

CHAPTER

5

1550–1800

Enlightenment and Revolution

THE BIG PICTURE

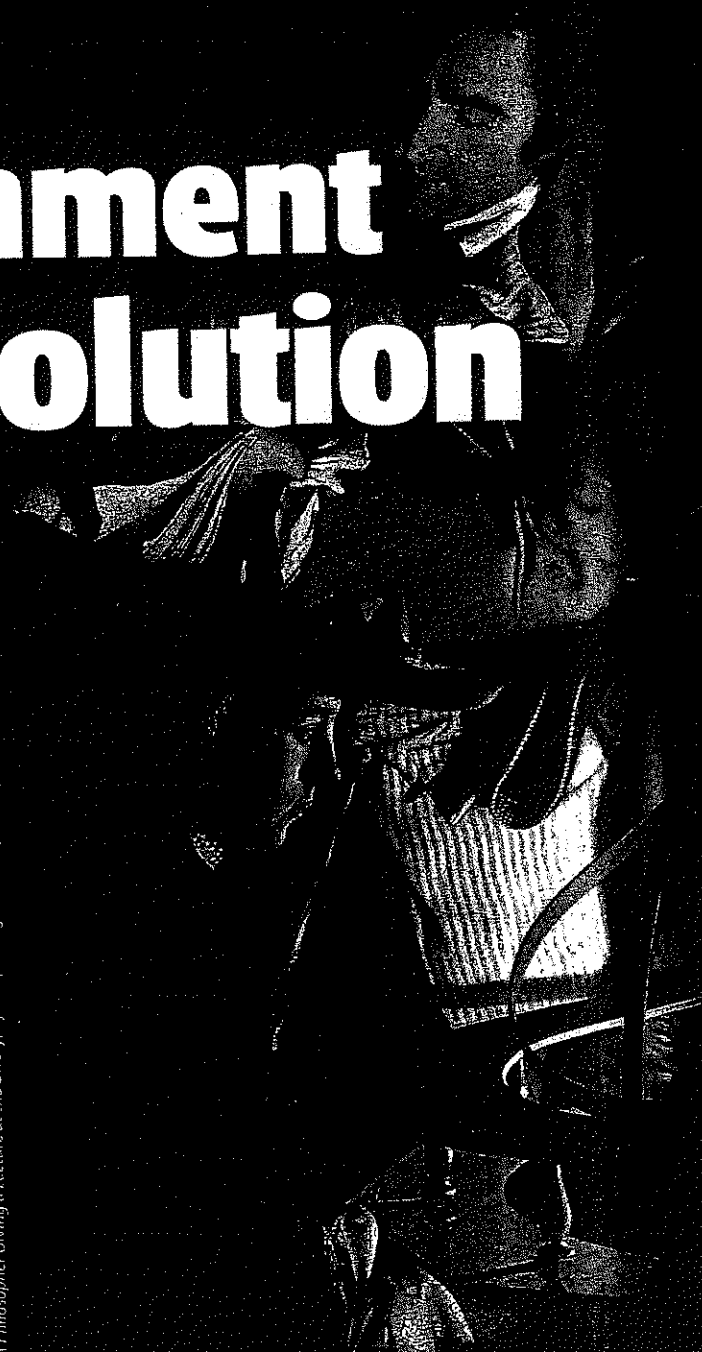
Beginning in the late 1500s, new discoveries and the use of reason in Europe during the

Scientific Revolution and the Enlightenment led to changing ideas about government and society. Influenced by Enlightenment ideas, British colonists in North America established a new nation—the United States.

Theme SCIENCE AND TECHNOLOGY

Between about 1550 and 1800 scientists in Europe made advances in science through observation and experimentation. In this chapter you will study these discoveries in science and learn how they affected the world.

A Philosopher Giving a Lecture at the Orrery, by Joseph Wright of Derby, 1776



TIME LINE

CHAPTER EVENTS

1600

1609 In Italy, Galileo develops the first telescope used for astronomy.

1690

John Locke publishes *Two Treatises on Civil Government*, arguing that government should protect people's natural rights.

1759

Voltaire publishes *Candide*, a novel attacking the church and other institutions of his time.

1700

1750

WORLD EVENTS

1652

Dutch colonists arrive at the Cape of Good Hope.

1707 The Mughal Empire ends in India.

1769 Spanish missionaries begin founding missions in California.



History's Impact video program

Watch the video to understand the impact of the Declaration of Independence.

Reading like a Historian

In this painting, a scientist gives a demonstration of an orrery, a device that shows the movement of the planets around the sun. The spectators respond to their new understanding of the universe with wonder and awe.

Analyzing Visuals What do you think the darkened room and the illuminated faces of the spectators symbolize?

See **Skills Handbook**, p. H26

1775
The American Revolutionary War begins.

1783
The Treaty of Paris recognizes the United States as a nation.

1787
American leaders write the U.S. Constitution.

1775



1780
Tupac Amaru leads a peasant revolt in Peru.

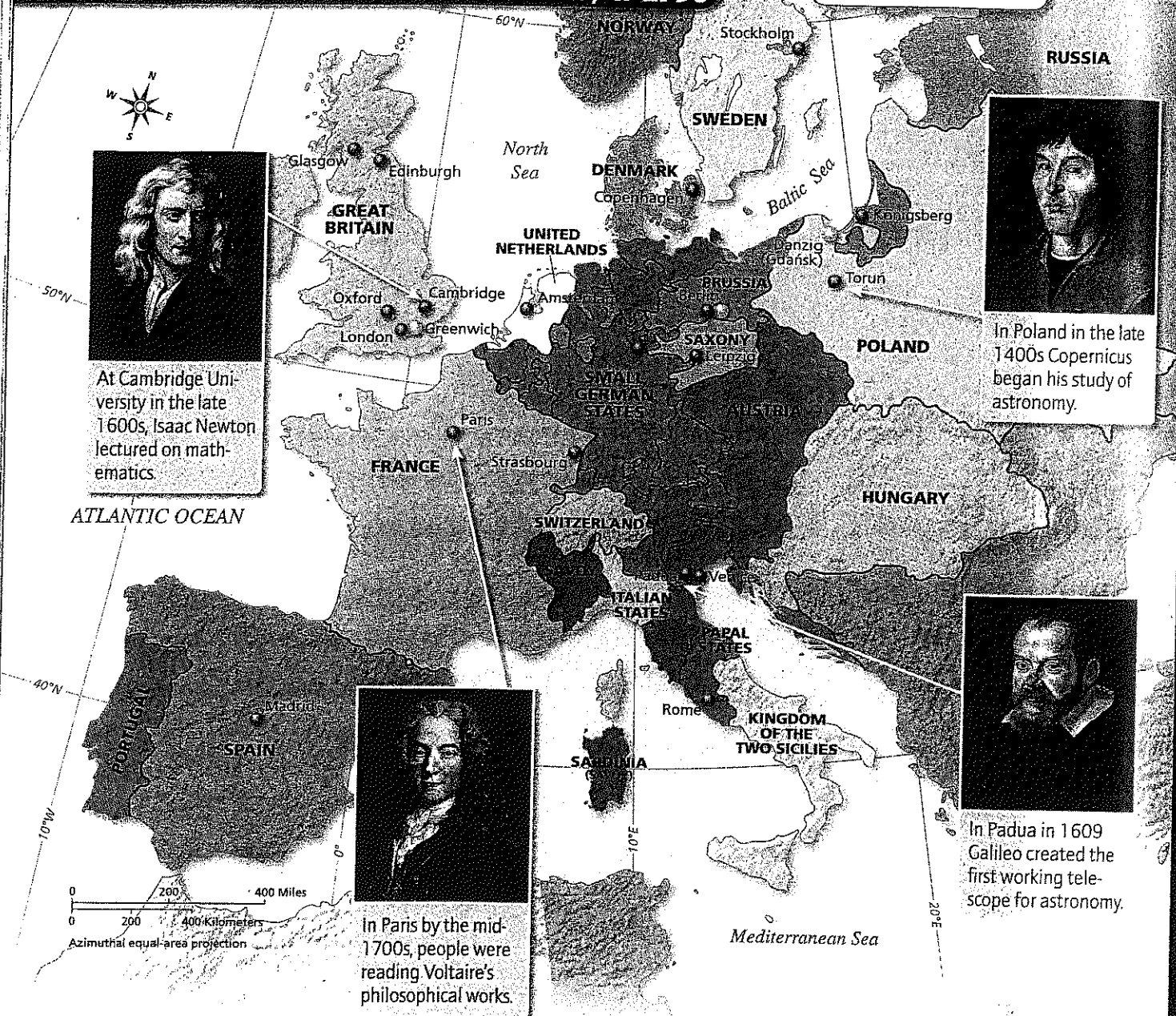
1789
The French Revolution begins.

GEOGRAPHY Starting Points

Interactive

EUROPEAN CENTERS OF LEARNING, c. 1750

-  Observatories
-  Leading academic centers



At Cambridge University in the late 1600s, Isaac Newton lectured on mathematics.



In Poland in the late 1400s Copernicus began his study of astronomy.



In Padua in 1609 Galileo created the first working telescope for astronomy.

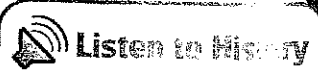


In Paris by the mid-1700s, people were reading Voltaire's philosophical works.

Starting Points

In Europe, beginning about 1550, a period of revolutionary scientific discovery began that would change the world forever. Later, in an era known as the Enlightenment, philosophers introduced new ways of thinking about government and society. By 1750, academic centers and observatories thrived throughout Europe.

1. **Analyze** Which nation had a concentration of leading academic centers in 1750?
2. **Predict** How do you think centers of learning influenced how Europeans viewed the world in the 1700s?



Go online to listen to an explanation of the starting points for this chapter.

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Keyword: SHL ENL

The Scientific Revolution

BEFORE YOU READ

MAIN IDEA

New ways of thinking led to remarkable discoveries during the Scientific Revolution.

READING FOCUS

1. What changes led to the dawn of modern science?
2. What discoveries occurred in astronomy, physics, and math during the Scientific Revolution?
3. How did early scientists advance knowledge in biology and chemistry?
4. How did scientific ideas move beyond the realm of science and affect society?

KEY TERMS AND PEOPLE

geocentric theory
Scientific Revolution
scientific method
René Descartes
Nicolaus Copernicus
heliocentric theory
Galileo Galilei
Isaac Newton

TAKING NOTES

Take notes on new discoveries during the Scientific Revolution.

New Discoveries

astronomy
telescope
physics
math

THE INSIDE STORY

How was a college student inspired to change the future of science?

Nicolaus Copernicus seemed destined to become an astronomer. He began his studies in Poland, where he studied many subjects, including astronomy. At that time, astronomy courses taught little more than methods of calculating the dates of holy days. But for Copernicus, the course ignited a passion for astronomy.

However, his uncle Lucas, a bishop, wanted Copernicus to have a church career. He soon sent Copernicus to the university in Bologna, Italy, to study church law. Copernicus rented a room from an astronomy professor and assisted with his research. In 1497 Copernicus observed the moon eclipse the sun. As a result, his excitement for astronomy continued to grow.

Copernicus eventually made a living as a doctor, but his first love was always astronomy. Throughout his life Copernicus carefully observed the heavens, made calculations, and developed a mathematical formula that proved the earth rotated around the sun. The world of science would never be the same. ■

In the late 1400s astronomer Nicholas Copernicus proved the earth rotated around the sun. ►

The Astronomer Copernicus: Conversation With God, by Jan Matejko, 1800s

DESTINED TO STUDY THE STARS



Dawn of Modern Science

When some scholars in the Middle Ages had questions about the natural world, they sought answers from traditional authorities—the church and ancient scholars. In the mid-1500s, however, scholars began to challenge tradition as they began to think in new ways.

The Old View One example of how scholars relied on traditional authorities was in their beliefs about the structure of the universe. People believed that the earth was the center of the universe and that the sun, moon, and planets revolved around the earth. This viewpoint was called the **geocentric theory**.

The Greek philosopher Aristotle proposed the geocentric theory in the 300s BC. The Greek astronomer Ptolemy expanded upon Aristotle's ideas in the AD 200s. These ideas were upheld by the church, which taught that God put the earth at the center of the universe. For centuries, scholars and the church were the accepted authorities for European intellectuals.

New Viewpoints In the Middle Ages, scholars in Europe learned about scientific advances in the Arab world. By the mid-1500s, they began to challenge traditional authorities.

They posed theories about the natural world and developed procedures to test those ideas. Historians have called this new way of thinking the **Scientific Revolution**.

Why were Europeans open to new ideas at this time? One reason was exploration. When explorers journeyed to Africa, Asia, and the Americas, they found people and animals they had never seen before. The ancient scholars could provide no information about these new lands. Perhaps there were other things to be discovered that the ancients had not known.

The Age of Exploration also led scientists to study the natural world more closely. Navigators, for example, needed more accurate instruments and geographic knowledge to help find their way across vast oceans. The more that scientists examined the natural world, however, the more they found that it did not match ancient beliefs.

The Scientific Method Scientists eventually developed a new approach to investigation and discovery called the **scientific method**. The scientific method consists of five basic steps. First, scientists identify a problem. Next, they form a hypothesis that can be tested. They then perform experiments to test the hypothesis.

Linking to Today

The Science of Cells

Since the Scientific Revolution, scientists have continued to use the scientific method to make remarkable discoveries. Mary Osborn, a cell biologist in Göttingen, Germany, researches cytoskeletons, or the structures that form the skeleton of cells. In the 1970s she focused her research on microtubules, tiny tubes that move important substances throughout cells. She developed a new microscopic technique that allowed her to see that microtubules form continuous lines that snake through cells.

One of her colleagues in the scientific community, however, dismissed her findings as false. At that time, biologists used electron microscopes to study cells. Electron microscopes required scientists

to slice cells very thinly to view them. For this reason, biologists had never before seen microtubules intact.

Mary Osborn's microscopic technique allowed biologists to see whole cells for the first time. Scientists now use her technique widely, most notably for improved cancer diagnoses. More reliable diagnoses allow doctors to treat cancer patients more effectively than ever before.

Analyze How did Osborn's technique allow scientists to see cells in an entirely new way?

Mary Osborn in her laboratory in Göttingen, Germany ►



They record the results of the experiments. Finally, they analyze the results of the experiments to form a conclusion that either proves or disproves the hypothesis.

Two of the most important scholars who helped develop the scientific method were Francis Bacon and René Descartes (day-KAHT). In England, Francis Bacon wrote in 1620 that the only true way to gain scientific knowledge was through experimentation—observing, measuring, explaining, and verifying. In France, meanwhile, René Descartes placed more emphasis on reason. He believed that everything should be doubted until it could be proven by reason. Descartes relied on mathematics and logic to prove basic truths.

The ideas of Bacon and Descartes continue to influence modern scientific methods. Scientists today use observation and experimentation along with mathematical logic to achieve a deeper understanding of the natural world.

READING CHECK Find the Main Idea What was the Scientific Revolution?

Discoveries in Astronomy, Physics, and Math

Early scientists made significant contributions in astronomy, physics, and math. Their work began to explain the complexities of the solar system and the limits of the physical world.

Copernicus In the early 1500s Polish astronomer Nicolaus Copernicus recognized that the geocentric theory did not explain the movements of the sun, moon, and planets accurately. After years of careful observation, he came to the conclusion that the sun, not the earth, was near the center of the solar system. Copernicus's discovery that the earth revolves around the sun is called the **heliocentric theory**.

The idea that the earth orbits the sun was not completely new. But Copernicus developed a detailed mathematical explanation of how the process worked. In addition, Copernicus was the first scientist to create a complete model of the solar system that combined physics, astronomy, and mathematics.

Copernicus did not publish his conclusions in his most famous book, *On the Revolutions of the Heavenly Spheres*, until the last year of his life. He knew the church would oppose his work

THE SCIENTIFIC METHOD

QUICK FACTS

The Scientific Method is a set of techniques for acquiring new knowledge about the natural world based on observable, measurable evidence.

Step 1 Identify a problem or a research question to be answered.

Step 2 Form a hypothesis that can be tested. A hypothesis is a proposed answer to the research question and is based on previous knowledge.

Step 3 Perform experiments to test the hypothesis.

Step 4 Record the results of the experiments.

Step 5 Analyze the results of the experiments to form a conclusion that either proves or disproves the hypothesis.

because his work contradicted the teachings of the church. He was also concerned about the weaknesses of his theory. His mathematical formulas did not predict the positions of the planets very well, and Copernicus did not want to face ridicule for these weaknesses.

Copernicus died in 1543, shortly after his revolutionary work was published. Other scientists would further develop and expand upon Copernicus's ideas.

Brahe and Kepler One of those scientists was Tycho Brahe (brah), a Danish astronomer. When a bright object appeared in the sky over Denmark in 1572, Brahe wrote a book proving that the object was a newly visible star that was far away. He called it a supernova, the name still used for distant exploding stars that suddenly become visible on earth.

Brahe's book impressed King Frederick II of Denmark, who gave Brahe money to build two observatories. There, Brahe developed his own system to explain planetary movement. He believed that the sun revolved around the earth, but that the other five known planets in the solar system revolved around the sun.

Brahe later moved to Prague and hired a German mathematician named Johannes Kepler as his assistant. Brahe needed help to form a mathematical theory from the detailed measurements he had made of the planets.

READING SKILLS

Visualizing

To help you understand the heliocentric theory, draw a circle in the center of a piece of paper to represent the sun. Then draw circles around the "sun" to represent the earth and the planets.

After Brahe's death, Johannes Kepler published the result of Brahe's measurements of the orbit of Mars. These measurements led Kepler to solve the main problem of Copernican theory. Copernicus had assumed that the planets orbited the sun in a circle. Kepler found through the Mars measurements that this assumption was not true. He was the first astronomer to prove that the planets orbited the sun in an oval pattern, or ellipse.

Brahe had wanted to prove Copernicus wrong. Instead, his measurements led Kepler to prove that the heliocentric theory was right. Kepler's mathematical model of the solar system was also correct.

Galileo Copernican theory was supported by Galileo Galilei, an Italian scientist. After learning about a sailor's spyglass that allowed one to see distant objects, Galileo built the first telescope used for astronomy in 1609, which he used to scan the heavens.

Galileo was the first scientist to observe Saturn, the craters on the moon, sunspots, and the moons of Jupiter. He also discovered that the Milky Way was made up of stars. He described these amazing discoveries in 1610 in a book called *Starry Messenger*.

Sir Isaac Newton The English scientist Isaac Newton changed the world of science by bringing together astronomy, physics, and mathematics. As a young man, Newton won-

dered if gravity affected the universe the way that it affected objects on earth. Years later, his assistant wrote about Newton's questioning.

HISTORY'S VOICES

“Whilst he was musing in a garden it came into his thought that the same power of gravity (which made an apple fall from the tree to the ground) was not limited to a certain distance from the earth, but must extend much farther than was usually thought—Why not as high as the Moon[?]”

—John Conduitt, *Conduitt's Account of Newton's Life at Cambridge*, 1727

In 1687 Newton published his greatest work, *The Mathematical Principles of Natural Philosophy*, also known as the *Principia*. In this book, he explained his law of universal gravitation. This law states that gravity affects objects in the universe as well as on earth. Just as gravity causes an apple to fall from a tree, gravity keeps the planets in their orbits.

From these findings, Newton developed a new kind of mathematics called calculus, which he used to predict the effects of gravity. Controversy soon erupted, however. The German philosopher Gottfried von Leibniz independently developed calculus at the same time. Leibniz and Newton accused each other of plagiarism and feuded for many years. Historians now believe that it was simply a case of independent discovery by two very talented men.

READING CHECK Contrast How did Copernicus and Brahe differ in their views of the universe?

Themes Through Time

ASTRONOMY

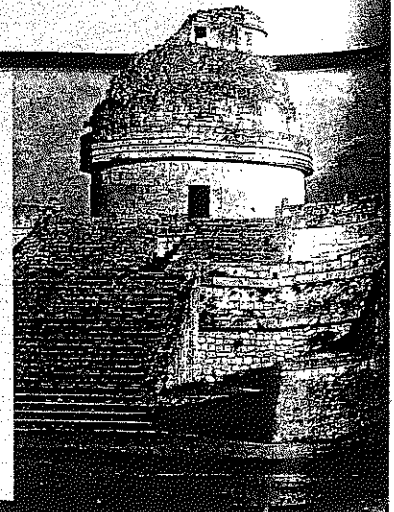
SCIENCE AND TECHNOLOGY Early astronomers studied the sun, moon, and planets to help create calendars or assist with navigation. After the Scientific Revolution, the science of astronomy expanded to include the study of the solar system, the stars in the Milky Way galaxy, and other more distant galaxies and stellar formations.

c. 150 Ptolemy writes that the earth is the center of the universe. He remains the authority on astronomy until the 1600s.

499 During the Gupta Empire in India, the astronomer Aryabhata writes that the spherical earth rotates on its axis.

500

c. 600 Mayan astronomers compile detailed observations of the heavens and acquire the knowledge to predict solar eclipses.



Discoveries in Biology and Chemistry

Astronomers moved away from the works of ancient Greeks, other scientists used the scientific method to acquire new knowledge. As a result, during the Scientific Revolution, scientists made great discoveries in the fields of biology and chemistry.

Biology In the Middle Ages, European doctors relied on the works of the ancient Greek physician Galen. But Galen's works were inaccurate. He had assumed that human anatomy was similar to that of animals, because he had never dissected a human body.

Andreas Vesalius, a Flemish doctor, became known for his work in anatomy at the University of Padua in Italy. In 1539 a judge learned of his work and made the bodies of executed criminals available to Vesalius for dissection. Vesalius hired artists to produce accurate drawings. He published his greatest work, *On the Workings of the Human Body*, in 1543.

Vesalius laid the groundwork for English physician William Harvey to observe and explain the workings of the human heart in the early 1600s. Harvey described how blood and the circulatory system functioned.

Later in the 1600s Dutch scientist Antony van Leeuwenhoek used his interest in developing a magnifying lens to invent the micro-

scope. He was the first person to describe the appearance of bacteria, red blood cells, yeast, and other microorganisms.

English physicist and inventor Robert Hooke used an early microscope to describe the appearance of plants at a microscopic level. In addition to his many achievements in physics and mathematics, Hooke is credited with creating the term *cell*.

Chemistry Robert Boyle is often called the father of modern chemistry. Boyle was the first chemist to define an element. His 1661 work, *The Sceptical Chemist*, described matter as a cluster of tiny particles (now called atoms or molecules). Boyle stated that changes in matter happened when these clusters were rearranged.

His most significant contribution to chemistry was Boyle's law, which describes how temperature, volume, and pressure affect gases.

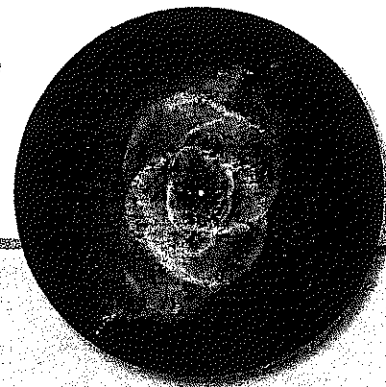
French chemist Antoine-Laurent Lavoisier (lah-vwah-zee-ay) developed methods for precise measurements in the 1700s. He discovered the law of Conservation of Mass, which proved that matter could not be created or destroyed. Lavoisier recognized and named oxygen, introduced the metric system of measurements, and invented the first periodic table, which included 33 elements.

THE IMPACT TODAY

To pass a scuba diving certification test, divers must answer questions about how Boyle's law relates to safely ascending and descending underwater.

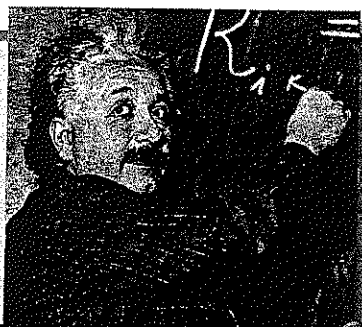
READING CHECK Summarize

What were the major contributions made in biology and chemistry?



1990 The Hubble Telescope is launched and starts recording spectacular images of the universe like this one of a dying star.

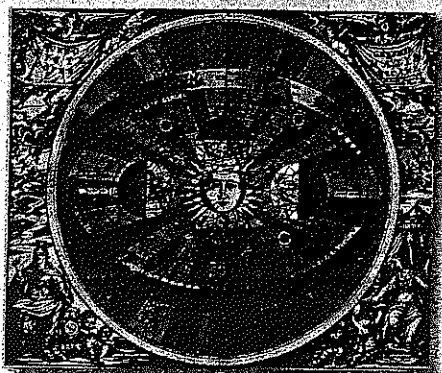
1609 Using a telescope, Galileo confirms that the planets orbit the sun and observes that the moon's surface is not smooth but rough and jagged.



1905 Albert Einstein's theory of relativity changes the world's views on time and space.

1500

1543 Nicolaus Copernicus publishes a book proposing that the sun is the center of the universe.



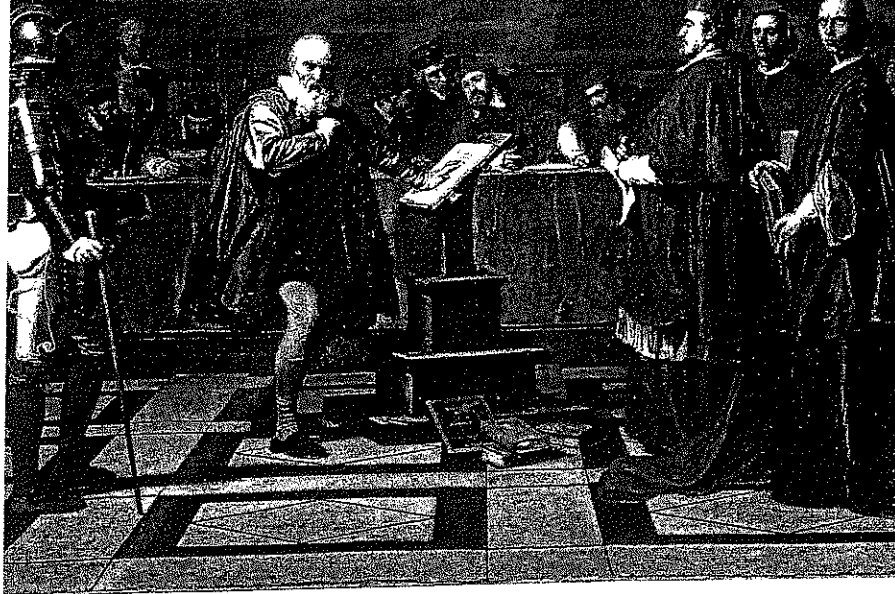
2000

Skills Focus

UNDERSTANDING THEMES

Infer What impact did the invention and refinement of the telescope have on the field of astronomy?

▼ Standing before Church officials, Galileo defended his belief that the planets orbit the sun



Galileo Galilei Before the Inquisition, 1633, by Joseph-Nicolas Robert-Fleury, 1847

ACES OF HISTORY

Galileo GALILEI

1564–1642

Many people considered the sentencing of Galileo in 1633 to life imprisonment a great tragedy. Efforts to clear his name continued for centuries after his death. But as late as 1822, the Vatican still banned Galileo's *Dialogue concerning Two Chief World Systems*.

The church gradually changed its views toward Galileo. A church commission reopened his case in 1983. In 1992 Pope John Paul II declared that the church had wrongfully condemned Galileo.

Infer Why do you think the Catholic Church decided to reexamine Galileo's case in the 1980s?

Science and Society

As science began to assume greater significance in society, the question of the role of the Roman Catholic Church in a changing culture became important. At this time the church opposed the views of many scientists, such as Galileo. However, the church benefitted from the new scientific discoveries that made Renaissance art and architecture possible.

Science and the Church As the most powerful institution in Europe during the Middle Ages, the church had also been the primary resource for knowledge and learning. The church had established cathedral schools, many of which became universities, to train people to run the church. How did scientists and their innovative views fit into the church's established structure?

Most European scientists were Christian and did not want to challenge the role of Christianity in society. However, conflicts between the church and science developed. The church explained the world through inspiration and revealed truth. Early science sought to explain the world through the accumulation of facts and logical reasoning.

The early church rejected some of the beliefs of ancient Greek scholars because they were not Christians. Some leaders in the

church also feared reason as an enemy of faith. But, the church leaders eventually became convinced that reason could be used to serve the needs of the church instead of undermining them. To a limited extent, the church began to embrace some of the achievements of the Scientific Revolution.

Galileo's theories, however, brought him into direct conflict with the church. Church leaders pressured Galileo not to support the ideas of Copernicus. Still, Galileo continued his studies. In 1632 he published *Dialogue concerning Two Chief World Systems*. Although this book included the views of both Ptolemy and Copernicus, it clearly showed Galileo's support of Copernican theory. Pope Urban VII angrily ordered Galileo to Rome to stand trial before the Inquisition—the church institution to stamp out heresy, or dissenting views.

In April 1633 Galileo stood trial before the Inquisition. Galileo reluctantly stated that he would not use Copernican theory in his work so that he would receive a lenient sentence. The pope ordered Galileo placed under house arrest in his villa near Florence, where he spent the remainder of his life.

Science and Art During the Renaissance, the study of art and architecture were not separate from the study of science. Artists learned human anatomy so they could paint the body.

**QUICK
FACTS**

CAUSES AND EFFECTS OF THE SCIENTIFIC REVOLUTION

CAUSES

- Exploration and expansion of trade
- Continuing study of ancient authorities
- Development of the scientific method

EFFECTS

- Beginnings of modern science
- Belief in progress and the power of reason
- New view of the universe as a well-ordered system

Artists experimented with the chemistry of pigments and the nature of light. Painters used mathematics to create compositions of perfect balance. The use of mathematics and physics was crucial to the great architecture and engineering achievements of the time.

Science and religion thus combined to produce the great artistic achievements of the Renaissance. Much of the great art and architecture of the Renaissance was dedicated to the glory of God and would have been impossible without reason and science. But the artists and architects had not challenged a basic tenet of the church. Rather, astronomers such as Galileo did.

Science and Community The Scientific Revolution had firmly established a new way of thinking about the physical world. Great advances had been made in the disciplines of astronomy, physics, biology, and chemistry. In turn, those advances had influenced developments in the arts and architecture. As the Scientific Revolution spread, its impact would reach far beyond the laboratories and observatories of scientists.

Soon, philosophers and scholars would seek new understandings about society. They would reexamine old ideas on government, religion, education, and economics. They would

also wonder if reason could solve the age-old problems of poverty, war, and ignorance. The new ways of thinking that emerged from the Scientific Revolution would lead to even more dramatic changes, as you will read about in the next section.

READING CHECK

Draw Conclusions How did the Scientific Revolution have an impact beyond the realm of science?

SECTION 1 ASSESSMENT

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Online Quiz

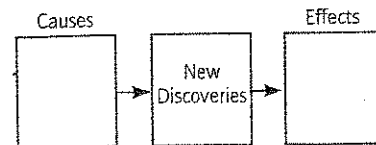
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Reviewing Ideas, Terms, and People

- Define** What was the geocentric theory of the universe?
- Analyze** How did the scientific method change the way people learned about the natural world?
- Evaluate** What effect would the scientific method have on the acceptance of the geocentric theory?
- Identify** What was the heliocentric theory?
- Contrast** In what way did Galileo's view of the universe differ from Aristotle's view?
- Elaborate** Why do you think the Catholic Church objected to Galileo's theories so strongly?
- Recall** Who was the traditional authority on human anatomy before the Scientific Revolution?
- Explain** How did Vesalius acquire more accurate knowledge about human anatomy?
- Describe** What effects did the Scientific Revolution have on art and architecture?
- Draw Conclusions** Why do you think artists and architects were eager to embrace the ideas of the Scientific Revolution?

Critical Thinking

- Identify Cause and Effect** Copy the graphic organizer below and use it to list the causes and the effects of new discoveries made during the Scientific Revolution.



FOCUS ON WRITING

- Persuasion** Suppose that you are an astronomer during the mid-1500s. Write a short speech explaining why the scientific method would reveal truth more accurately than reliance upon traditional authorities.

The Enlightenment

BEFORE YOU READ

MAIN IDEA

European thinkers developed new ideas about government and society during the Enlightenment.

READING FOCUS

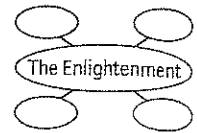
1. How was the Enlightenment influenced by reason?
2. What new views did philosophers have about government?
3. What new views did philosophers have about society?
4. How did Enlightenment ideas spread?

KEY TERMS AND PEOPLE

Enlightenment
salons
social contract
John Locke
Jean-Jacques Rousseau
Baron de Montesquieu
philosophes
Voltaire
enlightened despots

TAKING NOTES

Take notes on the changes that the Enlightenment brought to society.



Engraving of Voltaire imprisoned in the Bastille, by François Bouchot, 1800s.

A PHILOSOPHER IN PRISON



▲ Voltaire began writing an epic poem in prison.

THE INSIDE STORY

Why was a French philosopher jailed for his writings? In the early

1700s François-Marie Arouet was the toast of Paris. His witty, satirical verses delighted Parisian aristocrats. But in 1717 he may have mocked the wrong man. The Duke of Orleans, who ruled France as regent until the young king Louis XV came of age, believed Arouet made fun of him. Outraged, the Duke of Orleans imprisoned Arouet in the Bastille prison for 11 months.

While in prison, Arouet began writing more serious works. He wrote his first play, called *Oedipe*, which would secure his reputation as the greatest French playwright of his time. He also completed an epic poem about Henry IV called *La Henriade*. But Arouet would be best known for his philosophical works, which he would write under the pen name Voltaire. ■

The Age of Reason

The Scientific Revolution convinced many European thinkers about the power of reason. With the scientific method and reason, scientists had made countless discoveries about the physical world. Could reason be used to study human nature and society as well?

In the 1600s a new generation of philosophers began to view reason as the best way to understand truth. They came to the remarkable conclusion that reason could be used to solve all human problems. This exciting time of optimism and possibility is now called the Enlightenment, or the Age of Reason.

Ideas of the Enlightenment inspired educated people throughout Europe and beyond. People gathered in cof-

feehouses and public spaces to debate the new ideas. Many writers published their ideas in books, magazines, and inexpensive pamphlets to help spread their ideas among educated readers. They were all inspired by the exciting notion that the problems of the world could be solved by educated people.

By the time the Enlightenment reached its peak in the 1700s, Paris was a center of intellectual activity. Eager to promote the new ideas, many wealthy Parisian women began hosting social gatherings called **salons**. These women brought together philosophers, artists, scientists, and writers regularly to discuss their ideas.

READING CHECK Find the Main Idea What exciting conclusion did philosophers reach during the Enlightenment?

New Views on Government

As the Enlightenment began, European thinkers began looking for ways to apply reason in order to improve the human condition. Some of these thinkers began to examine the organization of government.

Thomas Hobbes The English thinker Thomas Hobbes wrote about his views on government in his 1651 book, *Leviathan*. His experience of the violence and upheaval of the English civil war persuaded him that people were selfish and greedy. In the natural state, he wrote, people would lead lives that were “solitary, poor, nasty, brutish, and short.”

Hobbes believed that people needed governments to impose order. He argued that people in a society should agree to give up some freedoms to a strong leader in exchange for the peace, safety, and order that government could provide. Hobbes called this exchange between society and government the **social contract**. He believed that absolute monarchy was the best form of government because an absolute monarchy had the power of a leviathan, a massive sea monster. That strong, centralized power could be used to impose law and order.

John Locke Another English philosopher, John Locke, believed that people were naturally happy, tolerant, and reasonable. He argued that all people were born equal with the natural rights of life, liberty, and property.

Locke stated that the purpose of government was to protect people’s natural rights. He believed that monarchs were not chosen by God. Instead, the people consented to the government, whose power was limited by laws. In *Two Treatises on Government*, Locke described the importance of the fairness of law.

HISTORY’S VOICES

“Those who are united into one body, and have a common established law and judicature [court system] to appeal to, with authority to decide controversies between them, and punish offenders, are in civil society one with another . . .”

—John Locke, *Two Treatises on Government*, 1690

Locke believed that if a government failed to protect its citizens’ natural rights, they had the right to overthrow it. Locke’s belief in government by consent became a foundation for modern democracy. His ideas inspired later revolutionaries in Europe and the Americas.

Jean-Jacques Rousseau The French philosopher Jean-Jacques Rousseau (roo-SOH) believed that people were basically born good.

PRIMARY SOURCES

Rousseau’s Social Contract

Jean-Jacques Rousseau believed that the social contract was not just between the governors and the governed but between all members of society.

“What then is government? It is an intermediary body established between the subjects and the sovereign [king] to keep them in touch with each other. . . The government’s power is only the public power vested in it. . . when the [government] has a particular will of its own stronger than that of the sovereign. . . at that moment the social union will disappear and the body politic will be dissolved.”

—Jean-Jacques Rousseau, *The Social Contract*, 1763

Skills Focus

READING LIKE A HISTORIAN

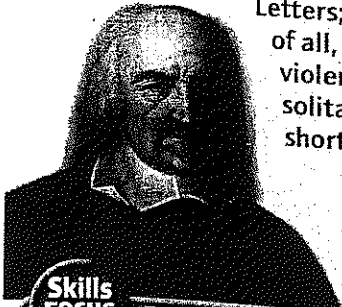
- 1. Define** What did Rousseau mean by “an intermediary body” in the first line of this excerpt?
- 2. Analyzing Primary Sources** What would happen if government carried out its own wishes in opposition to those of the people?

See *Skills Handbook*, p. H25

Two Views on Society

After living through the English civil war, Thomas Hobbes became convinced that society needed a strong central authority to control and contain the natural barbarism of humans.

“In [a state of nature], there is . . . no Knowledge of the face of the Earth; no account of Time; no Arts; no Letters; no Society; and which is worst of all, continuall feare, and danger of violent death; And the life of man, solitary, poor, nasty, brutish, and short.”



Thomas Hobbes

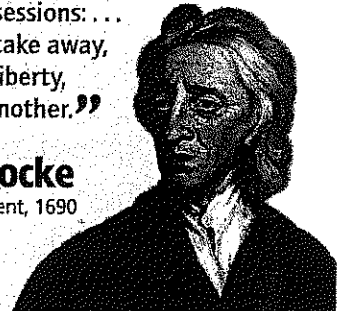
—Leviathan, 1651

John Locke believed that under ideal conditions, people lived according to a law of nature. Because people could interpret the law differently, they needed an authority to enforce it.

“The state of nature has a law of nature to govern it . . . no one ought to harm another in his life, health, liberty, or possessions: . . . Every one . . . may not . . . take away, or impair . . . the life, the liberty, health, limb, or goods of another.”

John Locke

—Two Treatises on Government, 1690



Skills
FOCUS

READING LIKE A HISTORIAN

Contrast How do Hobbes's and Locke's views of human nature differ?

ACADEMIC VOCABULARY

rational having reason or understanding

Rousseau also believed that society corrupted people. In *The Social Contract*, he wrote, “Man is born free but everywhere is in chains.”

Rousseau believed that government should work for the benefit of the common good, not for the wealthy few. He argued that individuals should give up some of their freedoms for the benefit of the community as a whole.

Rousseau despised inequality in society. He believed that all people were equal and should be recognized as equal in society. His view would inspire revolutionaries in years to come.

Baron de Montesquieu Another French thinker, **Baron de Montesquieu** (MOHN-tes-kyoo), argued that the best form of government included a separation of powers. Dividing power among branches of government, he believed, would prevent any individual or group from abusing its power.

In 1748 Montesquieu published *The Spirit of the Laws*. In this book he wrote about his admiration for Great Britain's government, because its powers were divided into branches. Parliament (the legislative branch) made the laws. The king and his advisers (the executive branch) carried out the laws. The court system (the judicial branch) interpreted the laws.

In truth, Montesquieu had misunderstood the structures of the British government. His misunderstanding, however, led him to a rational conclusion. The separation of powers allowed each branch of government to serve as a check against the power of the others—a concept known as the system of checks and balances. This concept would become an important part of the structure of later democratic governments, especially that of the United States.

READING CHECK **Make Inferences** Why was the subject of government so important to Hobbes, Locke, Rousseau, and Montesquieu?

New Views on Society

While some Enlightenment philosophers focused their attention on government, others chose to deal with issues in society, such as religious toleration, women's rights, and economic systems.

Voltaire One of the most outspoken French philosophers, or **philosophes**, was François-Marie Arouet, who wrote under the name **Voltaire** (vohl-TAYR). With biting wit, Voltaire attacked injustice wherever he saw it—among

the nobility, in the government, and in the church. His sharp wit created enemies, however, and Voltaire was imprisoned twice. He was later exiled to England for two years.

Voltaire used his pen to defend every principle that he held dear and to fight superstition and ignorance. Despite making enemies, Voltaire continued the struggle for justice, religious toleration, and liberty during his entire life.

Diderot and the *Encyclopedia* By the mid-1700s the great expansion of human knowledge convinced French philosophe Denis Diderot (DEE-de-roh) to compile it all into a single work, the *Encyclopedia*. This extensive 28-volume work explained new ideas about art, science, government, and religion. Its purpose was the promotion of knowledge.

Diderot worked on the *Encyclopedia* for 27 years, publishing the last volume in 1772. French leaders attacked the *Encyclopedia* because it criticized the church, the government, and the legal system. The government tried to stop publication in 1759, and Diderot completed the remaining volumes in secret. The *Encyclopedia* was an immediate success, and it helped spread Enlightenment ideas across Europe and to North America.

Mary Wollstonecraft Although Enlightenment thinkers questioned many established beliefs, they usually held traditional views about women. Many believed that women's proper roles were as wives and mothers, and that women should receive only enough education to prepare them for those roles.

The English writer Mary Wollstonecraft rejected that view. Wollstonecraft demanded equal rights for women, especially in education—a radical view at the time. In her 1792 book, *A Vindication of the Rights of Woman*, she argued that if men and women had equal education, they would be equal in society.

Adam Smith Some thinkers, such as Scottish economist Adam Smith, used reason to analyze economic systems. In his 1776 book, *The Wealth of Nations*, Smith argued that business activities should take place in a free market. Smith was a strong believer in *laissez-faire* (les-ay FAYR) economics, an economic system that worked without government regulation. In French, *laissez-faire* means “leave alone”.

Smith believed that the economy would be stronger if the market forces of supply and demand were allowed to work freely.

READING CHECK Summarize How did philosophers apply reason to issues in society?



Reading like a Historian

Voltaire's *Candide*

Interpreting Literature as a Source Works of fiction can be very revealing about the times in which they were written. Through the actions and words of the characters, the writer may include information about how people lived, worked, and interacted with each other.

The main character in *Candide* is a young man named Candide who is on a journey around the world in search of enlightenment and wisdom. In the excerpt below, Voltaire describes Candide's view of the aftermath of an earthquake in Lisbon, Portugal. When analyzing a work of fiction, think about

- the details in the literature and known facts
- the author's point of view

An auto-da-fe was a ritual of penance for condemned heretics, who were usually executed afterward.

After the earthquake, which had destroyed three-fourths of the city of Lisbon, the sages [wise men] of that country could think of no means more effectual to preserve the kingdom from utter ruin than to entertain the people with an auto-da-fe, it having been decided by the University of Coimbra, that the burning of a few people alive by a slow fire, and with great ceremony, is an infallible preventive of earthquakes.

—Voltaire, *Candide*, 1759

Universities were controlled by the church and existed primarily to prepare students for church careers.

Skills Focus

READING LIKE A HISTORIAN

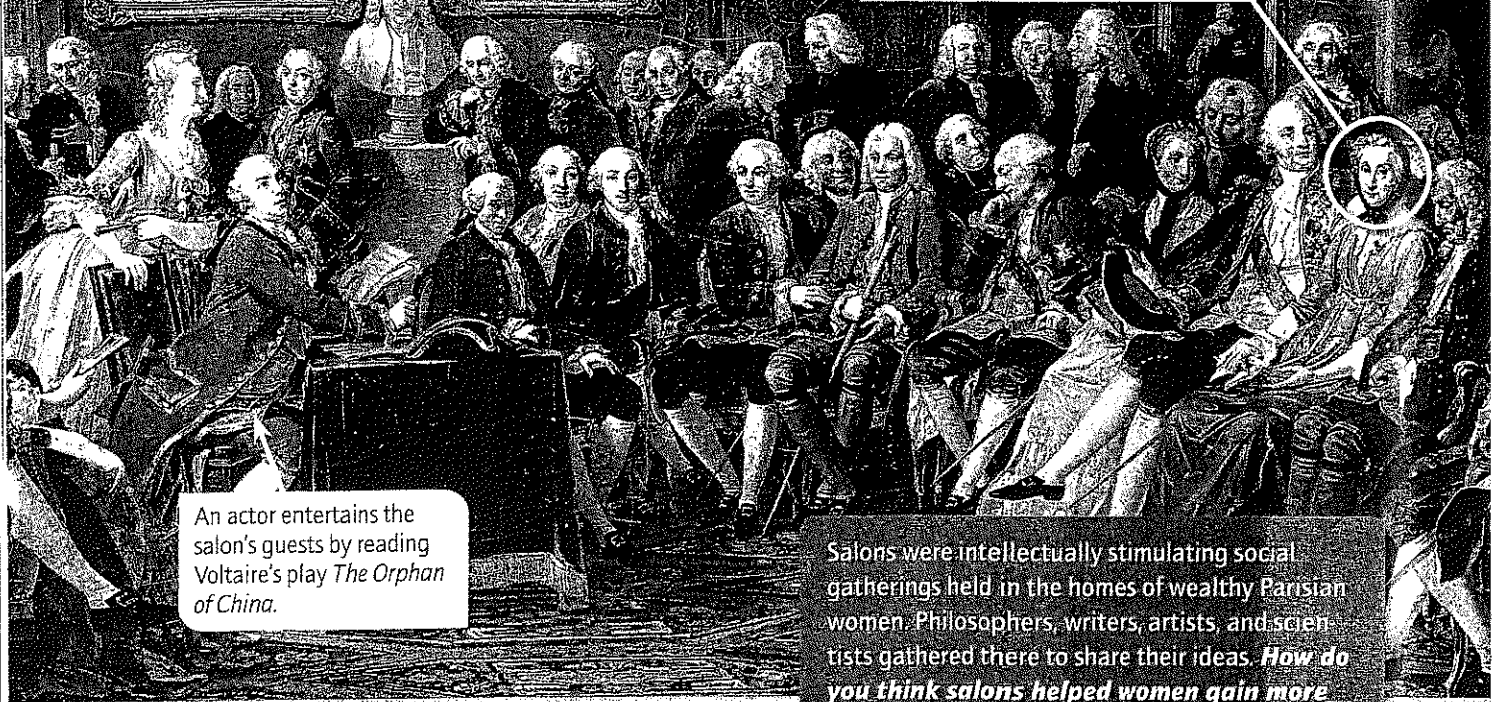
- 1. Details** What action did Portuguese leaders believe would save the country from further devastation?
- 2. Author's Point of View** How does the phrase “entertain the people with an auto-da-fe” reveal Voltaire's disdain for Portuguese leaders?

See **Skills Handbook**, p. H28

Enlightenment Society



In the late 1700s, Madame Geoffrin hosted some of the most popular salons and frequently invited Voltaire, Diderot, and Montesquieu.



An actor entertains the salon's guests by reading Voltaire's play *The Orphan of China*.

Salons were intellectually stimulating social gatherings held in the homes of wealthy Parisian women. Philosophers, writers, artists, and scientists gathered there to share their ideas. **How do you think salons helped women gain more rights in Enlightenment society?**

Enlightenment Ideas Spread

The spirit of optimism and change was not confined to the salons and the coffeehouses of Europe. Enlightenment ideas quickly spread throughout Europe to Prussia, Russia, Austria, and beyond. Many philosophes appealed directly to European monarchs for change. As a result, a few monarchs developed a system of government in which they ruled according to Enlightenment ideas. These monarchs became known as **enlightened despots**.

Prussia Frederick II, the king of Prussia from 1740 to 1786, believed that his duty was to rule with absolute power in order to build Prussia's strength. But he was also strongly influenced by the ideas of Voltaire. While Frederick was building Prussia a military power in Europe, he also introduced a number of reforms.

Frederick ambitiously tried to establish a system of elementary education for all Prussian children. He abolished torture and supported

most forms of religious tolerance. Frederick also reduced censorship.

Frederick's reforms were limited, however. For example, he **did not** extend religious tolerance to Jews; he **tried** to limit the number of Jews that could **live** in Prussia. Frederick also opposed serfdom, but he did not abolish it because he **needed** the support of the aristocracy. Like other enlightened despots, Frederick did not make reforms simply to achieve justice. He did so to build Prussia's strength and make his own rule more powerful.

Russia When Catherine II became the ruler of Russia in 1762, she dreamed of establishing order and justice in Russia while supporting education and culture. Catherine not only read the works of the philosophes also corresponded with both Voltaire and Diderot.

Inspired by the philosophes, Catherine set about reforming Russia. She drafted a Russian constitution and a code of laws, but they were considered far too liberal and were never put

into practice. Before Catherine came to power, she intended to free the serfs but quickly realized that she would lose the support of wealthy landowners if she did. Catherine had no intentions of giving up power and she became a tyrant. During her reign she actually imposed serfdom on more Russians than ever before.

Austria The most radical enlightened despot was Joseph II, the son of Maria Theresa of Austria. When he became emperor in 1780, Joseph embarked upon an ambitious reform program. He eliminated torture and the death penalty and provided free food and medicine for poor citizens. As a Catholic emperor, he granted religious tolerance to Protestants and Jews. His most significant reform was abolishing serfdom and requiring that laborers be paid for their work.

These dramatic changes were resisted by the nobility and the church. They forced Joseph to revoke some of his reforms shortly before his death in 1790.

Later Times and Places During the Enlightenment, writers and philosophers questioned ideas that had been long held as absolute truths. They challenged beliefs in absolute monarchy, questioned the relationship between the church and state, and debated the roles and rights of people in society. Enlightenment philosophers promoted ideas that reformers and revolutionaries would later use to change society.

The Enlightenment belief in progress would spur many generations to enact reforms. People began to believe that human reason could solve any problem. Instead of accepting poverty, ignorance, and inequality as part of the human condition, people debated new ways of making society more just.

Enlightenment ideas about power and authority would inspire not only reforms but revolutions. For example, leaders in Great Britain's American colonies would use those ideas as inspiration to break free from the British monarchy. Strongly influenced by the political views of Locke and Rousseau, the colonists began to experience a new sense of national identity.

READING CHECK **Draw Conclusions** How successful were the reforms of the enlightened despots?

KEY ENLIGHTENMENT IDEAS

QUICK
FACTS

- The ability to reason is what makes humans unique.
- Reason can be used to solve problems and improve people's lives.
- Reason can free people from ignorance, superstition, and unfair government.
- The natural world is governed by laws that can be discovered through reason.
- Like the natural world, human behavior is governed by natural laws.
- Governments should reflect natural laws and encourage education and debate.

SECTION 2 ASSESSMENT

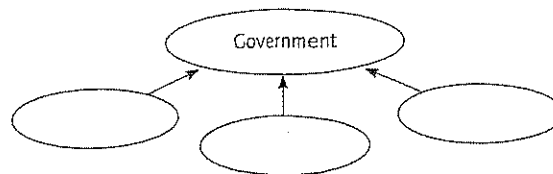
go.hrw.com
Online Quiz

Keyword: SHP ENL HP

- Define** What was the Enlightenment?
 - Explain** Why did philosophers believe reason was important?
 - Elaborate** Why would salons be an effective way to spread Enlightenment ideas?
- Identify** Who wrote *Leviathan*?
 - Analyze** How did Hobbes and Locke differ in their ideas about government?
- Recall** Who were the philosophes?
 - Explain** What radical idea did Mary Wollstonecraft support?
 - Predict** Why might Adam Smith's economic ideas appeal to business owners?
- Identify** What was an enlightened despot?
 - Draw Conclusions** How were Frederick II's reforms limited?
 - Evaluate** What do you think is the most significant legacy of the Enlightenment?

Critical Thinking

- Analyze** Use a concept map like this one below and your notes from this section to describe how Enlightenment ideas affected government.



FOCUS ON SPEAKING

- Persuasion** Suppose you are a philosophe who would like your monarch to make reforms based on Enlightenment ideas. Prepare a speech in which you try to convince Frederick the Great, Catherine the Great, or Joseph II to support your ideas. Be sure to include reasons why you believe it would be in the monarch's best interests to make your reforms.

SECTION
3

The American Revolution

BEFORE YOU READ

MAIN IDEA

Enlightenment ideas led to revolution, independence, and a new government for the United States.

READING FOCUS

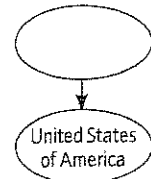
1. What were some of the causes of change and crisis in the American colonies?
2. How was the struggle for independence affected by Enlightenment concepts?
3. How did American colonists form a new government?

KEY TERMS AND PEOPLE

Stamp Act
Thomas Jefferson
Benjamin Franklin
George Washington
Treaty of Paris
James Madison
federal system

TAKING NOTES

Take notes on the steps in the American colonies' rise as a new nation. Add more ovals as needed.



THE POWER OF IDEAS

THE INSIDE STORY

How did Enlightenment ideas influence an American leader?

Benjamin Franklin was one of the great Enlightenment philosophers in America. Like Voltaire, Rousseau, and other Enlightenment philosophers, Franklin believed that reason and intelligence could be used to improve the lives of everyone.

Franklin was not just a philosopher; he was a scientist as well. His methodical observations and experiments led him to invent a number of useful items, such as the lightning rod, bifocals, and the Franklin stove. Through his inventions, Franklin showed that practical applications of scientific knowledge could be used to improve people's lives.

Although Franklin may be best remembered today for his inventions and experiments, his commitment to Enlightenment ideals would have an even longer-lasting impact. In the 1770s Franklin came together with other American Enlightenment thinkers, such as Thomas Jefferson, to put Enlightenment ideals into practice to create a new government and nation—the United States. ■



◀ French engraving of three titans of the Enlightenment: Voltaire, Jean-Jacques Rousseau, and Benjamin Franklin

Change and Crisis

By the mid-1700s dramatic new Enlightenment ideas had spread as far as North America. These ideas inspired Great Britain's colonists to seek independence and forge a new nation founded on the ideals of the Enlightenment.

Forming a New Identity Since the establishment of the first English settlement in North America in the early 1600s, the British colonies had expanded rapidly along the east coast. By 1770 the colonies had a population of more than 2.1 million people.

The colonies offered many opportunities that simply were not available in Great Britain. Land was plentiful and cheap. The English class system was largely absent, and individuals could more easily advance themselves through intelligence and hard work.

By the mid-1770s the colonies had been established for nearly 150 years. Although the colonists were British subjects, they were allowed a large measure of independence. Each colony had its own government and made most of its own laws. Over time, the colonists began to identify more closely with the colonies and less with Britain itself.

Opposing British Policies Trouble erupted when Britain began to assert its right to impose laws on the colonies. In the 1760s conflict between some colonists and Britain escalated rapidly.

Britain defeated France in the French and Indian War in 1763, and France had to give up its North American colonies. The war had been very expensive for Britain. Because removing the French benefited the colonists, Britain decided to make the colonies pay part of the cost in the form of new taxes.

In 1765 Parliament passed the **Stamp Act**, which required colonists to pay a tax for an official stamp on all newspapers, legal documents, and other public papers. Colonial leaders were outraged that Parliament taxed them without representatives there to plead their case. They called for a boycott of English goods, which caused Parliament to repeal the act in 1766.

The British, in 1767, imposed a new series of taxes on glass, paper, paints, and tea. Furious merchants in Boston, Massachusetts, one of the largest colonial cities and a major port,

FACES OF HISTORY

George WASHINGTON

1732-1799



George Washington's leadership was crucial to an American victory in the Revolutionary War. When he took command of the American forces

in 1775, he faced the daunting task of leading an army of untrained militia men against one of the world's strongest military forces.

But Washington's leadership skills won him the loyalty of his troops. He enforced strict discipline, but he also demanded better food, clothing, and pay for them from the Continental Congress. Washington knew that if he looked after his soldiers' needs, they would be better prepared to defeat the British army.

Identify Supporting Details What were some of the ways in which Washington created an effective army against the British?

called for another boycott of English goods. The British sent in troops to keep order in the city. As a result, Bostonians harassed the troops constantly on the city's streets.

Finally, in 1770 British discipline snapped. Troops shot and killed five men in an incident known as the Boston Massacre. Most of the Townshend Acts were partially repealed after another colonial boycott. However, the tax on tea remained.

In 1773 a group of rebellious Bostonians called the Sons of Liberty boarded three ships in Boston Harbor. Led by Samuel Adams and Paul Revere, the Sons of Liberty dumped hundreds of crates of tea into the harbor to protest the tax, an act known as the Boston Tea Party. The British closed the port of Boston and passed the so-called Intolerable Acts, regulations that limited the freedoms of the colonists.

The colonists called the First Continental Congress in Philadelphia in 1774 to list their grievances against the British government. A plan to reconcile their differences with the British was presented, but it was voted down.

Revolution Begins The Sons of Liberty in Massachusetts expected a war. As a consequence, they hid weapons in the countryside and towns west of Boston. In April 1775 hundreds of British troops marched out of Boston toward the towns of Lexington and Concord, intending to find these weapons. At dawn on April 19, British troops confronted about 75 colonial militiamen in Lexington. Shots rang out, and the American Revolution began.

ACADEMIC VOCABULARY

regulation a law designed to control or govern conduct

Not all colonists were Patriots, or those who wanted independence from Britain. Many colonists remained loyal to the British. Others thought that such a war was too risky.

In his January 1776 pamphlet, *Common Sense*, writer Thomas Paine argued that the colonies had matured to the point that they no longer needed British rule. Instead, he argued, they deserved independence. Widely read, Thomas Paine's *Common Sense* helped the Patriots gain popular support for the cause of independence.

READING CHECK Compare What did the Stamp Act and the Townshend Acts have in common?

Struggle for Independence

The American Revolution was the first war in which old ideas about government were challenged by the ideas of the Enlightenment. The Patriots created a nation based on these ideas.

Declaring Independence During the meeting of the Second Continental Congress in 1776, a committee formed to write a document declaring the colonies' independence from Britain. Members of the committee were well-educated leaders, such as John Adams, Thomas Jefferson, and Benjamin Franklin, who were familiar with Enlightenment concepts. Jefferson wrote a draft of the Declaration, incorporating ideas from Locke and Rousseau. On July 4, 1776, the Continental Congress adopted the Declaration of Independence.

The Declaration of Independence was an elegant expression of Enlightenment political philosophy. Many of these ideas were presented in the Preamble.

HISTORY'S VOICES

“That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,—That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government . . .”

—The Declaration of Independence, 1776

Interactive

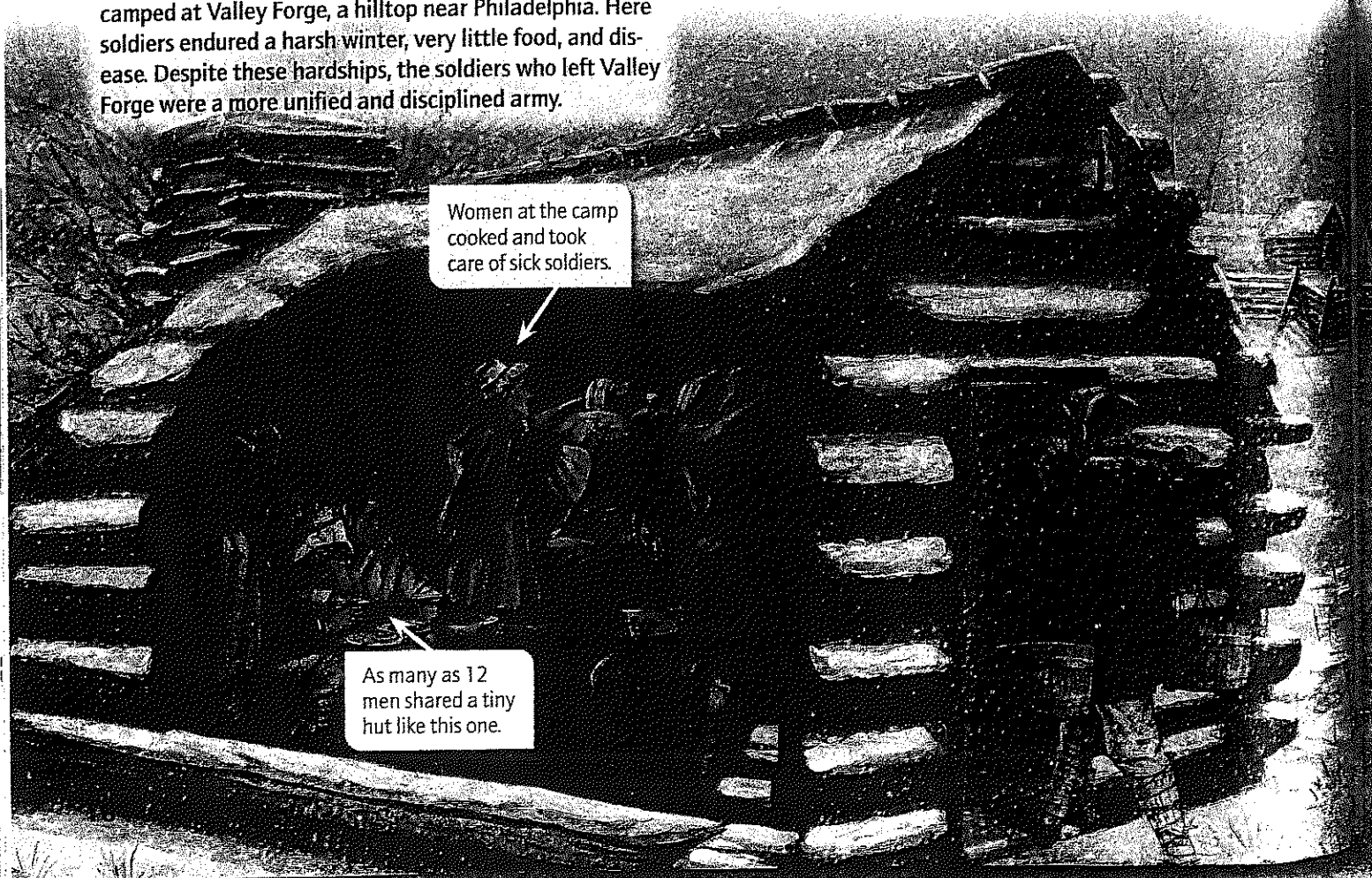
HISTORY CLOSE-UP

Valley Forge

From December 1777 to June 1778 the Continental Army camped at Valley Forge, a hilltop near Philadelphia. Here soldiers endured a harsh winter, very little food, and disease. Despite these hardships, the soldiers who left Valley Forge were a more unified and disciplined army.

Women at the camp cooked and took care of sick soldiers.

As many as 12 men shared a tiny hut like this one.



The Declaration of Independence drew ideas from the English Bill of Rights of 1689, which protected citizens' right to a trial, the right to elect members of Parliament, and the right to an independent judicial system.

The Revolutionary War Before independence had been declared, the Second Continental Congress assigned **George Washington** as the commanding general of the army in June 1775. The Americans had little money. However, they had a courageous and resourceful leader in General Washington, as well as the advantage of fighting in their own land.

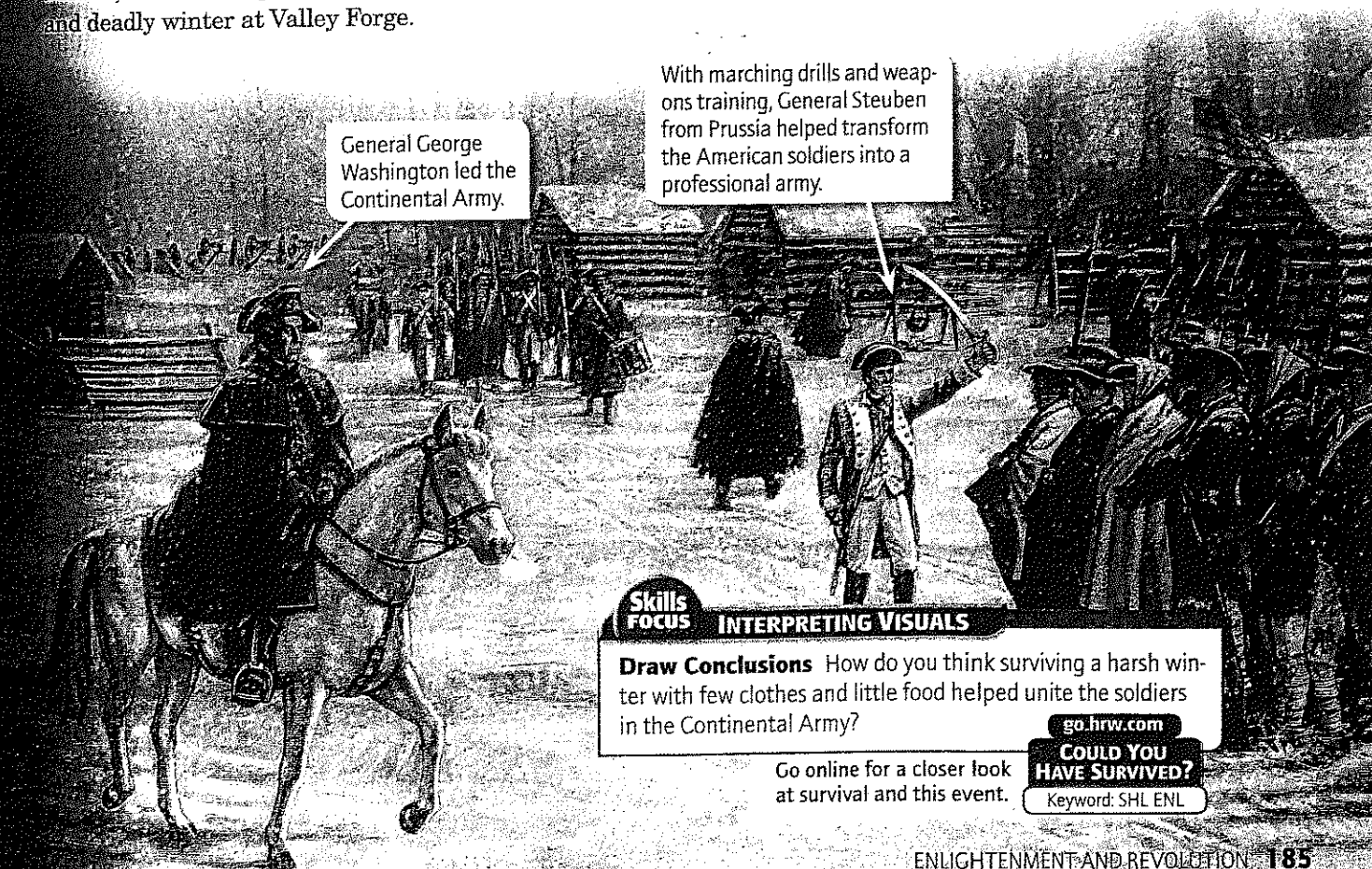
The American Revolution began poorly for the British, who evacuated Boston in June 1775 after the Americans positioned cannons overlooking the city. British troops later defeated Washington in the Battle of Long Island, and the Continental Army was driven into New Jersey. Beaten and bruised, Washington engineered a surprising and daring victory by crossing the icy Delaware River and defeating British forces at Trenton.

In 1777 the British defeated Washington's forces in New Jersey, and Washington moved into Pennsylvania. Philadelphia fell to the British, and Washington's army spent a bitter and deadly winter at Valley Forge.

In upstate New York, the British were also winning battles in the summer of 1777. In October, however, the Americans trapped British general Burgoyne's army at the Battle of Saratoga. The British surrendered and the victory was a crucial win for the Americans. At the same time, Benjamin Franklin was in Paris seeking aid from the French. The victory at Saratoga was exactly the news he needed. Franklin was able to convince the French to contribute heavily to the American cause. This alliance became a turning point in the war.

Over the next two years, the Americans strengthened their forces. The British adopted a strategy to divide the colonies in two. They captured Savannah, Georgia in 1778 and Charleston, South Carolina in 1780. In South Carolina, the Americans made numerous attacks on the British.

In September 1781 the French and American armies surrounded the British army under Lord Cornwallis in Yorktown, Virginia. After a siege of several weeks, Cornwallis grew tired of waiting for the British reinforcements. Lord Cornwallis and his troops surrendered to General Washington on October 19, 1781. The American colonists had won their independence from Great Britain.



General George Washington led the Continental Army.

With marching drills and weapons training, General Steuben from Prussia helped transform the American soldiers into a professional army.

Skills
FOCUS

INTERPRETING VISUALS

Draw Conclusions How do you think surviving a harsh winter with few clothes and little food helped unite the soldiers in the Continental Army?

Go online for a closer look at survival and this event.

go.hrw.com

**COULD YOU
HAVE SURVIVED?**

Keyword: SHL ENL

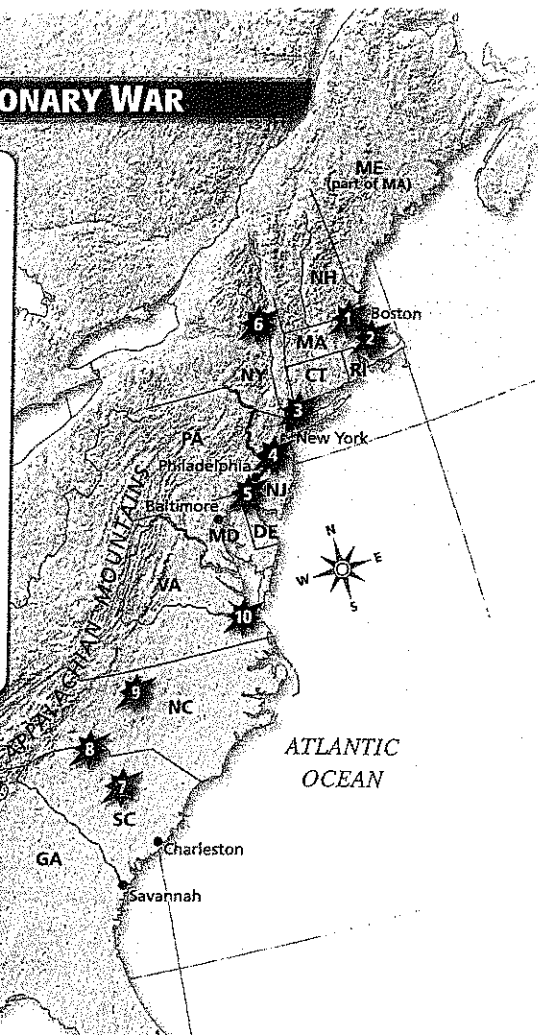
THE REVOLUTIONARY WAR

Major Battles

- 1 Lexington, April 1775
- 2 Bunker Hill, June 1775
- 3 New York, August 1776
- 4 Trenton, December 1776
- 5 Brandywine, September 1777
- 6 Saratoga, October 1777
- 7 Camden, August 1780
- 8 Kings Mountain, October 1780
- 9 Guilford Courthouse, March 1781
- 10 Yorktown, October 1781

- ★ British victory
- ★ Colonial victory

0 250 500 Miles
0 250 500 Kilometers
Azimuthal equal-area projection



GEOGRAPHY

SKILLS INTERPRETING MAPS

1. **Location** In which state were the first two major battles of the Revolutionary War fought in 1775?
2. **Regions** What physical feature served as a natural boundary for the thirteen colonies?

In September 1783 the British government formally recognized the independence of the United States by signing the **Treaty of Paris**. Benjamin Franklin and other American leaders signed the document in Paris. This treaty set the geographic boundaries for the new United States. The treaty gave the Americans not only independence but also much greater territory than the original 13 colonies. The Americans gained all land east of the Mississippi River and north of the 31st parallel.

The end of the war was just the beginning, however. The Americans now faced the daunting and difficult task of building a new nation.

READING CHECK **Sequence** What events led to the signing of the Declaration of Independence?

Forming a New Government

The American Revolution was over. Now the colonists had to figure out how to band together to form a new government and nation. Meanwhile, in France, revolutionaries inspired by the success of the American Revolution began to oppose the French monarchy.

The Articles of Confederation The first government of the new United States was established by the Articles of Confederation, approved in 1781. The framers of the Articles deliberately made the national government weak to avoid abuses of power. For example, the government had no power to tax. It also could not negotiate with foreign nations. The Articles of Confederation produced a government that proved too weak to govern effectively.

The Constitution In 1787, delegates met at a Constitutional Convention in Philadelphia to revise the Articles. Instead, they wrote a new constitution. The U.S. Constitution remains the oldest written constitution still in use today.

George Washington presided over the convention, but **James Madison** played a leading role in negotiating the main points. Delegates met for nearly four months, and the Constitution that emerged was a product of skillful compromise. The delegates signed the Constitution in 1787, which then went to the states to be ratified. The Constitution went into effect in 1789.

The Constitution created a **federal system** of government. In a federal system, certain powers are held by the federal government, and other powers are reserved for the state governments. The Constitution divides the national government's powers among three branches of government. The executive branch includes the president, who has the power to carry out laws. The judicial branch interprets the laws. Congress, the legislative branch, makes the laws. Congress consists of a lower house, called the House of Representatives, and an upper house, called the Senate. A system of checks and balances ensures that no branch of government becomes too powerful.

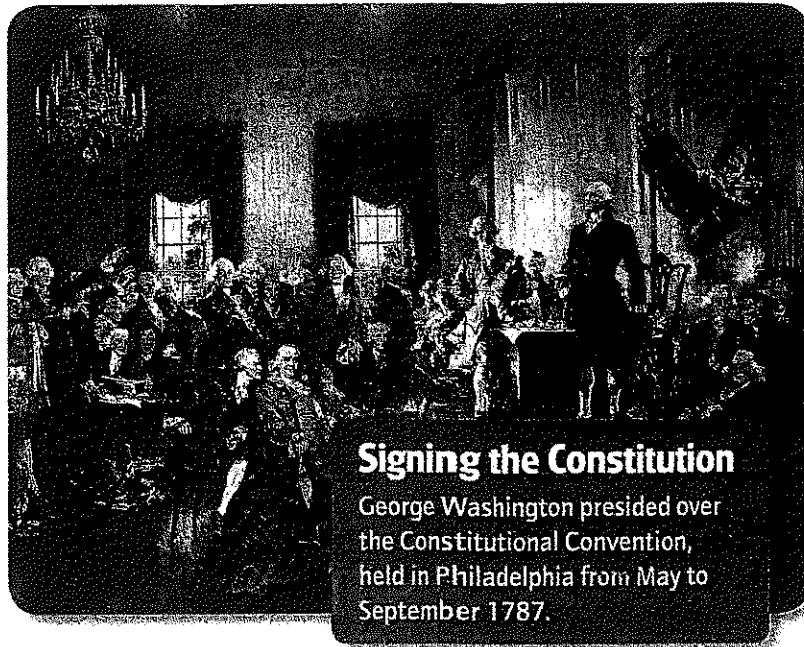
The influence of Enlightenment thought on the Constitution was very powerful. The founding principle of the Constitution is that government exists for the people. This principle

reflects Locke's and Rousseau's idea of government by consent of the people. The division of government into three branches reflects Montesquieu's idea of the separation of powers.

The Bill of Rights A group of opponents to the Constitution argued that it failed to protect the rights of citizens. They wanted protection for individuals' rights to be added to the Constitution. Congress responded with the Bill of Rights, the first 10 amendments to the Constitution. The Bill of Rights protected the natural rights advocated by Voltaire, Locke, and Rousseau, such as the freedoms of speech and religion. The Bill of Rights protected a number of other rights, but most important, it guaranteed people equality, or due process, of law.

Impact of American Government News of the American colonies' successful revolution had a tremendous impact on other governments, especially in France. The French king Louis XVI had supported the American Revolution. However, his form of government could not have been further from the ideals of the colonists. He was an absolute monarch who taxed his people without mercy and cared nothing for their suffering. The loss of the Seven Years' War had also added to France's troubles. Additionally, the king's support of the American war effort had been expensive and contributed to France's economic problems.

France would experience the upheaval of revolution beginning in 1789. One of the many



Signing the Constitution

George Washington presided over the Constitutional Convention, held in Philadelphia from May to September 1787.

Scene at the Signing of the Constitution, by Howard Chandler Christy, 1940

reasons for that revolution was the inspiration of the American example. A group of distant British colonies had adopted the ideals of the Enlightenment and shown that it was possible to oppose tyranny. This new government was created based on the principles of liberty and equality. The courage and determination of the soldiers who fought in the Revolution, and the wisdom of the framers of the Constitution, have stood as shining examples to movements against oppression ever since.

READING CHECK Find the Main Idea How did the Constitution and the Bill of Rights change the government and society of the United States?

SECTION 3 ASSESSMENT

go.hrw.com
Online Quiz

Keyword: SHL ENL HP

Reviewing Ideas, Terms, and People

- a. Identify** Who was Thomas Paine, and what did he write?

b. Analyze How did opposition to British tax policies affect the American colonies?

c. Evaluate Do you think you would have joined the colonial rebellion in 1770? Why or why not?
- a. Recall** What was the Treaty of Paris?

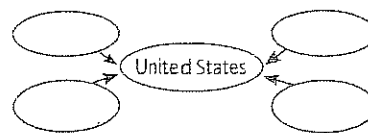
b. Draw Conclusions How did Enlightenment ideas influence the Continental Congress in 1776?
- a. Recall** When were the Articles of Confederation approved?

b. Explain Why was a Constitutional Convention called in 1787?

c. Make Judgments Do you think it was a wise decision to add the Bill of Rights to the Constitution? Why or why not?

Critical Thinking

- 4. Categorize** Use the graphic organizer below to show four key events that led to the formation of the United States. Be sure to explain why you chose those four events.



FOCUS ON WRITING

- 5. Persuasion** You are a young American colonist in the early 1770s. Write a short letter to your newspaper's editor stating why you support independence from Great Britain. Explain your reasons.

Documents of Democracy

Historical Context The four famous and significant documents below provide different views on the relationship between government and the people.

Task Examine the selections and answer the questions that follow. After you have studied the documents, you will be asked to write an essay about the ideal of democratic government. You will need to use evidence from these selections and from the chapter to support the position you take in your essay.

DOCUMENT 1

The Magna Carta, 1215

In 1215 a group of English noblemen demanded that King John sign the Magna Carta to protect their rights. This document established that the power of the king could be limited by a written document.

Since we have granted all these things for God, for the better ordering of our kingdom, and to allay the discord that has arisen between us and our barons, . . . we give and grant to the barons the following security:

The barons shall elect twenty-five of their number to keep . . . the peace and liberties granted and confirmed to them by this charter.

If we . . . offend in any respect against any man . . . , and the offence is made known to four of the said twenty-five barons, they shall come to us . . . to declare it and claim immediate redress. If we . . . make no redress within forty days, . . . the twenty-five barons . . . may distrain upon and assail us in every way possible . . . by seizing our castles, lands, possessions, or anything else . . . until they have secured such redress as they have determined upon. Having secured the redress, they may then resume their normal obedience to us.

DOCUMENT 2

The Spirit of the Laws, 1748

In his 1748 work, *The Spirit of the Laws*, Baron de Montesquieu explained his views on the separation of powers.

Again, there is no liberty, if the power of judging be not separated from the legislative and executive powers. Were it joined with the legislative, the life and liberty of the subject would be exposed to arbitrary control, for the judge would then be the legislator. Were it joined to the executive power, the judge might behave with all the violence of an oppressor.

There would be an end of every thing were the same man, or the same body, whether of the nobles or of the people to exercise those three powers that of enacting laws, that of executing the public resolutions, and that of judging the crimes or differences of individuals.

DOCUMENT 3

Common Sense, 1776

Thomas Paine argued for independence in his 1776 pamphlet, *Common Sense*.

Were a manifesto to be published, and despatched to foreign courts, setting forth the miseries we have endured, and the peaceable methods we have ineffectually used for redress; declaring, at the same time, that not being able, any longer, to live happily or safely under the cruel disposition of the British court, we had been driven to the necessity of breaking off all connections with her; at the same time, assuring all such courts of our peaceable disposition towards them, and of our desire of entering into trade with them: Such a memorial would produce more good effects to this Continent, than if a ship were freighted with petitions to Britain.

Under our present denomination of British subjects, we can neither be received nor heard abroad: The custom of all courts is against us, and will be so, until, by an independence, we take rank with other nations.

DOCUMENT 4

Declaration of Independence, 1776

Thomas Jefferson wrote the Declaration of Independence in June 1776. The Declaration proclaimed the political philosophy of the American people—a philosophy drawn from Enlightenment ideals—and listed a set of grievances against the British king George III. The document was intended to justify the breaking of ties with Great Britain and the establishment of a newly independent United States.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness. That to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed, that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness.

Skills FOCUS

READING LIKE A HISTORIAN

DOCUMENT 1

- Recall** What was the role of the 25 barons in relation to the Magna Carta?
- Analyze** How did the Magna Carta limit the power of the monarch?

DOCUMENT 2

- Identify** Which three powers did Montesquieu believe should be separated among branches of government?
- Draw Conclusions** What would be the consequences of not separating the three powers?

DOCUMENT 3

- Describe** What complaints of the colonists does Paine want foreign nations to know about?
- Interpret** Why does Paine want foreign nations to know

about the colonies' unhappiness of living under British rule?

DOCUMENT 4

- Define** What did "unalienable rights" mean?
- Explain** What options are available to citizens whose government no longer protects their rights?

DOCUMENT-BASED ESSAY QUESTION

What were some key elements of the Enlightenment ideal of democratic government? Using the documents above and information from the chapter, form a thesis that explains your position. Then write a short essay to support your position.

See **Skills Handbook**, p. H25

VISUAL STUDY GUIDE

The Spread of Ideas

Scientific Revolution

- Francis Bacon and René Descartes develop the scientific method.
- Scientists learn more about the solar system and the limits of the physical world.
- Biologists learn more about the human body, and chemists define matter.
- Advances in science influence developments in art and architecture.

Enlightenment

- Enlightenment thinkers apply reason to the study of human nature.
- Thinkers develop new ways of organizing government.
- Philosophers use reason to deal with religious toleration, women's rights, and economic systems.

American Revolution

- Enlightenment ideas inspire American colonists to declare independence from Great Britain.
- The success of the American Revolution inspires people in France to revolt against their monarchy.

Major Scientists and Thinkers**Nicolaus Copernicus**

- Developed the heliocentric theory of the solar system

Galileo Galilei

- Built first working telescope for astronomy

Sir Isaac Newton

- Developed calculus to explain all movement in the universe

Thomas Hobbes

- Believed people needed governments to impose order

John Locke

- Believed the purpose of government was to protect people's natural rights

Jean-Jacques Rousseau

- Believed all people should be equal in society

Voltaire

- Believed in justice and religious toleration in society

Denis Diderot

- Compiled the *Encyclopedia*, 28 volumes on art, science, government, and religion

Mary Wollstonecraft

- Believed women should have the same educational opportunities and rights as men

Review Key Terms and People

Identify the term or person from the chapter that best fits each of the following descriptions.

1. Document proclaiming that the United States was a free and independent nation
2. Enlightened despot from Russia
3. Polish astronomer who developed the heliocentric theory of the solar system
4. British policy that taxed newspapers and other public documents
5. English philosopher who believed in government by consent
6. Having reason or understanding
7. Theory that the sun was the center of the universe
8. French philosopher who believed in the separation of powers
9. Commander of colonial army during the American Revolution
10. Five-step process for testing theories in order to acquire new knowledge

History's Impact video program

Review the video to answer the closing question: How does the Declaration of Independence affect American life today?

Comprehension and Critical Thinking

SECTION 1 (pp. 168–175)

- a. Recall** What did Nicolaus Copernicus discover about the universe?
- b. Explain** How did Galileo's beliefs about Copernican theory bring him into conflict with the church?
- c. Elaborate** Did the Scientific Revolution bring about a modern way of thinking? Explain your answer.

SECTION 2 (pp. 176–181)

- a. Define** What was the Enlightenment?
- b. Compare and Contrast** Both Thomas Hobbes and John Locke believed in a social contract. How were their views similar? In what ways were they different?
- c. Support a Position** Were enlightened despots an improvement over traditional monarchs? Why or why not?

SECTION 3 (pp. 182–187)

- a. Identify** What was the Bill of Rights?
- b. Analyze** How did the Constitution and the Bill of Rights incorporate some of the ideas of Enlightenment thinkers Montesquieu, Voltaire, Locke, and Rousseau?
- c. Rate** Which Enlightenment thinker had the greatest influence on the framers of the U.S. Constitution? Explain your answer.

Reading Skills

Understanding Causes and Effects Use what you know about understanding causes and effects to answer the questions below.

14. Why did the colonists in the British colonies begin to develop a new identity?
15. What effects did the Stamp Act, Townshend Acts, and other British taxes have on the relationship between Great Britain and its colonies in North America?
16. List the causes and effects of the American Revolution.

Interpreting Literature as a Source

Reading Like a Historian Voltaire wrote the short story "Micromégas" in 1752. In this early work of science fiction, visitors from outer space observe and comment on the frequency with which Europeans go to war.

“I assure you, at the end of 10 years, not a hundredth part of those wretches will be left; even if they had never drawn the sword, famine, fatigue, or intemperance will sweep them almost all away. Besides, it is not they who deserve punishment, but rather those armchair barbarians, who from the privacy of their cabinets, and during the process of digestion, command the massacre of a million men, and afterward ordain a solemn thanksgiving to God.”

—Voltaire, "Micromégas"

17. **Explain** Who does Voltaire blame for the evils of warfare?
18. **Analyze** What does Voltaire reveal about his view of European leaders?

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Practice Online

Keyword: SHL ENL

Using the Internet

19. The U.S. Constitution was a result of skillful negotiation and compromise. Using the Internet, research the major issues that arose during the weeks of the Constitutional Convention. Then write a report about the issues and the compromises achieved, using eyewitness accounts and other documents to support your work.

WRITING ABOUT HISTORY

Exposition: Writing an Explanation *The Scientific Revolution resulted in a dramatic change in the way in which scientists viewed the natural world and the way in which they acquired knowledge about it. Most people, however, were not scientists. Nevertheless, the Scientific Revolution led to changes far beyond the realm of science.*

20. **Assignment:** In an essay, explain how the new ways of thinking that arose out of the Scientific Revolution led to the Enlightenment. To provide support for your explanation, use information from this chapter and from other research as needed. Be sure to use facts and examples to clearly illustrate the points you are making about the ways in which ideas led to concrete changes in the world.