

**CHAPTER 9** Section 1 (pages 283–288)

# The Beginnings of Industrialization

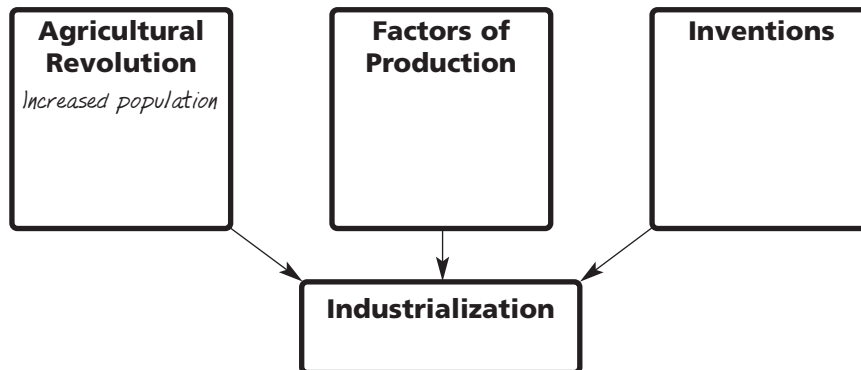
## BEFORE YOU READ

In the last section, you read about romanticism and realism in the arts.

In this section, you will read about the beginning of the Industrial Revolution.

## AS YOU READ

Use this chart to take notes on important developments and conditions that led to industrialization.



### TERMS AND NAMES

**Industrial Revolution** Great increase in machine production that began in England in the 18th century

**enclosure** Large closed-in field for farming

**crop rotation** Planting a different crop in a different field each year

**industrialization** Process of developing machine production of goods

**factors of production** Conditions needed to produce goods and services

**factory** Building where goods are made

**entrepreneur** Person who organizes, manages, and takes on the financial risk of a business enterprise

## Industrial Revolution Begins in Britain (pages 283–284)

### *How did the Industrial Revolution begin?*

The **Industrial Revolution** was the great increase in production that began in England during the 18th century. Before the Industrial Revolution, people made most goods by hand. By the middle of the 1700s, more and more goods were made by machines.

The Industrial Revolution began with an *agricultural revolution*. In the early 1700s, large landowners in Britain bought much of the land that had been owned by poorer farmers. The landown-

ers collected these lands into large fields closed-in by fences or hedges. These fields were called **enclosures**. Many of the poor farmers who lost their lands became *tenant farmers*. Others gave up farming and moved to the cities.

New farm methods made farmers more productive. For example, Jethro Tull invented a seed drill that made planting more efficient. Farmers also practiced **crop rotation**. Crop rotation is the practice of planting a different crop in a different field each year.

The increase in farm *output* made more food available. People enjoyed better diets. The population of Britain grew. Fewer farmers were needed to grow food. More people began to make goods

other than food. The growth in the number of people in cities to work in factories helped create the Industrial Revolution.

For several reasons, Britain was the first country to industrialize. **Industrialization** is the process of developing machine production of goods.

Great Britain had all the resources needed for industrialization. These resources included coal, water, iron ore, rivers, harbors, and banks. Britain also had all the **factors of production** that the Industrial Revolution required. These factors of production included land, labor (workers), and capital (wealth).

### 1. Why was Britain the first country to industrialize?

---

---

## Inventions Spur Industrialization (pages 284–286)

### *What inventions helped change business?*

The Industrial Revolution began in the *textile* industry. Several new inventions helped businesses make cloth and clothing more quickly. Richard Arkwright invented the water frame in 1769. It used water power to run spinning machines that made yarn. In 1779, Samuel Compton invented the spinning mule that made better thread. In 1787, Edmund Cartwright developed the power loom. The power loom was a machine that sped up the cloth-making process.

These new inventions were large and expensive machines. Business owners built large **factories** to house and run these machines. These factories were built near rivers because these machines needed water-power to run them.

### 2. How was the textile industry changed by the new inventions?

---

---

## Improvements in Transportation; The Railway Age Begins (pages 287–288)

The invention of the steam engine in 1705 brought in a new source of power. The steam engine used fire to heat water and produce steam. The power of the steam drove the engine. Eventually steam-driven engines were used to run factories.

At the same time, improvements were being made in transportation. Robert Fulton, an American, invented the first steam-driven boat. This invention allowed people to send goods more quickly over rivers and canals.

Starting in the 1820s, steam brought a new burst of industrial growth. George Stephenson, a British engineer, set up the world's first railroad line. It used a steam-driven locomotive. Soon, railroads were being built all over Britain.

The railroad *boom* helped business owners move their goods to market more quickly. It created thousands of new jobs in several different industries. The railroad had a deep effect on British society. For instance, people could now travel throughout the country more quickly.

### 3. What effects did the invention of the steam engine have?

---

---

---

---

---