

CHAPTER
19
SECTION 1

Section Summary

DAWN OF THE INDUSTRIAL AGE

READING CHECK

Who formed the growing labor force for the Industrial Revolution?

VOCABULARY STRATEGY

What does the word *statistics* mean in the underlined sentence? What prior knowledge do you have of this word? For example, think of where you may have seen statistics before. Use your prior knowledge and context clues in the sentence to help you learn what *statistics* means.

READING SKILL

Recognize Multiple Causes

Identify three events in the agricultural revolution that caused population and industry to grow.

The Industrial Revolution started in Britain. In 1750, most people worked the land, using handmade tools. They made their own clothing and grew their own food. With the onset of the Industrial Revolution, the rural way of life in Britain began to disappear. By the 1850s, many country villages had grown into industrial towns and cities. New inventions and scientific “firsts” appeared each year. Between 1830 and 1855, for example, an American dentist first used an **anesthetic** during surgery and a French physicist measured the speed of light.

A series of related causes helped spark the Industrial Revolution. It was made possible, in part, by another revolution—in agriculture—that greatly improved the quality and quantity of food. Farmers mixed different kinds of soils and tried out new methods of crop rotation to get higher yields. Meanwhile, rich landowners pushed ahead with **enclosure**, the process of taking over and consolidating land formerly shared by peasant farmers. As millions of acres were enclosed, farm output and profits rose. The agricultural revolution created a surplus of food, so fewer people died from starvation. Statistics show that the agricultural revolution contributed to a rapid growth in population.

Agricultural progress, however, had a human cost. Many farm laborers were thrown out of work. In time, jobless farm workers migrated to towns and cities. There, they formed a growing labor force that would soon operate the machines of the Industrial Revolution.

Another factor that helped trigger the Industrial Revolution was the development of new technology, aided by new sources of energy and new materials. One vital power source was coal, used to develop the steam engine. In 1764, Scottish engineer **James Watt** improved the steam engine to make it more efficient. Watt’s engine became a key power source of the Industrial Revolution. Coal was also used in the production of iron, a material needed for the construction of machines and steam engines. In 1709, Adam Darby used coal to **smelt** iron, or separate iron from its ore. Darby’s experiments led to the production of less-expensive and better-quality iron.

Review Questions

1. How did people’s lifestyles change in Britain with the start of the Industrial Revolution?

2. Why was the steam engine important to the Industrial Revolution?
