The Industrial Revolution

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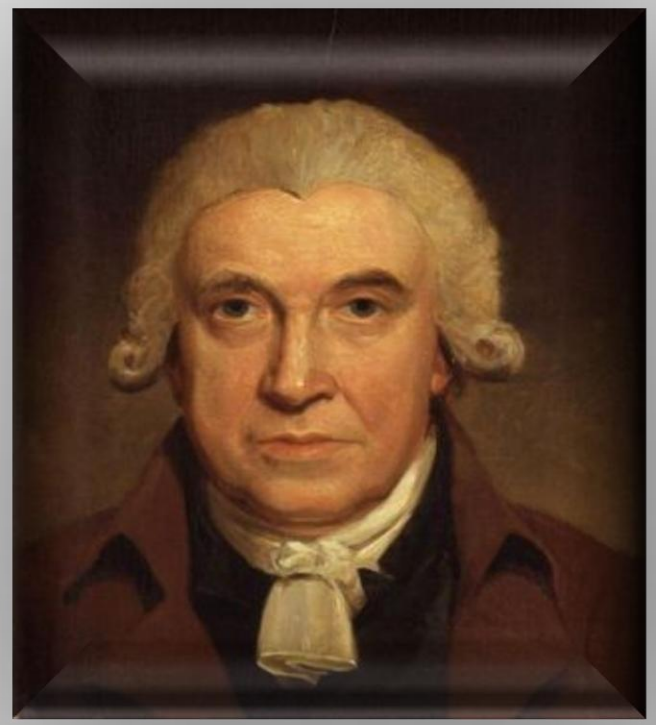
The Industrial Revolution

The Industrial Revolution began in England in the XVlll century. It was the cause of a radical change in the ways people produced things.

The first steam engine

- *The new system included the use of industrial workers who worked in the factories. It was very important the invention of steam engines.*
- *Thomas Savery was the builder of the steam engine.*



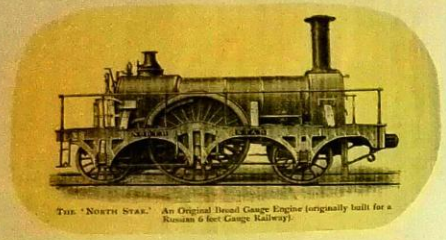
The workers

In England, during the Victorian Age, the use of child labor was a common practice. The children worked to help their family. Often they worked in factories or mines.

The movement of farmers

During the Industrial Revolution peasants moved from the countryside to the city, to work in factories and mines, so the population of the city increased.

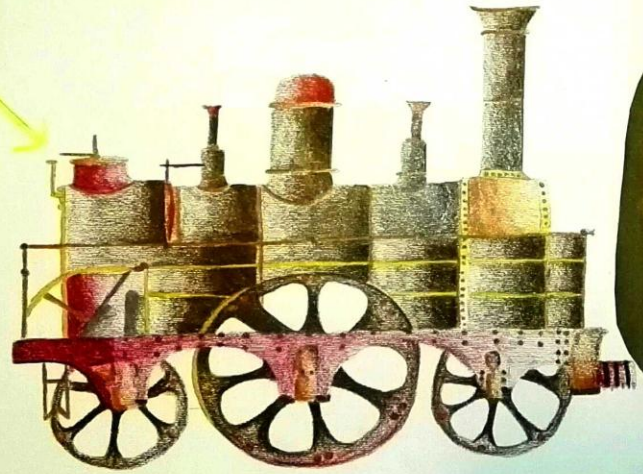
THE INDUSTRIAL REVOLUTION

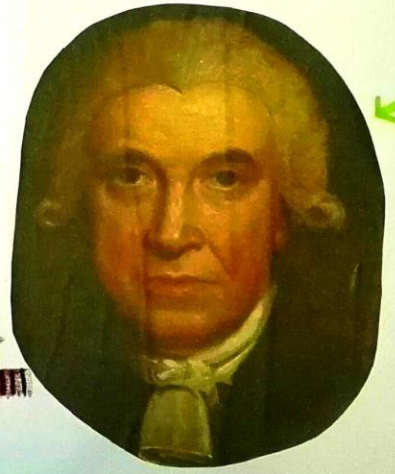


THE 'NORTH STAR.' An Original Broad Gauge Engine (originally built for a Russian 6 feet Gauge Railway).

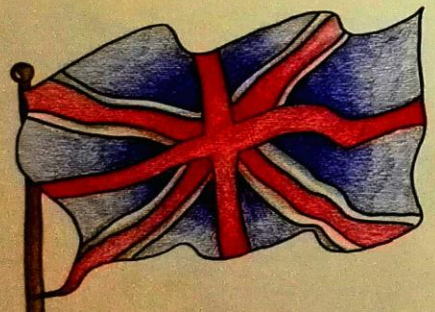
THE FIRST STEAM ENGINE

The Georgian Period was a time of glory for engineers.
In 1698 Thomas Savery invented the first steam engine for pumping water out of mines, so coal and other minerals could be mined and used in industry. Steam engines could also be applied to vehicles such as traction engines and the railway locomotives. The stationary steam engine was a key component of the industrial revolution, allowing factories to locate were water power was unavailable.
Steam engines are external combustion engines, were the working fluid is separate from the combustion products. Non-combustion heat sources such as solar power, nuclear power or geothermal energy may be used. The ideal thermodynamic cicle used to analyse this process is called the Rankine cycle. In the cycle water is heated and transforms into steam within a boiler operating at a high pressure. When expanded through pistons or turbines, mechanical work is done. The reduced-pressure steam is then condensed and pumped back into the boiler





In general usage the term steam engine can refer to either the integrated steam plants such as railway steam locomotives and portable engines, or may refer to the piston or turbine machinery alone, as in the beam engine and stationary steam engines. Specialised devices such as steam hammers and steam pile drivers are dependent on the steam pressure supplied from a separate boiler. Reciprocating piston type steam engines remained the dominant source of power until the early 20th century, when advances in the design of electric motors and internal combustion engines gradually resulted in the replacement of reciprocating (piston) steam engines in commercial usage, and the ascendancy of steam turbines in power generation. Considering that the great majority of worldwide electric generation is produced by turbine type steam engines, the "steam age" is continuing with energy levels far beyond those of the turn of the 19th century.



THE END

OUR WORK