

GREAT INVENTIONS

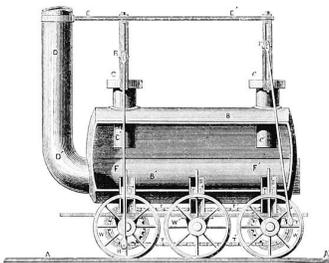
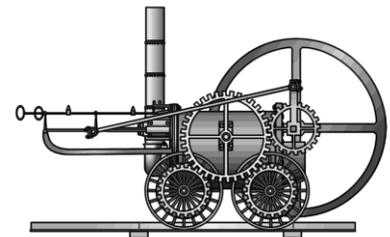
THE TRAIN



When we went to visit my grandmother last week, we decided to take the train. While traveling, I was interested to know who developed those great machines. It is quite intriguing to investigate how they were built and all the changes that have taken place to become the trains we use today.

My uncle Lalo, who is an engineer, that's what they call a person who drives a train. He gave me an informative book that had lots of information about trains. When I got back home, I started reading the book and found many interesting facts that I didn't know.

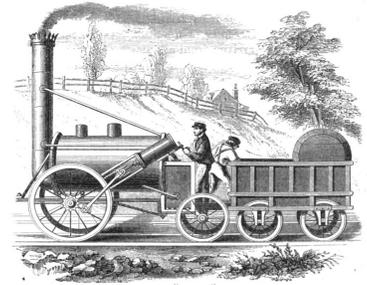
In 1797, an English engineer named Richard Trevithick built the first model vehicle powered by a steam engine at the age of 26. In 1802, Trevithick built a high pressure steam machine for an iron and steel plant in Merthyr Tydfil, Wales. To test it, the engineer attached it to a frame, making it the first locomotive. The steam locomotive worked, but it was too heavy for the cast iron rails and so couldn't move very fast.



With the desire to build a locomotive growing, another forty-year-old engineer named George Stephenson built a steam locomotive for the train running from Darlington to Stockton in 1821. It was shown publicly on September 27, 1825, just three years after its creation.

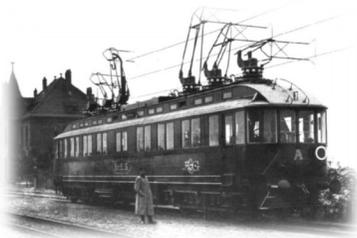
A contest was held in Rainhill to see which locomotive was better and faster. The conditions that had to be met were that the locomotive had to pull three times its weight, had to move at a minimum speed of ten English miles per hour, and could not produce smoke, only steam.

George Stephenson had built a locomotive called "The Rocket" with his son Robert. They built it so well that it won by towing five times its weight at a speed of 14 to 20 English miles per hour. This is the locomotive in the photo to the right.



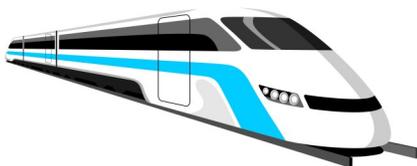
In 1829, Stephenson directed the construction of the railway from Liverpool to Manchester. After that, he led the construction of important railways across England. Stephenson designed the track width at 1435 mm, which became the standard track width.

The first known electric locomotive was built by a Scotsman named Robert Davidson of Aberdeen in 1837 and was powered by batteries. The speed was much faster, and the routes it traveled were better.



The first electric train was designed by Werner von Siemens in Berlin in 1879. By 1881, Siemens had built the first electric tram line in Lichterfelde, near Berlin, Germany.

Today, locomotives and trains are high speed, traveling hundreds of kilometers in a few hours comfortably and safely. What about you?
Have you ever been on a locomotive?



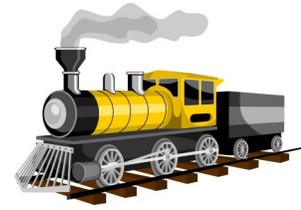
Name _____

Date _____



THE TRAIN

Answer the questions.



1. Who built the first locomotive?
 - a. Merthyr Tydfil
 - b. Darlington Stockton
 - c. Richard Trevithick
 - d. George Stephenson
2. Although it worked, what was the problem with the first locomotive?
 - a. It was very small.
 - b. It was very weak.
 - c. It was very ugly.
 - d. It was very heavy.
3. How old was George Stephenson in 1821?
 - a. 26 years
 - b. 30 years
 - c. 40 years
 - d. 50 years
4. Where was the competition of locomotives?
 - a. the Welsh
 - b. in Rainhill
 - c. in Aberdeen
 - d. in Berlin
5. What was the minimum speed for the competition?
 - a. 10 English miles
 - b. 14 English miles
 - c. 20 English miles
 - d. 30 English miles
6. How much weight did The Rocket locomotive pull?
 - a. 3 times its weight
 - b. 5 times its weight
 - c. 10 times its weight
 - d. 14 times its weight
7. What is the standard width of train tracks?
 - a. 1797 mm
 - b. 1829 mm
 - c. 1435 mm
 - d. 1881 mm
8. What powered the first electric locomotive?
 - a. a steam generator
 - b. some batteries
 - c. a long cable
 - d. some dynamos
9. Who built the first electric tram line?
 - a. Merthyr Tydfil
 - b. Robert Davidson
 - c. George Stephenson
 - d. Werner von Siemens
10. Why did I get on a train?

