

THE  
**DUSTON**  
SCHOOL

**TDS**

4-19

Curriculum  
Knowledge  
History

Year 8: The Industrial Revolution





## Enquiry Question:

# How did the Industrial Revolution change England?

**Big questions that will help you answer this enquiry question:**

### Enquiry questions

- 1) What were the effects of the Agricultural revolution?
- 2) What was Britain like in 1750?
- 3) Why did the population explode?
- 4) Would you have survived the Industrial Revolution?
- 5) Why did factory conditions improve?
- 6) How did transport develop during the Industrial revolution?
- 7) What was the most significant invention made during the Industrial Revolution?
- 8) Why was there an Industrial Revolution?
- 9) Why was people's health so bad?
- 10) Why did public health improve?
- 11) Could you get justice in Victorian Britain?
- 12) Why was there so much crime in cities?
- 13) Why was Jack the Ripper never caught?
- 14) Did the Industrial Revolution bring progress and improvement?

The Industrial Revolution began with the Agricultural Revolution. Increased food production meant people could move to the cities and have relatively cheap food. It also meant that enclosure left lots of people without jobs and they moved to the cities and were the cheap labour the factories needed. The Industrial revolution then took off as individuals invented new ways of producing goods such as cotton. Rich farmers provided the money needed to create the factories; cheap labour was available because of the Agricultural revolution; Britain also happened to have the raw materials needed to produce an industrial revolution such as iron ore and coal. This revolution changed the face of England and the World.

## **Homework for week 1 and 2: Consolidation**

Answer the following 4 mark exam questions:

Describe two features of the Agricultural revolution (4 marks)

Describe two features of Britain in 1750 (4 mark)

**Due week 2**

## **Homework for week 3 and 4: Preparation**

Revision for a knowledge quiz with key terms, dates and vocab using the knowledge organiser.

**Due week 4**

## **Homework for week 5 and 6: Consolidation**

Write a short speech (around 1 minute long) to explain what you think is the most significant invention of the Industrial period. Why is this the most significant invention? These speeches will be read in class.

**Due week 6**

# Sample assessment material 1

“Public health improved due to the work of Edwin Chadwick.” How far do you agree?  
(16 marks)

\* Edwin Chadwick; \* Impact of John Snow

Public health included the provision of clean water and the removal of sewerage from peoples houses. Before Chadwick, Snow and Pasteur this was done by private companies and the government took no part in Public health. Chadwick, Snow and Pasteur all helped change this situation and the Government was forced to take responsibility for public Health.

Edwin Chadwick wrote a report in 1842 outlining the reasons for poverty and early death amongst the poor. He suggested this was down to poor living conditions particularly a lack of clean water and effective sewerage removal. This report was the basis of further investigations and led to the 1848 Public health Act which allowed councils to voluntarily take on Public health and improve living conditions. This was a big step forward.

However, it was voluntary and John Snow helped move it towards forcing councils to act to improve living conditions. He statistically proved that Cholera a deadly disease which killed thousands was carried in dirty water. By ensuring clean water and effective sewerage removal you could massively reduced deaths from Cholera. This led to the 1875 Public health Act and improved Public health making it compulsory for councils.

Pasteur helped the situation in Public health because a lot of people did not believe in Snows statistics and he could not prove Cholera was in the water. Pasteur proved that Germs can kill and live in the environment. Robert Koch then discovered the actual Cholera germ proving that it was in the water.

It was not until the creation of the Welfare state in 1945 that full responsibility for Public Health was given to councils but Chadwick, Snow and Pasteur all contributed to improvements in Public health, Chadwick as the first could be said to be the most important but Snow and Pasteur did massively contribute to the public Health we have today.

**Key words:**

<b>Industrial Revolution</b>	A time of great change in Britain when people started to make things by machine in factories. It spans from 1750 to 1900.
<b>Urban</b>	Built-up areas in which people live in close proximity. This refers to either towns or cities
<b>Rural</b>	Countryside areas in which the population is spread thinly
<b>Population</b>	The number of people living in a particular place
<b>Invention</b>	Something new which is created, can be an idea or an object
<b>Factories</b>	Places where goods are made on mass
<b>Cholera</b>	An infectious and often fatal bacterial disease of the small intestine typically contracted from infected water supplies and causing severe vomiting and diarrhoea.
<b>Workhouse</b>	An institution which would house and look after the poor. In return for food and lodging inmates would be expected to work to produce goods.

**From 1750 Britain went through a process of change in a number of key areas:**

- **Agriculture** - Charles 'Turnip' Townshend introduced the Norfolk four-course rotation of wheat-turnips-barley-clover to his farm and Robert Bakewell used selective breeding to develop the New Leicester sheep. Arthur Young promoted new methods to a wider audience.
- **Industry** - Richard Arkwright's Mill at Cromford heralded 'the Factory Age' of the textile industry, production of iron increased 30-fold and production of coal increased 20-fold. Newcomen and Watt contributed to the development of steam power to drive machinery more efficiently.
- **Transport and communications** - Thomas Telford built roads and canals in the 1700s and George Stephenson and Isambard Kingdom Brunel oversaw the 'Railway Mania' of the 1800s. There had previously been no very fast way of transporting goods and people around the country. However, canals did already exist and so most materials were transported by boat to towns and cities which had to be located on canal routes.
- There were also many scientific discoveries and technological inventions that changed society and industry.

**The main changes**

- By 1914, England had become a great trading nation with a worldwide empire, which covered a fifth of the globe
- a 260 % growth in population
- a change from agriculture to industry
- a move from domestic industry to factory work
- a move from water and wind power to steam engines
- a revolution in transport and communications, from canals and pack horses, to railways and the telegraph

**The growth of towns:**

- In 1750, only about 15 per cent of the population lived in towns. By 1900 it was 85 per cent. This meant that there were far more people around to work in new industries but also caused problems because many more people needed foods and homes. This meant that poverty was increasing.
- By 1900, London had 4.5 million inhabitants. The biggest other towns were Glasgow with 760,000 inhabitants and Liverpool with 685,000. Manchester and Birmingham had more than half a million people each. Much of the population had moved from the South-East to the industrialised coalfield areas in the North and the Midlands.

## Inventions of the Industrial Revolution

The Water frame	The Spinning Jenny	The Steam Engine
1769: Richard Arkwright was a barber & wig maker in Bolton. He invented a machine, powered by water, to spin cotton fibre into yarn, or thread, quickly and easily. His machines did not need skilled operators so Arkwright paid unskilled women and others to work on them. This invention allowed factories and mills to be built.	1770: James Hargreaves, a British carpenter and weaver, invents the spinning jenny. The machine spins more than one ball of yarn or thread at a time, making it easier and faster to make cloth. This allows more workers to make cloth more cheaply and increases the amount of factories built.	1717: Thomas Newcomen invents the first steam engine. The engine pumped water using a vacuum created by condensed steam. It became an important method of draining water from deep mines and was therefore a vital component in the Industrial Revolution in Britain. It would later be improved by James Watt which meant steam engines could replace water and horse power in a wide variety of industries, which in turn allowed factories to be built anywhere.
Crop Rotations	The Locomotive	The Electric motor
1738: Charles 'Turnip' Townshend introduced the turnip and the Norfolk four-course rotation of wheat-turnips-barley-clover onto his farm. This was significant as it allowed farmers to increase the amount of crops grown. This in turn supported the increase in Britain's population between 1700 and 1850	1814: Richard Trevithick was a pioneer in early steam engine technology. He developed a new high-pressure steam engine which could be used to reliably move goods and passengers. This invention made transport much easier and quicker.	1831: Michael Faraday discovered electromagnetic induction, the principle behind the electric transformer and generator. This discovery was crucial in allowing electricity to be transformed from a curiosity into a powerful new technology.

## Factory conditions

- **Long working hours:** normal shifts were usually 12-14 hours a day, with extra time required during busy periods. Workers were often required to clean their machines during their mealtimes.
- **Low wages:** a typical wage for male workers was about 15 shillings (75p) a week, but women and children were paid much less, with women earning seven shillings (35p) and children three shillings (15p). For this reason, employers preferred to employ women and children. Many men were sacked when they reached adulthood; then they had to be supported by their wives and children.
- **Cruel discipline:** there was frequent "strapping" (hitting with a leather strap). Other punishments included hanging iron weights around children's necks, hanging them from the roof in baskets, nailing children's ears to the table, and dowsing them in water butts to keep them awake.
- **Fierce systems of fines:** these were imposed for talking or whistling, leaving the room without permission, or having a little dirt on a machine. It was claimed that employers altered the time on the clocks to make their workers late so that they could fine them. Some employers demanded that their overseers raise a minimum amount each week from fines.
- **Accidents:** forcing children to crawl into dangerous, unguarded machinery led to many accidents. Up to 40 per cent of accident cases at Manchester Infirmary in 1833 were factory accidents.
- **Health:** cotton thread had to be spun in damp, warm conditions. Going straight out into the cold night air led to many cases of pneumonia. The air was full of dust, which led to chest and lung diseases and loud noise made by machines damaged workers' hearing.
- **Parish apprentices:** orphans from workhouses in southern England were "apprenticed" to factory owners, supposedly to learn the textiles trade. They worked 12-hour shifts, and slept in barracks attached to the factory in beds just vacated by children about to start the next shift.

## Living conditions:

- **Pollution:** coal was used to heat houses, cook food and heat water to produce steam to power machines in factories. The burning of coal created smoke, which led to terrible pollution in the cities.
- **Overcrowding:** due to large numbers of people moving to the cities, there were not enough houses for all these people to live in. Low wages and high rents caused families to live in as small a space as possible. Sometimes whole families lived in one room.
- **Disease:** typhus, typhoid, tuberculosis and cholera all existed in the cities of England. Cholera reached England for the first time in 1830, and there were further major epidemics in 1832 and 1848. Overcrowding, housing of a low standard and poor quality water supplies all helped spread disease.
- **Waste disposal:** gutters were filled with litter and the streets were covered in horse manure, collected by boys to sell to farmers. Human waste was discharged directly into the sewers, which flowed straight into rivers. In London, Parliament had to stop work because the smell from the Thames became too much.
- **Poor quality housing:** houses were built very close together so there was little light or fresh air inside them. They did not have running water and people found it difficult to keep clean. Houses often suffered from damp due to their thin walls and roofs made out of cheap materials. Many households had to share a single outside toilet that was little more than a hole in the ground.
- **Lack of fresh water:** people could get water from a variety of places, such as streams, wells and stand pipes, but this water was often polluted by human waste.

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England?**

## Wider Reading List

### Wider reading list

Britain's Industrial Revolution: The Making of a Manufacturing People, 1700-1870 by Barrie Trinder

The Industrial Revolution Explained: Steam, Sparks and Massive Wheels  
By Stan Yorke

Iron, Steam & Money: The Making of the Industrial Revolution by Roger Osborne

The Industrial Revolution (Shire Living Histories) by Johnathon Downs

Liberty's Dawn: A People's History of the Industrial Revolution

Liberty's Dawn: A People's History of the Industrial Revolution by Emma Griffin

