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The Industrial Revolution Notes (JC History)

Why did the Industrial Revolution begin in Britain?

- **Improved agricultural methods** provided more and better food supplies.
- **Several new machines** were invented in Britain at this time, which speeded 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

- 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. They were cruelly exploited by the factory owners.

Inventions during the Industrial Revolution

Spinning Inventions

Inventor	Invention	Description
James Hargreaves	Spinning Jenny	Could spin eight threads at a time
Richard Arkwright	Water Frame	Could spin hundreds of threads

Weaving Inventions

Inventor	Invention	Description
John Kay	Flying Shuttle	Doubled the speed of weaving
Edmund Cartwright	Power Loom	Used steam power to weave cloth quickly

Coal Mining Inventions

Inventor	Invention	Description
Thomas Newcomen	Steam Engine	Pump water out of the mines
Abraham Darby	Conversion of coal into coke	Used to smelt iron ore to make iron and steel

Steam Engine by Thomas Newcomen

- Thomas Newcomen's Steam Engine was the greatest invention of the Industrial Revolution.
- In 1763, James Watt invented the **Rotary Steam Engine** which could be used to turn other machines in factories so it mechanised and speeded up manufacturing.

Iron and Steel

- In 1709, **Abraham Darby** (as above in the coal mining inventions) discovered how to convert coal into **coke** which became the chief source of power for smelting iron ore.
- In 1774, **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.
- 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.

What were the effects of the Industrial Revolution?

- **The Growth of Cities:** Poor people crowded into urban areas in search of work.
- **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.
- **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.
- **Working Conditions:** People working in factories and mines were exploited cruelly.

What actions did the people take to prevent the cruelty?

- Workers fought to establish **trade unions**.
- Many people became **socialists**.