

THE INDUSTRIAL REVOLUTION

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The Industrial Revolution was the transition to new manufacturing processes that occurred in the period from about 1760 to some time between 1820 and 1840. This transition included going from hand production methods to machines, new chemical manufacturing and iron production processes, improved efficiency of water power, the increasing use of steam power and development of machine tools

The commencement of the Industrial Revolution is closely linked to a small number of innovations, beginning in the second half of the 18th century. By the 1830s the following gains had been made in important technologies.

Mechanized cotton spinning powered by steam or water increased the output of a worker by a factor of about 1000. The power loom increased the output of a worker by a factor of over 40. The cotton gin increased productivity or removing seed from cotton by a factor of 50. Large gains in productivity also occurred in spinning and weaving of wool and linen, but they were not as great as in cotton.

The efficiency of steam engines increased so that they used between one-fifth and one-tenth as much fuel. The adaptation of stationary steam engines to rotary motion made them suitable for industrial uses.

The increase in the number of vehicles has caused an increased demand for the metal, and it required the development of metallurgy. The main achievement of this age in the steel industry was the replacement of charcoal that was used by medieval blacksmiths on coal coke. It was introduced into use in the XVII century.

- The development of more efficient water wheels based on experiments conducted by the British engineer John Smeaton
- The development of a machinery industry

- The rediscovery of concrete (based on hydraulic lime mortar) by John Smeaton, which had been lost for 1300 years

A locomotive or engine is a railway vehicle that provides the motive power for a train. The first were used in the early 19th century to distinguish between mobile and stationary steam engines.

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