Telford's survey of the roads in Scotland result in?

7. In 1826, when it was completed, what was special about the Menai Suspension Bridge?

8. Why was Thomas Telford's work so important to Scotland?

Answers

1. Where and when was Thomas Telford born?
Thomas Telford was born in Glendinning, Dumfriesshire in 1757.
2. What did Thomas want to learn about after leaving school?
After leaving school, Thomas Telford wanted to learn about the building trade; from the materials used, to the designing and managing of projects.
3. How did Sir William Pulteney help Thomas Telford?
Sir William helped because he found work for him in England and for the British Fisheries Society.
4. Which construction made Thomas Telford's name as one of Britain's greatest engineers?
The Montford stone bridge over the River Severn made Thomas become known as one of Britain's greatest engineers.
5. Why was the Pontcysyllte Aqueduct seen as an amazing construction when it was finished in 1793?
Various answer. This aqueduct was amazing because it involved a canal being built in the air. The aqueduct took ten years to complete. When it was finished, it was the tallest canal boat crossing in the world. It is around 38m high, supporting an iron trough that carries the canal over the river below. The aqueduct has 19 arches, each spanning 14 metres.
6. What did Thomas Telford's survey of the roads in Scotland result in?
It resulted in over nine hundred and twenty miles of road and one hundred and twenty bridges in the Highlands being built.
7. In 1826, when it was completed, what was special about the Menai Suspension Bridge?
This bridge was the longest suspension bridge in the world at the time.
8. Why was Thomas Telford's work so important to Scotland?
Telford's work allowed movement of goods and people across Scotland using his roads. This allowed Scotland to become a nation that could support and develop industry.

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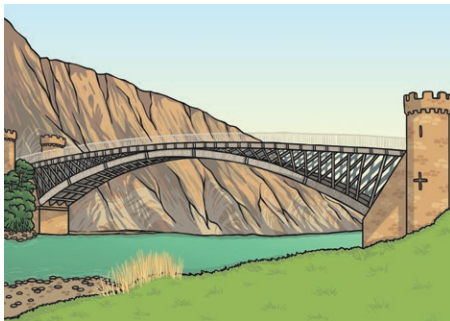
Thomas Telford was a civil engineer. A civil engineer is someone who designs, builds and looks after structures like roads, bridges, harbours as well as buildings.

Thomas Telford was born in Glendinning, Dumfriesshire in 1757. When he left school, aged 14, he became an apprentice stonemason. Thomas wanted to learn as much as he could about construction. He later moved on to work in Edinburgh, London and Portsmouth. Throughout this time, Thomas was learning more and more about construction; from the materials used, to the designing and managing of projects.



In 1786, Sir William Pulteney was so impressed with Telford's work, he found work for him on public construction projects in Shropshire, England. Sir William was also a director of the British Fisheries Society. The Society asked Thomas to design the town of Ullapool, which was founded in 1788 as a herring fishing station.

In 1792, Thomas designed the Montford stone bridge over the River Severn. The construction of this three-arched span bridge saw Thomas become known as one of Britain's greatest engineers. Telford went on to be among the first to use iron in bridge construction.



In 1793, Thomas built the Ellesmere Canal and the Pontcysyllte Aqueduct. This aqueduct involved a canal being built in the air. The aqueduct took ten years to complete. When it was finished, it was the tallest canal boat

crossing in the world. It is still used today and was made a UNESCO World Heritage Site in 2009. It is around 38m high, supporting an iron trough that carries the canal over the river below. The aqueduct has 19 arches, each with a span of 14 metres.

In 1801, the Government asked Thomas Telford to survey the roads across Scotland. Over the next twenty years, Telford followed up his survey



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by building over nine hundred and twenty miles of road and one hundred and twenty bridges in the Highlands. During this time, he also built many harbours and jetties, as well as the sixty mile long Caledonian Canal. The Caledonian Canal took much longer to complete than planned, and developments

in shipbuilding meant that by the time it had opened, steam ships were common and the canal wasn't big enough to carry them. However, the Caledonian Canal was an amazing civil engineering project that still survives and is still used.

In 1823, the Government provided £50 000 for the building of up to forty churches in areas without any church buildings. Telford was commissioned to produce the design. He developed a simple church plan and thirty-two of these were built and can still be seen today in the Scottish Highlands and Islands.

In 1826, Telford completed the Menai Suspension Bridge in North Wales. This bridge was the longest suspension bridge in the world at the time. It had sixteen huge chains that held up 176m of deck, allowing tall ships to pass underneath safely.



In his lifetime, Thomas Telford was involved in the construction of over 1000 miles of roads. If you were to lay all those roads in one long line, they would stretch from Inverness to Barcelona in Spain! However, Thomas Telford didn't just build roads; his work allowed Scotland to become a nation that could support and develop industry.

When Thomas died in 1834, as a sign of national respect, he was buried in Westminster Abbey. When a new town was being built in Shropshire in 1968, it was named Telford in his honour.

Questions

1. What is a civil engineer?

2. Where and when was Thomas Telford born?

3. Why do you think Thomas wanted to learn so much about the construction trade?

4. Why was impressing Sir William Pulteney with his work, useful for Telford's career?

5. Why was the completion of the Montford Bridge over the River Severn important in Telford's career?

6. Why is the Pontcysyllte Aqueduct one of Telford's most amazing constructions?

7. Why do you think the Government asked Thomas Telford to survey the roads across Scotland?

8. Why was the Caledonian Canal in some ways out of date before it had been completed?

9. How was the Menai Suspension Bridge constructed?

10. Thomas Telford didn't just build roads... What does this phrase mean?

Answers

1. What is a civil engineer?
A civil engineer is someone who designs, builds and looks after structures like roads, bridges, harbours as well as buildings.
2. Where and when was Thomas Telford born?
Thomas Telford was born in Glendinning, Dumfriesshire in 1757. When he left school, aged 14, he became an apprentice stonemason.
3. Why do you think Thomas wanted to learn so much about the construction trade?
OPEN Perhaps he wanted to know as much about the job as possible so he could do the job well.
4. Why was impressing Sir William Pulteney with his work, useful for Telford's career?
It was useful because Sir William found him work on public construction projects in England and with the British Fisheries Society in Scotland.
5. Why was the completion of the Montford Bridge over the River Severn important in Telford's career?
The completion of the bridge saw Thomas become known as one of Britain's greatest engineers.
6. Why is the Pontcysyllte Aqueduct one of Telford's most amazing constructions?
Various answers. It is amazing because it took ten years to complete. When it was finished, it was the tallest canal boat crossing in the world. It is still used today and was made a UNESCO World Heritage Site in 2009. It is around 38m high, supporting an iron trough that carries the canal over the river below. The aqueduct has 19 arches, each with a span of 14 metres.
7. Why do you think the Government asked Thomas Telford to survey the roads across Scotland?
Various answers. Perhaps because the government recognised a programme of construction was required to allow travel and movement across Scotland.
8. Why was the Caledonian Canal in some ways out of date before it had been completed?
It was out of date because it took much longer to complete than planned, and developments in shipbuilding meant that by the time it had opened, steam ships were common and the canal wasn't big enough to carry them.
9. How was the Menai Suspension Bridge constructed?
The Menai Suspension Bridge had sixteen huge chains that held up 176m of deck, allowing tall ships to pass underneath safely.
10. Thomas Telford didn't just build roads... What does this phrase mean?
Various answers. Allowing easier movement of people and goods meant that he was also building Scotland's industry; enabling it to grow and prosper because of this new network of roads.

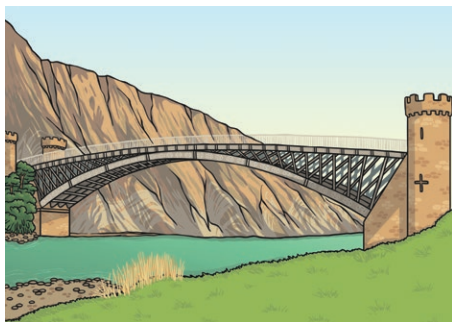
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Thomas Telford was born in Glendinning, Dumfriesshire in 1757 and when he left school, aged 14, he became an apprentice stonemason. Thomas wanted to learn as much as he could about construction. He later moved on to work in Edinburgh and then London and Portsmouth. Throughout this time, Thomas was learning more and more about construction; from the materials used, to the designing and managing of construction projects.

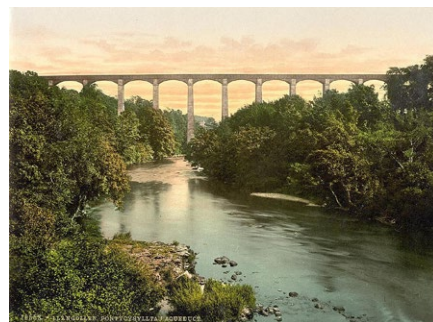


In 1786, Sir William Pulteney (a very rich and influential man also from Dumfries) was so impressed with Telford's work, he found more work for him on public construction projects in Shropshire, England. Sir William Pulteney was also a director of the British Fisheries Society. The Society asked Thomas to design the town of Ullapool, which was founded in 1788 as a herring fishing station. In 1790 Thomas returned to Scotland, to survey, improve and build harbours and piers on behalf of the British Fisheries Society.



In 1792, Thomas designed the Montford stone bridge over the River Severn. This three-arched span bridge earned him the reputation as one of Britain's greatest engineers. Telford went on to be among the first to use iron in bridge construction.

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canal over the river below. The aqueduct has 19 arches, each with a span of 14 metres.

In 1801, the Government asked Thomas Telford to survey the roads across Scotland. This survey showed that there were few roads north and west of the Great Glen. Over twenty years from 1804, Telford followed up his survey with the construction of over nine hundred and twenty miles of road and one hundred and twenty bridges in the Highlands. During this time, he also built many harbours and jetties, as well as the sixty-mile-long Caledonian Canal. The Caledonian Canal took much longer to complete than planned, and developments in shipbuilding meant that by the time it had opened, steam ships were common and the canal wasn't big enough to carry them. However, the Caledonian Canal was an amazing civil engineering project that still survives and is still used.

In 1823, the Government provided £50 000 for the building of up to forty churches in areas without any church buildings. Telford was commissioned to produce the design. He developed a simple church plan and thirty-two of these were built and can still be seen today in the Scottish Highlands and Islands.



In 1826, Telford completed the Menai Suspension Bridge in North Wales. This bridge was the longest suspension bridge in the world at the time. It had sixteen huge chains that held up 176m of deck, allowing tall ships to pass underneath safely. In his lifetime, Thomas Telford was involved in the

construction of over 1000 miles of roads. If you were to lay all those roads in one long line, they would stretch from Inverness to Barcelona in Spain! However, Thomas Telford didn't just build roads; his work helped lay the foundations for a modern Scotland and allowed the country to become a nation that could support and develop industry.

Towards the end of his life, Telford lived in London. When he died in 1834, as a sign of national respect, he was buried in Westminster Abbey. When a new town was being built in Shropshire in 1968, it was named Telford in his honour.



Questions

1. What does a civil engineer do?

2. Summarise Thomas Telford's early life.

3. Why was knowing Sir William Pulteney beneficial to Telford's career?

4. Why was the completion of the Montford Bridge over the River Severn important for Thomas Telford?

5. Why do you think Telford's Pontcysyllte Aqueduct was made a UNESCO World Heritage Site in 2009?

6. In 1801, what were the findings of Telford's survey of Scotland's roads and what action was taken?

7. Why was the Caledonian canal not as useful on completion as was first planned?

8. Why do you think the Government provided £50 000 for the building of up to forty churches in areas without any church buildings?

9. Thomas Telford didn't just build roads... Explain what this phrase means.

10. As a sign of national respect Thomas Telford was buried in Westminster Abbey in London. Why do you think he was shown this honour?

Answers

1. What does a civil engineer do?
A civil engineer is someone who works on building or construction projects. They design, build and maintain structures like roads, bridges, harbours as well as buildings.
2. Summarise Thomas Telford's early life.
Answers should include most of these facts: Thomas Telford was born in Glendinning, Dumfriesshire in 1757 and when he left school, aged 14, he became an apprentice stonemason. Thomas wanted to learn as much as he could about construction. He later moved on to work in Edinburgh and then London and Portsmouth. Throughout this time, Thomas was learning more and more about construction; from the materials used, to the designing and managing of construction projects.
3. Why was knowing Sir William Pulteney beneficial to Telford's career?
It was beneficial because Sir William Pulteney was a very rich and influential man, who found more work for Thomas on public construction projects in Shropshire, England. Sir William was also a director of the British Fisheries Society. The Society asked Thomas to design the town of Ullapool, which was founded in 1788. In 1790 Thomas was asked to survey, improve and build harbours and piers in Scotland on behalf of the British Fisheries Society.
4. Why was the completion of the Montford Bridge over the River Severn important for Thomas Telford?
It was important because this three-arched span bridge earned Thomas the reputation as one of Britain's greatest engineers.
5. Why do you think Telford's Pontcysyllte Aqueduct was made a UNESCO World Heritage Site in 2009?
OPEN Perhaps because at 38m high, it is an amazing construction that is still in use today. It took ten years to build, was once the tallest canal boat crossing in the world and has 19 arches, each with a span of 14 metres.
6. In 1801, what were the findings of Telford's survey of Scotland's roads and what action was taken?
This survey showed that there were few roads north and west of the Great Glen. Over twenty years from 1804, Telford followed up his survey with the construction of over nine hundred and twenty miles of road and one hundred and twenty bridges in the Highlands.
7. Why was the Caledonian canal not as useful on completion as was first planned?
The Caledonian Canal was not as useful as first planned because it took much longer to complete, and developments in shipbuilding meant that by the time it had opened, steam ships were common and the canal wasn't big enough to carry them.
8. Why do you think the Government provided £50 000 for the building of up to forty churches in areas without any church buildings?
Various answers. Perhaps because the Government thought it was important for people to have a church as a focus for their community.

9. Thomas Telford didn't just build roads... Explain what this phrase means.
This phrase means Thomas Telford's work opened up communication and transport networks across Scotland, allowing industry to grow and develop across the country.
10. As a sign of national respect Thomas Telford was buried in Westminster Abbey in London. Why do you think he was shown this honour?
Various answers. Perhaps he was shown this honour because he had been responsible for transport networks and bridges across the country, including some great feats of engineering. These constructions allowed the country's industry to develop and grow through easier access and movement of goods and people.