

THE INDUSTRIAL REVOLUTION

WORDS

- **century** = a hundred years
- **cloth** = material that is used to make clothes
- **cotton** = a plant with white hairs on its seeds; used for making clothes
- **engineer** = someone who designs roads, bridges or machines
- **entirely** = completely, totally
- **era** = a period of time in history
- **factory** = a building in which you produce goods with machines
- **flow** = how the river moved
- **gather** = get together
- **goods** = products produced by machines
- **introduce** = here: to use something for the first time
- **invent** = to make or create something new
- **manufacture** = to make or produce goods
- **primary** = main
- **population** = the people who live in a country
- **power** = run
- **raw material** = materials like coal, oil, cotton that are used to make industrial goods
- **spin-spun** = to make cotton into a thread by twisting it
- **spinning machine** = machine that people used to make cotton into thread
- **spread** = to move to
- **steam engine** = a machine that produced power by burning coal and making hot water
- **thread** = a long thin string of cotton used to make cloth
- **trader** = a person who buys and sells things
- **urban** = everything that has to do with the city or is city like
- **waterwheel** = a large wheel that is turned by water and used to make machines work
- **workshop** = a room or a building where tools and machines are used for making and repairing things
- **yarn** = thick thread made of cotton or wool

The Industrial Revolution began in England in the middle of the 18th **century** and **spread** to the rest of Europe and the United States in the early 19th century. This **era** changed the way people worked and lived. New machines were **invented** and a large part of the **population** moved from the countryside to **urban** areas.

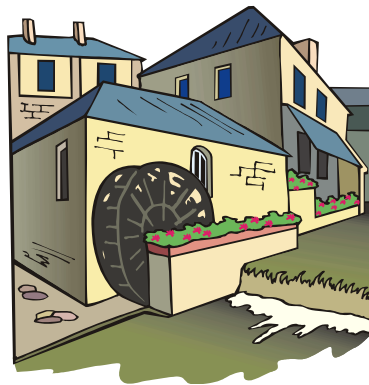
THE GROWTH OF INDUSTRIES (MANUFACTURING)

Before the Industrial Revolution people worked at home on farms or in small **workshops**. Making **cloth** was done **entirely** by hand. **Cotton** was **spun** to **thread** or **yarn** on a **spinning wheel**.



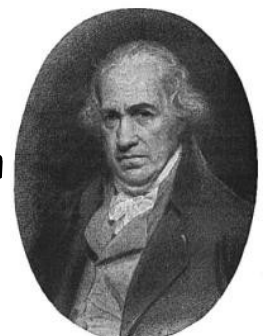
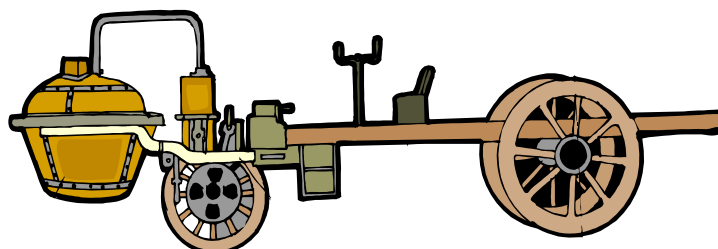
In the 1700s people began buying more and more **goods**, so textile **traders** began to look for faster and cheaper ways of producing clothes. The first **spinning machine** came up in the early 18th century and by 1780 **spinning** was done mostly in new **factories** where workers **gathered**.

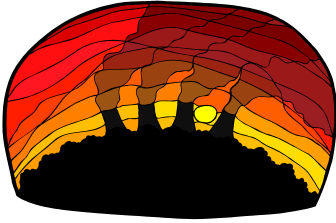
STEAM ENGINE



New machines that were **introduced** during the Industrial Revolution needed more and more power to work. Up to the 18th **century** England got most of its energy from **waterwheels** that were run by the **flow** of rivers.

In the 1760s the Scottish **engineer** James Watt **invented** the **steam engine**. It was able to run **factory** machines and was **powered** by coal, which was Great Britain's **primary raw material**.





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- **area** = region
- **call for** = need
- **canal** = a long passage that is dug in the ground and filled with water for boats to travel along
- **coke** = material that is produced from coal and burned to produce heat
- **dependent** = something you need very much
- **destination** = the place that something or someone is going to
- **develop** = grow
- **dig** = to make a hole and get something out of the earth
- **extract** = to take out of, dig out
- **factory** = a building in which you produce goods with machines
- **frame** = structure
- **goods** = products produced by machines
- **increase** = go up
- **iron ore** = rocks from which you get iron
- **link** = connect with
- **major** = important
- **mass production** = to produce goods in great numbers
- **melt** = to make something very hot so that it becomes a liquid
- **Midlands** = middle part of Great Britain
- **miner** = someone who works under the ground and removes coal from the earth
- **primary** = most important
- **pure** = not mixed with anything else
- **quantity** = the amount of something
- **rail** = the metal tracks on the ground on which trains move
- **reach** = get to
- **replace** = substitute, exchange
- **steam engine** = a machine that produced power by burning coal and making hot water
- **steam powered** = run by a steam engine
- **trade** = the buying and selling of products
- **water pipe** = round tubes that have water in them

IRON MAKING

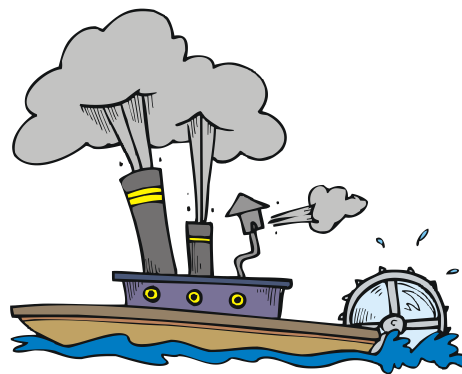
The Industrial Revolution could not have **developed** without coal and iron. Coal was needed to make **steam engines** run and to produce iron. At the beginning of the 18th century iron makers found a way to **extract pure** iron out of **iron ore**. They used **coke**, which was **purier** than coal and burned hotter, to **melt** the **ore**.

As a result, the iron production **increased** and by the early 1800s enough iron was produced to make the **goods** that people needed, like machine **frames, water pipes, rails** etc.

England's coal mines boomed during the Industrial Revolution. **Miners digged** deeper into the earth to find as much coal as they could and in the 19th century England became the world's largest coal producing country. Most of it came from the **Midlands**, around Sheffield, Birmingham and Coventry. Because the burning of coal produced a lot of smoke and darkened the skies this **area** was also called Black Country.



TRANSPORTATION



The **mass production** of **goods** during the 18th and 19th centuries **called for** new methods of transportation. New roads and a system of **canals** carried products made in **factories** to markets all over Britain. Coal, which was needed in factories in great **quantities**, was also transported on **canals**.

George Stephenson built a type of **steam engine** that could move on **rails**. In 1830 the Liverpool to Manchester railroad was opened and in the following twenty years railroads **linked** all **major** towns in Britain.



By the 1850s **steam powered** ships **replaced** sailing ships and became the **primary** way of transporting **goods** and people across the oceans. This **increased** world **trade** because ships were no longer **dependent** on good and strong winds in order to **reach** their **destinations**.

- **although** =while
- **certain** =special
- **citizen** = a person who lives in a country and has rights there
- **colonial power** = a country that had a lot of colonies all over the world
- **costs** =how much you must pay for something
- **cotton** =a plant with white hairs on its seeds; used for making clothes
- **create** = make
- **employ** = to get work
- **factory** = a building in which you produce goods with machines
- **force** = to make someone do something
- **foreign power** = another country
- **gain** = get, receive
- **goods** = products produced by machines
- **improve** = to make better
- **increase** = to go up
- **iron mill** = a factory that produces iron
- **iron ore** = rocks from which you get iron
- **labourers** = workers
- **largely** = mainly
- **leading** = very important , number one
- **lifestyle** = the way you live
- **little** = not very much
- **mainland** = the continental part of Europe , not the islands
- **medical care** = to have doctors and hospitals in a place
- **occupy** = controlled by an army of another country
- **overcrowded** = if too many people live somewhere
- **overseas** = a foreign country that is across the ocean
- **owner** = the person who something belongs to
- **pollution** = to make air, water etc. very dirty
- **protect** =defend, guard
- **raw material** = materials like coal, oil, cotton that are used to make industrial goods
- **reason** =cause, why something is done
- **spread** = to move to
- **thus** = that is why
- **troublesome** = hard and full of problems
- **union** = an organization formed by workers to protect their rights
- **urbanisation** = a city-like area with many houses and where many people live
- **urban** = city like
- **working conditions** =the situation in which people had to work

THE INDUSTRIAL REVOLUTION

HOW LIFE AND WORK CHANGED

Factories that came up during the Industrial Revolution changed the way people lived and worked in a dramatic way. **Urbanisation** made families move to the cities in order to get work. As a result, these **urban areas** became more and more **overcrowded**. They were often dirty and unhealthy places to live in because of the **pollution** that came from **factories** and **iron mills**.



Factory work **created** many problems for **labourers**. For the first time in history a large number of people had to work together in the same place. Machines **forced** workers to work quickly and without much rest.

The workday began and ended at **certain** times. Many factory people worked up to 16 hours a day for very **little** money, because **factory owners** wanted to keep production **costs** low. Sometimes whole families went to work in **factories**: while men were **employed** at iron and steel **mills**, women and children found work in new textile **factories**. However, **working conditions** were bad and many workers became ill and died. There was no **union** at that time to **protect** them.

Although lower and middle class workers led a hard and **troublesome** life, middle and upper class **citizens improved** their **lifestyle**. They **gained** more power and money.

The Industrial Revolution also led to an **increase** in Great Britain's population because people had better housing and better **medical care** in the towns and, **thus**, lived longer.

SPREAD OF THE INDUSTRIAL REVOLUTION

The Industrial Revolution began in Britain for a number of **reasons**. First, the country had **raw materials**, like **iron ore** and coal. Other materials, like **cotton** came from **overseas** colonies. By the end of the 18th century the country became the world's largest **colonial power**. The colonies then became big markets for the industrial **goods** that Britain produced.

In the early 1800s the Industrial Revolution **spread** to the European **mainland** and across the Atlantic to the United States. By 1850 Belgium, France and Germany became **leading** industrial nations on the continent.

Japan was one of the first Asian countries to start producing **goods** in **factories** and Russian industrialisation started in the early 1900s. China and India didn't become industrial powers until after World War II, **largely** because both countries were **occupied** by **foreign powers**.