

## The Industrial Revolution

### Lesson 1

# The Beginnings of Industrialization

## Key Terms and People

**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 the same field each year to allow the soil to regenerate

**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

**Henry Bessemer** British engineer who developed a way to mass-produce steel cheaply

## Before You Read

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

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

## As You Read

Answer questions in a chart to note important events in Britain's industrialization.

### INDUSTRIAL REVOLUTION BEGINS IN BRITAIN

#### 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 landowners 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. The growth in the number of people in cities to work in factories helped create the Industrial Revolution.

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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 the same field each year. This improves the quality of the soil.

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

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?

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**INVENTIONS SPUR INDUSTRIALIZATION**

**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, which 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. They needed large

**factories** to house and run these machines. **Entrepreneurs**, or people who start and manage businesses, built the factories near rivers because these machines ran on water power.

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

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**IMPROVEMENTS IN TRANSPORTATION; THE RAILWAY AGE BEGINS**

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 and shipping boats.

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. **Henry Bessemer**, a British engineer, devised a way to make steel in large quantities. Railroad rails were made using the inexpensive steel. Soon, railroads were being built all over Britain.

The railroad boom helped business owners move their goods to market more quickly. These changes created thousands of new jobs in several different industries. Millions of British people, including the middle class, also enjoyed the trains. Even Queen Victoria regularly traveled by train.

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

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**Lesson 1, *continued***

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As you read this lesson, make notes in the chart to explain how each factor listed contributed to an Industrial Revolution in Great Britain.

1. Agricultural revolution	
2. Abundant natural resources	
3. Political stability	
4. Factors of production	
5. Technological advances in the textile industry	
6. Entrepreneurs	
7. Building of factories	
8. Railroad boom	