Historians generally agree that it was the textile industry, and particularly the cotton industry, that was the main driver of the Industrial Revolution. During the second half of the eighteenth century the production of cotton textiles changed from being a cottage industry to a factory-based enterprise.

**The traditional textile industry**

Textile production had been an important part of the English economy for centuries, but the emphasis was mainly on woollen goods. Cotton cloth was produced only in small quantities, as English cotton producers could not compete in quality or price with imported cloth from India. Until the eighteenth century, textile production was a cottage industry, carried out by farmers and agricultural workers in their homes after normal working hours. Children would clean and prepare the raw fibres, women would spin the yarn, and men would weave the cloth. Raw wool was sourced from English sheep, while raw cotton came largely from America where it was grown by slaves (see chapter 4), the West Indies and the eastern Mediterranean area.

Raw fibre was delivered to villages by merchants, who later collected the finished products, and paid the villagers for their work. Traditional textile production is described in Sources 1–3.

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**Source 1**

Traditional textile production — step 1

In traditional textile production, the rough fibres were first manually carded, using two hand-held paddles to untangle and straighten the fibres.

**Source 2**

Traditional textile production — step 2

The fibres were spun into threads using a spinning wheel.

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History Alive 9 for the Australian Curriculum
Chapter 2: The Industrial Revolution (1750–1914): (I) Technology and progress

Innovation in the textile industry

Early innovations in the textile industry applied to both cotton and woollen production, but the period after the 1750s saw a greater demand for cotton products. This was due to an increased foreign market for cotton goods, particularly in Europe, and increases in population and domestic incomes. With the domestic-based industry no longer able to meet this demand, inventors began to develop spinning and weaving machines to improve both the quantity and quality of cloth produced.

Spinners and weavers

Traditionally, one weaver required three or four spinners to provide enough yarn for his loom. After John Kay’s flying shuttle (see Source 4 overleaf), patented in 1733, made weaving more efficient, it required the output of as many as a dozen spinners to supply the necessary yarn for one weaver. As the flying shuttle came to be used more widely during and after the 1750s, it became clear that a more efficient method of spinning was needed. The development of the spinning jenny in the 1760s responded to this need (see Source 5 overleaf). Early models were able to spin eight spindles of yarn simultaneously, and later models were able to hold more than 100 spindles at one time.

The move to factory production

The new spinning and weaving machines had outgrown the cottages of spinners and weavers. Larger buildings were needed to house them, and textile production began to be moved into specialised factories, known as cotton mills. By the 1780s all stages of textile manufacture were becoming centralised in mills, particularly in the growing towns of Lancashire in northern England. Sources 4-8 show the progress made in the textile industry over 50 years.
John Kay invented the flying shuttle, which allowed weaving to be performed more quickly.

James Hargreaves developed the spinning jenny, which could spin multiple threads simultaneously.

Samuel Crompton invented the spinning mule, which improved the spinning process to produce better quality thread.

James Arkwright patented the water frame, a spinning machine powered by running water. Similar machines were later powered by steam.

Did you know? The first large textile factories in England were located in and around the city of Manchester. The term manchester is still used today to describe household cotton-based items such as tablecloths, bedding and towels.
Chapter 2: The Industrial Revolution (1750–1914): (I) Technology and progress

EXPLANATION AND COMMUNICATION
1. Why was the English textile industry traditionally based on wool rather than cotton?
2. Which members of a family would be most likely to use each of the devices shown in Sources 1–3?
3. Explain two factors that led to an increased demand for cotton products by the 1750s.

ANALYSIS AND USE OF SOURCES
4. Why did the invention of the flying shuttle (see Source 4) make it necessary for a machine such as the spinning jenny (see Source 3) to be invented?
5. Explain the significance of the invention of the water frame (see Source 6) in the move away from cottage industry.
6. The power loom in Source 8 could have been powered by either water or steam. Explain how this power actually drove the loom.

CHRONOLOGY, TERMS AND CONCEPTS
7. Most historians identify changes in textile production in eighteenth-century Britain as a key element of the Industrial Revolution. What is meant by the term ‘revolutionary change’?
8. Why would changes in the textile industry in eighteenth-century Britain be regarded as revolutionary?

PERSPECTIVES AND INTERPRETATIONS
8. It is often said that ‘necessity is the mother of invention’. In what ways were the inventions in the eighteenth-century English textile industry a response to necessity?
9. If you were a farm worker earning extra money by spinning or weaving in your cottage, what might your reactions have been to the change to factory production?

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textile production began to be centralised in factories. Initially they were built close to rivers to draw on water power, but eventually this became unnecessary as steam power was adopted.

Edmund Cartwright developed the power loom, shown below in this artwork from c. 1844, which mechanised the weaving process. A Boulton and Watt steam engine was first used to power a textile mill, leading to the possibility of mass factory production.

*carding* the process of untangling and straightening raw wool or cotton fibres
*cottage industry* small-scale manufacturing in which raw materials are processed in workers’ homes
*spinning* the twisting of carded fibres into lengths of continuous thread or yarn
*warp* the fixed threads used in the weaving process
*weft* the horizontal movable thread that is woven through the warp to create cloth

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Source 8: Innovation in the textile industry — 1780s

Textile production began to be centralised in factories. Initially they were built close to rivers to draw on water power, but eventually this became unnecessary as steam power was adopted.

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Student workbook 2.4

Activities

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