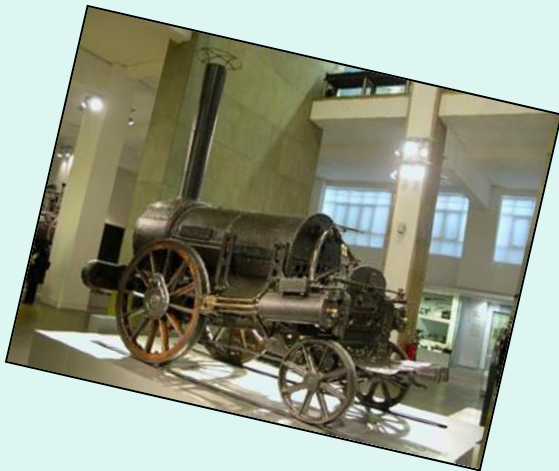




A Short History of Trains!



Before Trains



Horses working at a coal mine.

Horses were used to pull heavy loads.

These horses are pulling wagons full of coal.

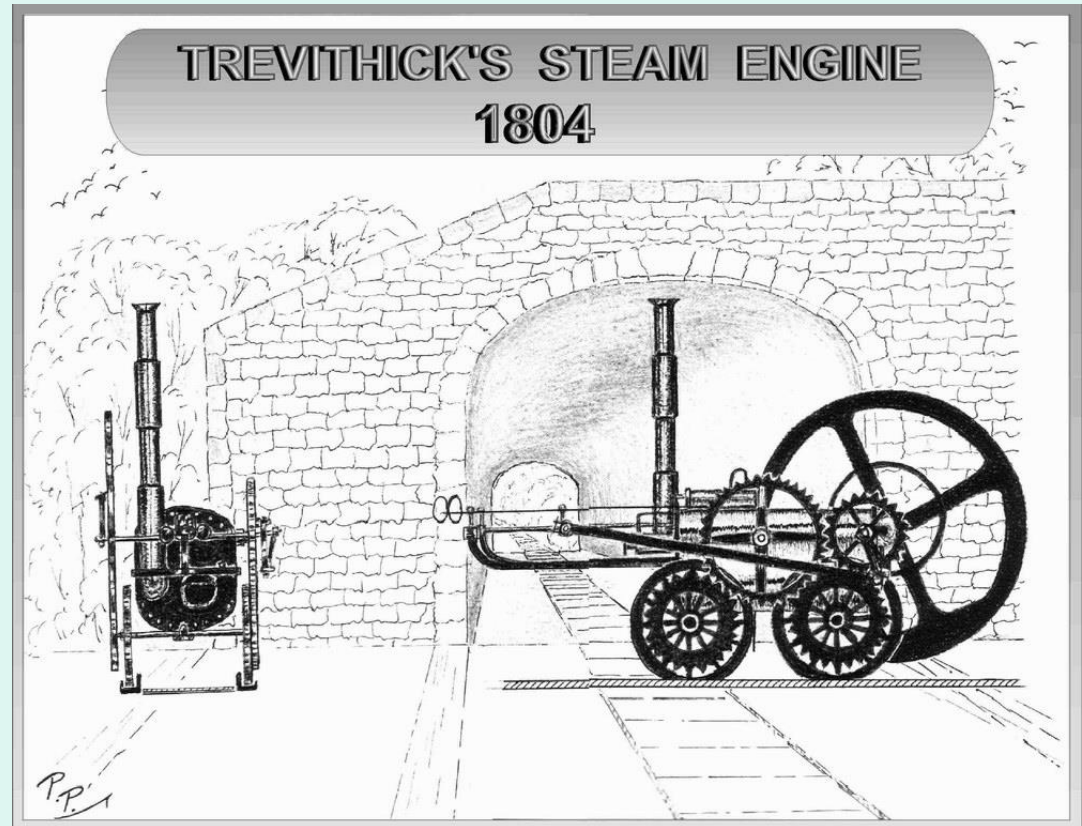
Can you see the tracks for the wagons to roll along?

The very first steam engine!

In 1804 a man called Richard Trevithick built a steam locomotive for his factory in Wales. It could pull heavy weights, but not people. It was very unreliable!



Richard Trevithick



Other people tried to make his design better.

How does a steam engine work?

1. A man shovels coal or wood into a fire, in a place called a furnace.
2. The fire heats up the water, until it gets so hot it turns into steam.
3. The steam expands as it gets hotter and pushes the pistons, which drive the engine.
4. The train moves!

Better trains!

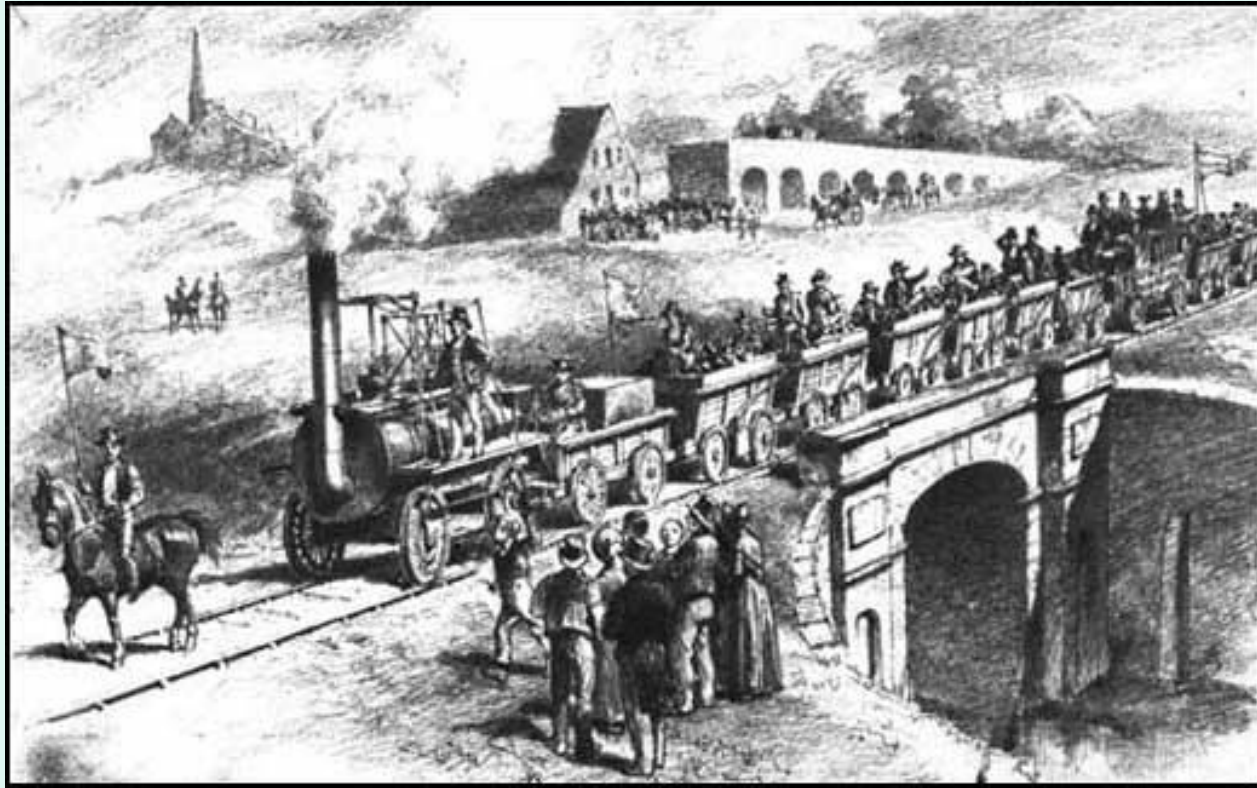
In 1813 "Puffing Billy" was built by William Hedley to pull coal wagons at a coal mine.

It was so reliable that it was used for fifty years!



William Hedley, who designed "Puffing Billy".

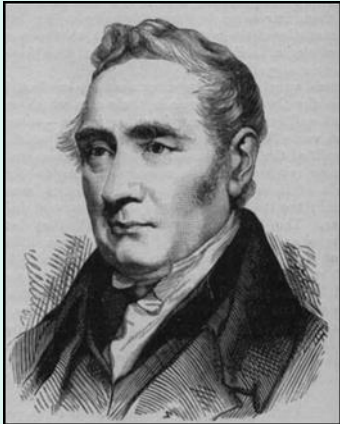
Early trains for people



This is a drawing of people on one of the first train journeys, in 1825. Trains were slow and noisy.

What is different from a modern train?

George Stephenson



This man was known as “The Father of the Railways”.

Let’s find out why!



George Stephenson

George Stephenson was born on 9th June 1781, near Newcastle. George's father worked at a coal mine. He looked after steam engines, used to pump water out of the mine.

The Stephensons were not rich. They lived in a small cottage.

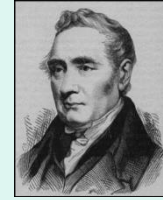


Birth-place of George Stephenson, Wylam-on-Tyne.

George didn't go to school, so he didn't know how to read. He started to work when he was 8. He looked after cows on a farm. He drove horses that worked at the mine.



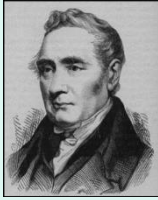
George page 2



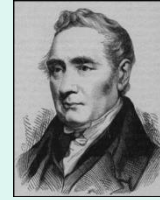
George was interested in machines. When George was 14, he helped his father at the coal mine. That's how he learned about steam engines.

George took machines to bits, to see how they worked.

He wanted to learn to read, write and count so he could get a better job. He went to school 3 nights a week after work.



George page 3



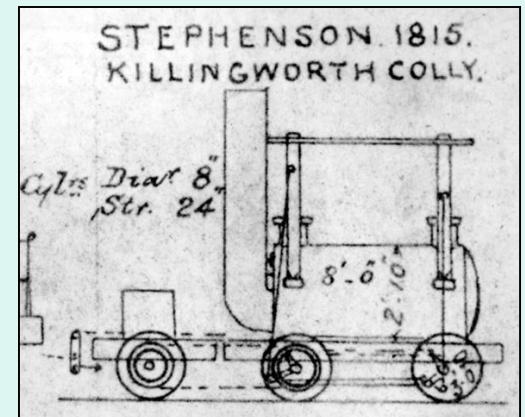
George worked out that a steam engine needed to run along rails.

In 1814 he made his first 'railway locomotive'.

In 1819 George was asked to build a small railway.

In 1825 a new railway was opened between two towns in the North of England. George and his men built the track and the locomotive. **It was the first passenger steam railway in the world.** His son Robert helped.

George drove the first train. The engine was called 'Locomotion No. 1'. It pulled a train with 450 passengers at a speed of 15 miles an hour.



Steam Locomotives Get Better!



"Rocket" - This engine is really famous!
You can see it in the Science Museum.

In 1829 George Stephenson entered a competition with his son Robert to build a faster locomotive. His design was called **"Rocket"**. It won the competition! They won £500, which was an awful lot of money then!

Stephenson and Son!

George and his son Robert did
lots of work together.

George Stephenson died on
12th August 1848.

1900s



In 1904 an engine called 'The City of Truro' became the first to travel at more than 100 miles an hour!

The fastest Steam Train

The fastest steam train was called “The Mallard”.

In 1938 The Mallard ran at 126mph.



Steam train videos

<http://www.youtube.com/watch?v=gS4fQbmL1vo>

<http://www.youtube.com/watch?v=YkW17FfB1cE>

Electric Trains

In 1933 trains started to run using electricity rather than coal and steam.



Modern Trains



A Eurostar train



The Bullet train in Japan



The tilting train.

It tilts as it goes around bends.