

The Industrial Revolution

Started in approximately 1700s

Industrial Revolution Video

- Watch the video and answer the following questions
 - <http://www.history.com/topics/industrial-revolution>
1. What was the benefit of the industrial revolution?
 2. How did the industrial revolution help society?

By the end of the notes you need to be able to answer the following questions:

- How did agriculture change set the stage for the Industrial Revolution?
- How did work and technology change during the Industrial Revolution?
- How did the Industrial Revolution affect British society?
- How did British society respond to the Industrial Revolution?

Why the Industrial Revolution began in Britain?

- Improved agricultural methods provided more and better food supplies
- Several new machines were invented in Britain at this time, which sped up the manufacture of industrial goods.
- Britain ruled over many countries called colonies. The colonies provided Britain with cheap cotton and other raw materials
- **Transport** improved greatly in Britain due to the construction of better roads, canals and railways.

Changes in Textile-Making

- Spinning of Wool
- Weaving of Thread

Textile making moved into large buildings called factories

Textile making came to be controlled by rich factory-owners

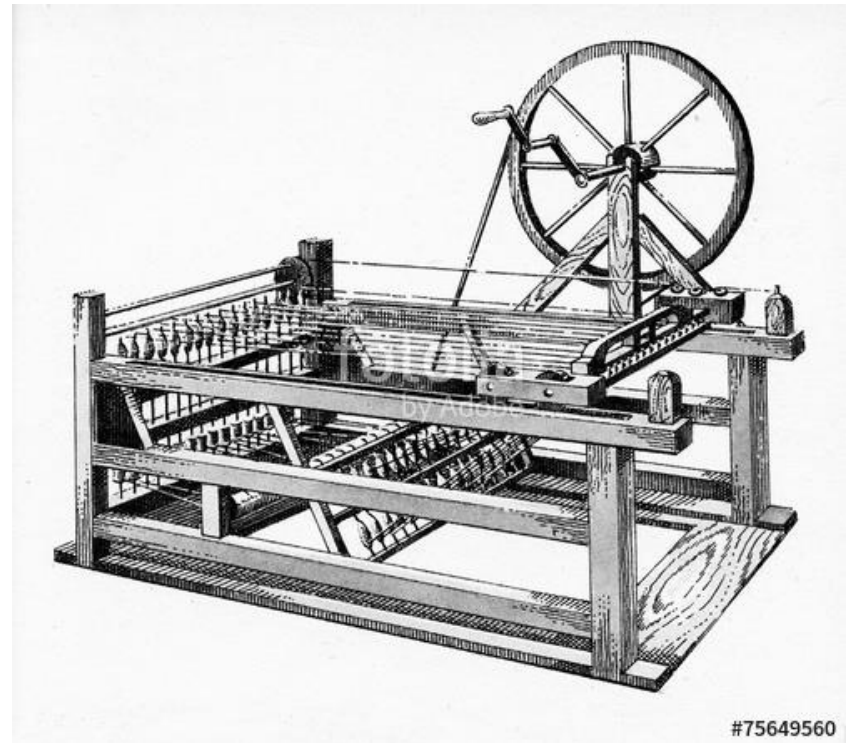
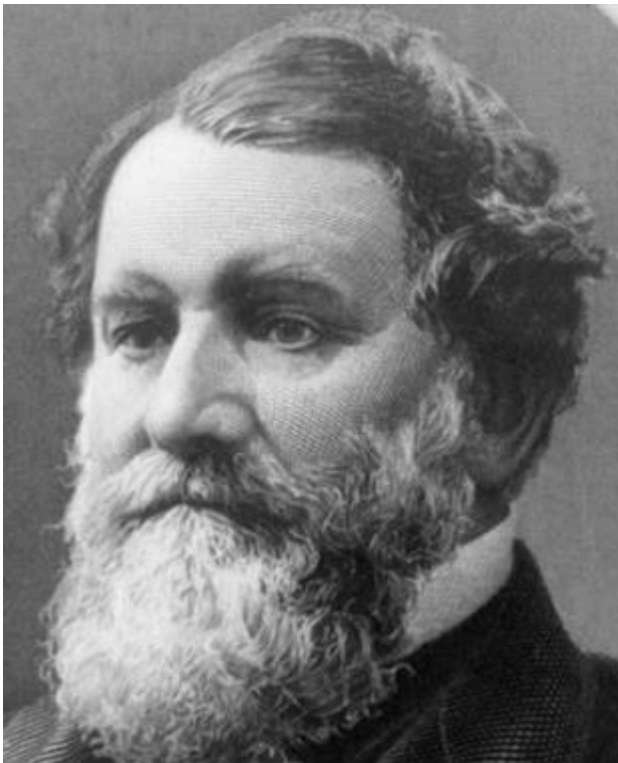
Former craftsmen had to seek work in growing cities, where the factories were situated. There, they were cruelly exploited by the factory-owners.

- **Essentially the rich were getting richer and the poor were getting poorer**

Inventions in Textile-Making

Spinning Inventions

Inventor	Invention	Description
James Hargreaves	Spinning Jenny	Could spin eight threads at a time.



Inventions in Textile-Making

Spinning Inventions

Inventor	Invention	Description
Richard Arkwright	Water Frame	Could spin hundreds of threads.



Inventions in Textile-Making

Weaving Inventions

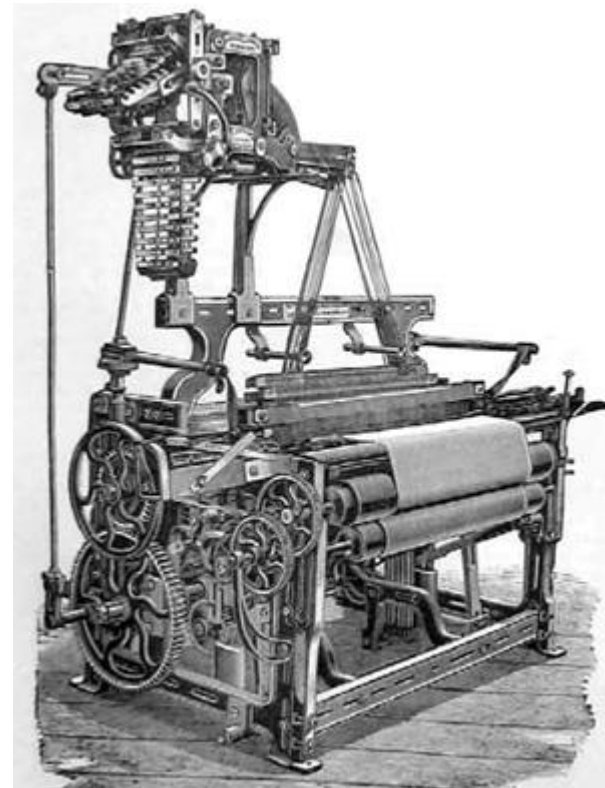
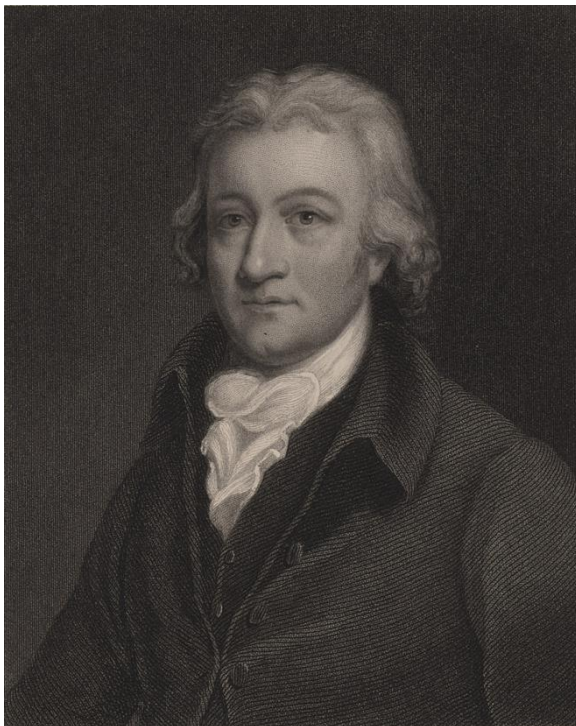
Inventor	Invention	Description
John Kay	Flying Shuttle	Doubled the speed of weaving.



Inventions in Textile-Making

Weaving Inventions

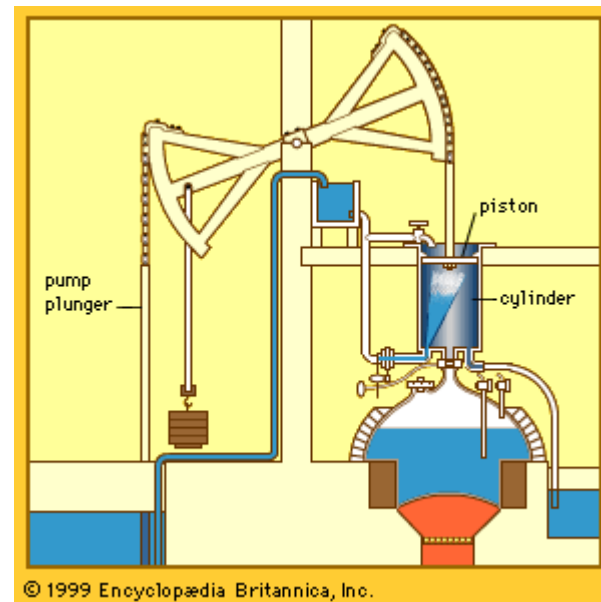
Inventor	Invention	Description
Edmund Cartwright	Power Loom	Used steam power to weave cloth quickly.



Coal Mining

Coal Mining played a vital role in the **Industrial Revolution**. Two inventions allowed coal to play such an important Role.

1. Many coal mines could not be used because they were flooded with water. But in 1705 *Thomas Newcomen* invented the **Steam Engine**, which could pump water out from the mines.



Coal Mining

Coal Mining played a vital role in the **Industrial Revolution**. Two inventions allowed coal to **play** such an important Role.

2. Burning coal did not generate enough **heat** to smelt iron ore to make iron and steel. But in 1705 *Abraham Darby* discovered that coal could be converted into **coke**, which could be used in the smelting process.

Smelting



The Steam Engine

The Steam Engine was the greatest invention of the Industrial Revolution.

- Thomas Newcomen invented the steam engine in 1705
- In 1763, James Watt invented the 'Rotary steam engine' (further developed Newcomens invention). Watt's machine could be used to turn other machines in factories, so it mechanised and speeded up manufacturing.

Iron and Steel

Three inventions were responsible for huge growth in iron and steel-making during the Industrial Revolution!

1. In 1709 **Abraham Darby** discovered how to convert coal in **coke**, which became the chief source of power for smelting iron ore.
2. In 1794 **Henry Cort** discovered 'Puddling and Rolling', which was a better way of making wrought iron. Liquid pig iron was stirred and then run through rollers to make sheets of wrought iron.
3. In 1856 **Henry Bessemer** invented a 'converter' This involved blowing hot air through melted pig iron to burn off its impurities. Resulted in better and cheaper steel.

Effects of the Industrial Revolution

Effects of the Industrial Revolution

The Growth of Cities

Poor people crowded into urban areas in search of work.

Effects of the Industrial Revolution

Trade:

Britain became rich through increased overseas trade. British colonies provided raw materials for Britain's growing factories as well as markets for Britain's manufactured goods.

Effects of the Industrial Revolution

Clothing:

Cotton began to replace wool as the most popular fabric. Big machines made cloth more cheaply than before, so the cost of clothing decreased. However, workers were so poorly paid that they themselves could afford few clothes.

Effects of the Industrial Revolution

Working Conditions:

People working in factories and mines were exploited cruelly.

Effects to improve working conditions.

- Workers fought to establish trades unions.
- Many people became socialists.

Technological Advancements

- The distribution of seeds was improved by the use of the seed drill (Inventor Jethro Tull)
 - This produced even rows and prevented seeds from being eaten by birds
- Farming for profit – it was determined that farmers goods could be sold for profit
- Enclosures allowed farmers to keep their animals contained

Technological Advancements

- Working at home creating textiles → factories with machines to create textiles on a mass scale
- A global economy occurred due to better manufacturing and transport

Scientific Advancements

- In terms of agriculture it was discovered that changing the fields each growing season helped meaning that one field is left fallow (nothing growing on it)
- New crops and livestock changes
 - The climate and the health of livestock

Reference

- Industrial Revolution
 - <http://www.studynotes.ie/wiki/industrial-revolution/>
 - <http://www.history.com/topics/industrial-revolution>