

Year 8 History – Kerboordle Chapter 7 'The Industrial Revolution: from farming to factories'

Week Two tasks

This chapter in the Kerboordle book is all about the Industrial Revolution and how Britain changed at this time. I will be setting you pages to read and tasks to complete each week.

To begin with, you will need to log in to kerboordle (check the help sheet on the HMS website if you are unsure). Once you have logged in, you will need to click on KS3 History 4th Edition. You will then be able to see any assignments you have been given, and complete them by clicking on the 'assessment' tab. You will also be able to look at the student book by clicking on 'digital book'.

7.2b – How did factories create towns? Read the pages and complete the end of lesson assessment quiz. As an extension, you could also try completing some or all of the tasks in the book.

7.2B How did factories create towns?

I've got the power!

By 1800, factories were producing all sorts of items – and making their owners rich. But factory owners faced a problem. They wanted their machines to run 24 hours a day, 365 days a year in order to maximise their profits. Most of the early factories used water power as an energy source to drive the machines. This power was created by a huge waterwheel that was turned by the fast flow of a nearby river. This type of energy was free and clean, but water power had several key problems (see E).

Fact

Lunar Society members included scientists, inventors, astronomers, mathematicians, engineers and manufacturers. They met to discuss interesting issues and were committed to using new ideas or developments to improve people's lives. One famous member was US politician and inventor Benjamin Franklin, who attended meetings when he visited Britain.

Source E Based on extracts from the diary of John Viner, a Lancashire cotton worker between 1800 and 1804.

30 May 1801: Another very warm day, and this dry weather is much against us in the River Ribblesdale is very low, and in the afternoon our boats go very slow for want of water.

25 November 1801: It was very wet and stormy all night, and the Ribblesdale was so high with the flood that we could not start work until the afternoon.

28 August 1804: There were thirty mills stopped in Blackburn this last week for lack of water, and will not start again until we weather sets in.

Full steam ahead!

Water power was just not reliable enough. So factory owners turned to a new form of power that scientists had been developing – **steam engines**. These had first been used to pump water out of underground mines but they were slow, expensive and kept breaking down. Then, in 1788, a Scottish inventor named James Watt met a businessman called Matthew Boulton at a science club called the Lunar Society in Birmingham. Together they developed a new kind of steam engine that Watt had been working on. It included a new (piston-and-planet) gear system that turned a wheel just as a river would (see G). This new type of steam engine became very popular as soon as factory owners realised they could power the machines in their factories by 'steam power' rather than water power.

Factory fever

The effect on Britain was incredible. Not only was steam power faster and more reliable than water power, it also meant that factories no longer had to be built next to fast-flowing rivers – they could be built anywhere. By 1871, only 2 per cent of factories were using waterwheels. Steam-powered factories started to spring up all over Britain and even more people left the countryside to work in them. Factory towns like Birmingham, Sheffield, Manchester, Bolton and Bradford started to grow and grow. By 1850, Britain's factories produced two-thirds of the world's cotton cloth – even though cotton didn't grow in Britain! Nearly half of the world's hardware (saws, pins, pens and so on) also came from Britain. Industry had become mechanised and Britain was now known as 'the workshop of the world'. For the first time in British history, more people were now living in towns and cities than in the countryside.

Key Words

industry
mechanised
mine
steam engine

Source 1 A picture of factories in Sheffield in the 1800s. The chimneys (towers) called 'blackstacks' take away the dirty, sooty smoke produced when coal is burned.

Over to You

- Read Source E.
 - What type of power is used in this factory?
 - Name two problems that this type of power caused the factory owner.
- Look at G. Write a sentence to explain the role of the following:
 - coal
 - piston
 - sun-and-planet gears
 - beam
 - boiler
 - wheel
- Read Source H. Do you think this source was written before or after Britain's industry had become mechanised? Give reasons for your answer.
- Look at Source I.
 - How do you think the mills and factories of Sheffield were powered? Explain your answer.
 - What negative effects does this form of power cause?

Causation

- Explain why many factory owners introduced steam power.

Revolution, Industry and Empire: Britain 1558–1901

7.3 – Peggy the pauper. Read the pages and complete the end of lesson assessment quiz. As an extension, you could also try completing some or all of the tasks in the book.

7.3 Peggy the pauper

Britain's early factories were dangerous, harsh places to work. Most factory owners only cared about making a profit, not about providing a safe place to work. There were no strict government guidelines or laws to control what went on in the early factories. Machines did not have safety guards and workers did not wear protective gear. Many, dirty factories made many people deaf and sick. Many factories employed children. What was life like for them?

Objectives

- Examine why so many children worked in factories.
- Describe working conditions in some factories.

Child labour

Poor children didn't go to school, so they would go to work with their parents – even as young as five. Children – children without parents – were often sent to work in factories by local authorities. They were known as **pauper apprentices**, and were given food, clothing and a bed in an 'apprentice house'. In return they had to work very hard for the factory owners.

Read the story of Peggy, a pauper apprentice in one of Britain's mills. Would you have been tough enough to survive her life?

Fact

In 1833, two out of every five accident cases received at Manchester Infirmary (a hospital) were caused by factory machinery.

Were all factories the same?

Some employers believed that happy workers were good workers, so they tried to provide decent living and working conditions for their workers. Robert Owen, for example, built good quality houses, schools, shops and parks for his workers in New Lanark, Scotland. He also reduced working hours. Elsewhere, factory owners built good quality villages for their workers at Saltaire (Yorkshire) and Broomborough Pool (Cheshire). But these villages and towns were exceptions, and the vast majority of factories and the towns that surrounded them were dangerous and unhealthy places to live and work.

Meanwhile...

It did not take long for factories to appear in other countries. The first factory in the USA was built in 1790 by Samuel Slater, an English-born businessman who took lots of British ideas to America when he emigrated there. He is referred to as 'Slater the Traitor' by some people in the UK because they think he stole British ideas on machinery design and used them for his own factories in the USA!

Key Words

pauper apprentice

Fact

6 The children who lived with their parents earned about half the amount that women did, so it was cheaper for factory owners to employ women and children than men.

7 Pauper apprentices worked in shifts – some in the day, the others at night.

Over to You

- Write a list of ways in which pauper apprentices like Peggy were treated harshly.
- Suggest reasons why dangerous, unhealthy and harsh conditions were so common in factories at this time.
- In what ways did Robert Owen treat his workers differently?
- Make a 24-hour timeline for a typical day of your week. Include:
 - your sleep time
 - times for food, travel, breaks and spare time
 - what work you do in paper round, for example
 - something that a factory boy or girl wouldn't have done – school!
- Write at least five sentences, each one stating how your day is different from a child's in the early 1800s.

Knowledge and Understanding

- Describe two features of factory life.

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