

Revolution and Enlightenment 1550–1800

Section 1 The Scientific Revolution

Section 2 The Enlightenment

Section 3 The Impact of the Enlightenment

Section 4 The American Revolution

MAKING CONNECTIONS

How did the Enlightenment influence art and society?

The brightly painted, lavish Catherine Palace in St. Petersburg is an example of Russian baroque architecture. It was named for the Russian empress Catherine I, who commissioned the grand palace during her reign. In this chapter you will learn about the effects of the Enlightenment.

- Do any buildings in your community feature baroque architecture? Name some examples.
- Describe the emotions that these grand buildings are designed to create.



**EUROPE,
NORTH AMERICA,
AND INDIA ►**

1543

Copernicus publishes his proposal of a sun-centered universe

1550

1600

1650



1633

Galileo's teachings are condemned by the Church

THE WORLD ►

1566

Süleyman I dies

1636

Manchus invade Korea

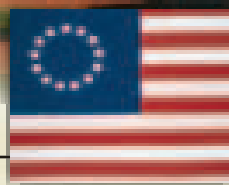


1702

First daily newspaper is printed in London

1756

The Seven Years' War begins



1776

American colonies declare independence from Britain

1700

1750

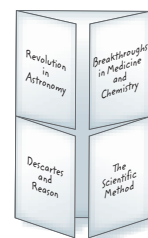
1800

1795

Rule of Emperor Qianlong ends

FOLDABLES™ Study Organizer

Organizing Make a Four-Door Book to organize significant facts on astronomy, medicine and chemistry, Descartes, and the scientific method during the Scientific Revolution.



History  **ONLINE**

Chapter Overview—Visit glencoe.com to preview Chapter 17.

The Scientific Revolution

GUIDE TO READING

The BIG Idea

New Technologies The Scientific Revolution gave Europeans a new way to view humankind's place in the universe.

Content Vocabulary

- geocentric (p. 540)
- heliocentric (p. 540)
- universal law of gravitation (p. 541)
- rationalism (p. 545)
- scientific method (p. 545)
- inductive reasoning (p. 545)

Academic Vocabulary

- philosopher (p. 538)
- sphere (p. 540)

People and Places

- Nicolaus Copernicus (p. 540)
- Johannes Kepler (p. 540)
- Galileo Galilei (p. 540)
- Isaac Newton (p. 541)
- Margaret Cavendish (p. 543)
- Maria Winkelmann (p. 543)
- René Descartes (p. 544)
- Francis Bacon (p. 545)

Reading Strategy

Summarizing Information As you read, use a table like the one below to chart the contributions of Copernicus, Kepler, Galileo, and Newton to a new concept of the universe.

Copernicus	
Kepler	

Of all the changes that swept Europe in the sixteenth and seventeenth centuries, the most widely influential was the Scientific Revolution. We often associate this revolution with the various scientific and technological changes made during this time. However, the Scientific Revolution was also about the changes in the way Europeans looked at themselves and their world.

Causes of the Scientific Revolution

MAIN IDEA The development of new technology and scientific theories became the foundation of the Scientific Revolution.

HISTORY & YOU How would you feel if you had to share the school's only textbook with everyone in your school? Learn how new tools such as the printing press contributed to scientific knowledge.

In the Middle Ages, many educated Europeans took great interest in the world around them. However, these “natural philosophers,” as medieval scientists were known, did not make observations of the natural world. Instead they relied on a few ancient authorities—especially Aristotle—for their scientific knowledge. During the fifteenth and sixteenth centuries, a number of changes occurred that caused the natural philosophers to abandon their old views and to develop new ones.

Impact of the Renaissance

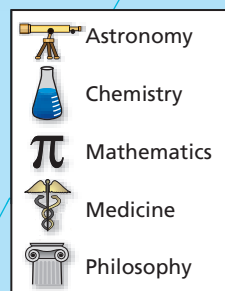
Renaissance humanists had mastered Greek as well as Latin. These language skills gave them access to newly discovered works by Ptolemy (TAH•luh•mee), Archimedes, and Plato. These writings made it obvious that some ancient thinkers had disagreed with Aristotle and other accepted authorities of the Middle Ages.

New Technology and Mathematics

Other developments also encouraged new ways of thinking. Technical problems that required careful observation and accurate measurements, such as calculating the amount of weight that ships could hold, served to stimulate scientific activity. Then, too, the invention of new instruments, such as the telescope and microscope, made fresh scientific discoveries possible. Above all, the printing press helped spread new ideas quickly and easily.

Mathematics played a key role in the scientific achievements of the sixteenth and seventeenth centuries. François Viète, a French

INTELLECTUALS OF THE SCIENTIFIC REVOLUTION



ATLANTIC OCEAN

Margaret Cavendish
(1623–1673)



Newcastle

Francis Bacon
(1561–1626)



Nicolaus Copernicus
(1473–1543)



Robert Boyle
(1627–1691)



ENGLAND

Isaac Newton
(1642–1727)



NETHERLANDS

William Harvey
(1578–1657)



Cambridge

René Descartes
(1596–1650)



Berlin

POLAND

Maria Winkelmann
(1670–1720)



Antoine Lavoisier
(1743–1794)



FRANCE

Johannes Kepler
(1571–1630)



Stuttgart

Galileo Galilei
(1564–1642)



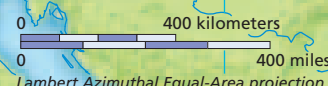
Padua

Andreas Vesalius
(1514–1564)



ITALY

Mediterranean Sea



Geography Skills

1. **Place** What were the nationalities of the chemists shown on the map?
2. **Movement** Scientists often build on the work of other scientists. What barriers would these scientists have to overcome to learn about the work of others in their field?

Maps in Motion See StudentWorks™ Plus or glencoe.com.

lawyer, was among the first to use letters to represent unknown quantities. He applied this algebraic method to geometry and laid the foundation for the invention of trigonometry. Simon Stevin, a Flemish engineer, introduced the decimal system. John Napier of Scotland invented a table of logarithms. The work of both Stevin and Napier made it much easier to make the calculations critical to math problems.

The study of mathematics was promoted in the Renaissance by the rediscovery of the works of ancient mathematicians. Nicolaus Copernicus, Johannes Kepler, Galileo Galilei, and Isaac Newton were all

great mathematicians who believed that the secrets of nature were written in the language of mathematics. After studying, and sometimes discarding, the ideas of the ancient mathematicians, these intellectuals developed new theories that became the foundation of the Scientific Revolution. With the advance of mathematics—what we now know as algebra, trigonometry, and geometry—it became much easier for scientists to demonstrate the proof of abstract theories with clear, logical evidence.

✓ Reading Check **Evaluating** What role did mathematics play in the Scientific Revolution?

Scientific Breakthroughs

MAIN IDEA Scientific discoveries expanded knowledge about the universe and the human body.

HISTORY & YOU What if you discovered another planet just like Earth? Learn about the stunning discoveries scientists made about the universe.

During the Scientific Revolution, discoveries in astronomy led to a new conception of the universe. Breakthroughs advanced medical knowledge and launched the field of chemistry as well.

The Ptolemaic System

Ptolemy, who lived in the A.D. 100s, was the greatest astronomer of antiquity. Using Ptolemy's ideas, as well as those of Aristotle and of Christianity, philosophers of the Middle Ages constructed a model of the universe known later as the Ptolemaic (TAH•luh•MAY•ihk) system. This system is **geocentric** because it places Earth at the center of the universe.

In the Ptolemaic system, the universe is seen as a series of concentric **spheres**—one inside the other. Earth is fixed, or motionless, at the center. The heavenly bodies—**R** pure orbs of light—are embedded in the crystal-like, transparent spheres, which rotate about Earth. The moon is embedded in the first sphere, Mercury in the second, Venus in the third, and the sun in the fourth. The rotation of the spheres makes these heavenly bodies rotate about Earth and move in relation to one another.

D The tenth sphere in the Ptolemaic system is the “prime mover.” This sphere moves itself and gives motion to the other spheres. Beyond the tenth sphere is Heaven, where God resides. God was at one end of the universe, then, and humans were at the center.

Copernicus and Kepler

In May 1543, **Nicolaus Copernicus**, a native of Poland, published his famous book, *On the Revolutions of the Heavenly Spheres*. Copernicus, a mathematician, thought that his **heliocentric**, or sun-centered, conception of the universe offered a more accurate explanation than did the

Ptolemaic system. In his system, the sun, not Earth, was at the center of the universe. The planets revolved around the sun. The moon, however, revolved around Earth. Moreover, according to Copernicus, the apparent movement of the sun around Earth was caused by the rotation of Earth on its axis and its journey around the sun.

Johannes Kepler, a German mathematician, took the next step in destroying the Ptolemaic system. Kepler used detailed astronomical data to arrive at his laws of planetary motion. His observations confirmed that the sun was at the center of the universe and also added new information. In his first law, Kepler showed that the planets' orbits around the sun were not circular, as Copernicus had thought. Rather, the orbits were elliptical (egg-shaped), with the sun toward the end of the ellipse instead of at the center. This finding, known as Kepler's First Law, contradicted the circular orbits and crystal-like spheres that were central to the Ptolemaic system.

Galileo's Discoveries

Scientists could now think in terms of planets revolving around the sun in elliptical orbits. Important questions remained unanswered, however. What are the planets made of? How does one explain motion in the universe? An Italian scientist answered the first question.

Galileo Galilei taught mathematics. He was the first European to make regular observations of the heavens using a telescope. With this tool, Galileo made a remarkable series of discoveries: mountains on Earth's moon, four moons revolving around Jupiter, and sunspots.

C Galileo's observations seemed to destroy yet another aspect of the Ptolemaic conception. Heavenly bodies had been seen as pure orbs of light. They now appeared to be composed of material substance, just as Earth was.

Galileo's discoveries, published in *The Starry Messenger* in 1610, did more to make Europeans aware of the new view of the universe than did the works of Copernicus and Kepler. But in the midst of his newfound fame, Galileo found himself under suspicion by the Catholic Church.

The Church ordered Galileo to abandon the Copernican idea, which threatened the Church's entire conception of the universe. In the Copernican view, humans were no longer at the center of the universe; God was no longer in a specific place.

In spite of the Church's position, by the 1630s and 1640s, most astronomers had accepted the heliocentric conception of the universe. However, motion in the universe had not been explained. The ideas of Copernicus, Kepler, and Galileo had yet to be tied together. An Englishman—Isaac Newton—would make this connection; he is considered the greatest genius of the Scientific Revolution.

Newton's View of the Universe

Born in 1642, **Isaac Newton** showed few signs of brilliance until he attended Cambridge University. Later, he became a professor of mathematics at the university and wrote his major work, *Mathematical Principles of Natural Philosophy*. This work

is known simply as the *Principia*, from a shortened form of its Latin title.

In the *Principia*, Newton defined the three laws of motion that govern the planetary bodies, as well as objects on Earth. Crucial to his whole argument was the **universal law of gravitation**. This law explains why the planetary bodies continue their elliptical orbits about the sun. The law states, in mathematical terms, that every object in the universe is attracted to every other object by a force called gravity. This one universal law, mathematically proved, could explain all motion in the universe.

At the same time, Newton's ideas created a new picture of the universe. It was now seen as one huge, regulated, uniform machine that worked according to natural laws. Newton's world-machine concept dominated the modern worldview until the twentieth century. Albert Einstein's concept of relativity would give a new picture of the universe.

W

OPPOSING VIEWPOINTS

Faith vs. Science

PRIMARY SOURCE 1

Cardinal Bellarmine argues that truth lies in the Holy Scriptures.

... But to want to affirm that the sun really is fixed in the center of the heavens and only revolves around itself ... and that the earth ... revolves ... around the sun, is a very dangerous thing ... by injuring our holy faith and rendering the Holy Scriptures false.

... [T]he holy Fathers ... all agree in explaining literally that the sun is in the heavens and moves swiftly around the earth. ... Now consider whether ... the Church could encourage giving to Scripture a sense contrary to the holy Fathers....

—Cardinal Bellarmine, a leader of the Roman Catholic Church, April 12, 1615

PRIMARY SOURCE 2

Galileo argues that the Church should reinterpret Scriptural truths if they conflict with scientific truths.

... I hold the sun to be situated motionless in the center of the revolution of the celestial orbs while the earth revolves about the sun. ... [T]hese men [opponents] have resolved to fabricate [construct] a shield for their fallacies [mistakes] out of the authority of the Bible. These they apply with little judgment to the refutation [disproving] of arguments that they do not understand and have not even listened to. ... [B]efore a physical proposition is condemned it must be shown to be false.

—Galileo Galilei, scientist and mathematician, 1615

C

1. **Drawing Conclusions** Why did Galileo's ideas represent a threat to the Catholic Church?
2. **Explaining** What did Galileo suggest that his opponents should do before dismissing his ideas?

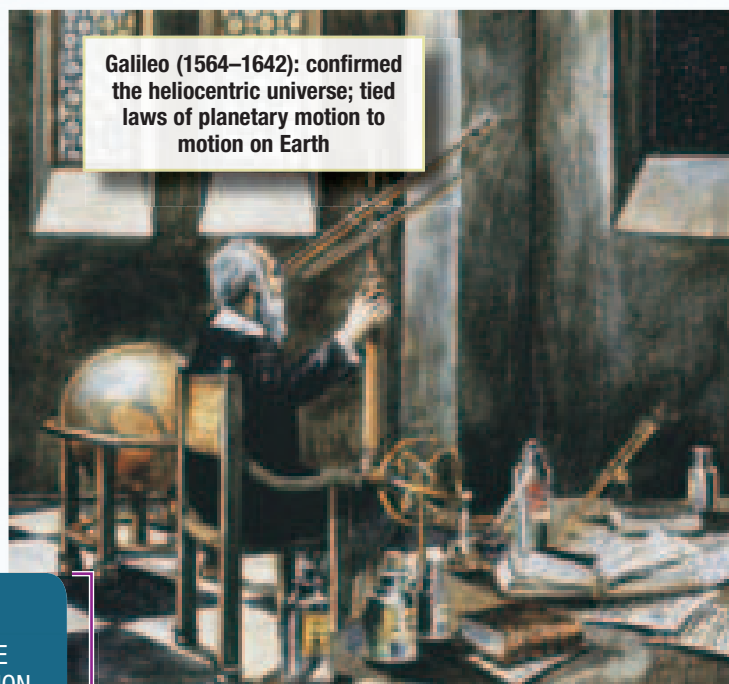
TURNING POINT

THE SCIENTIFIC REVOLUTION

Rediscovered in the thirteenth century, the ideas of ancient philosophers, such as Aristotle and Plato, dominated European thought until the sixteenth century. Then scientists such as Copernicus, Kepler, Galileo, and Newton set the Western world on a new path known as the Scientific Revolution. In addition to observing the natural world, as the ancient philosophers did, they designed experiments to test possible explanations for what they observed.

In the eighteenth century, a group of intellectuals applied this scientific method to help understand other aspects of life. Hoping to improve society, these thinkers began what came to be called the Age of Enlightenment.

The Scientific Revolution and the Enlightenment created a new view of the universe and society in the 1600s and 1700s.



VIEWS OF ASTRONOMY

	ANCIENT PHILOSOPHERS	SCIENTISTS OF THE SCIENTIFIC REVOLUTION
Universe	Earth-centered	Sun-centered
Stars and planets	Pure orbs of light; move in perfect circles	Made of material substance; move in elliptical orbits
Motion	All motion caused by a prime mover (supreme being)	Gravity governs motion of objects on Earth and of planetary bodies
Method of Investigation	Observation of natural events; experiments alter natural conditions and thus would not reveal true nature of things	Observation of natural events; conduct experiments to test possible explanations

S

- Explaining** Why did the ancient philosophers object to experiments?
- Analyzing** In what ways did the Scientific Revolution serve as a turning point in history?

Breakthroughs in Medicine

The teachings of Galen, a Greek physician in the A.D. 100s, dominated medicine in the Late Middle Ages. Relying on animal, rather than human, dissection to picture human anatomy, Galen was wrong in many instances.

In the sixteenth century, a revolution in medicine began. Andreas Vesalius and William Harvey added to the understanding of human anatomy. By dissecting human bodies at the University of Padua, Vesalius accurately described the individual organs and general structure of the human body. William Harvey showed that the heart—not the liver, as Galen had thought—was the beginning point for the circulation of blood. He also proved that

the same blood flows through the veins and arteries and makes a complete circuit through the body.

Breakthroughs in Chemistry

Robert Boyle was one of the first scientists to conduct controlled experiments in chemistry. His work on the properties of gases led to Boyle's Law—the volume of a gas varies with the pressure exerted on it. In the eighteenth century, Antoine Lavoisier invented a system for naming chemical elements still used today. Many people consider him the founder of modern chemistry.

✓ Reading Check **Explaining** How was Vesalius able to add to knowledge of anatomy?

Women's Contributions

MAIN IDEA Women scientists faced obstacles to practicing what they had learned.

HISTORY & YOU Do you recall how the Chinese and Japanese societies restricted the roles of women? Read to learn how two European women contributed to science.

Although scholarship was considered the exclusive domain of men, many women contributed to the Scientific Revolution. For example, Margaret Cavendish, a philosopher, and Maria Winkelmann, an astronomer, helped advance science through their writings and their work.

Margaret Cavendish

One of the most prominent female scientists of the seventeenth century, **Margaret Cavendish**, came from an English aristocratic family. Tutors at home, she studied subjects considered suitable for girls of proper upbringing—music, dancing, reading, and needlework. She was not formally educated in the sciences. However, Cavendish wrote a number of works on scientific matters, including *Observations Upon Experimental Philosophy*.

In her work, Cavendish was especially critical of the growing belief that humans, through science, were the masters of nature:

PRIMARY SOURCE

"We have no power at all over natural causes and effects . . . for man is but a small part, his powers are but particular actions of Nature, and he cannot have a supreme and absolute power."

—Margaret Cavendish, 1623–1673

Cavendish published under her own name at a time when most female writers had to publish anonymously. Her contribution to philosophy is widely recognized today; however, many intellectuals of the time did not take her work seriously.

Maria Winkelmann

In Germany, many of the women who were involved in science were astronomers.

These women had received the opportunity to become astronomers from working in family observatories where their fathers or husbands trained them. Between 1650 and 1710, women made up 14 percent of all German astronomers.

The most famous of the female astronomers in Germany was **Maria Winkelmann**. She received training in astronomy from a self-taught astronomer. When she married Gottfried Kirch, Prussia's foremost astronomer, she became his assistant and began to practice astronomy.

Winkelmann made some original contributions to astronomy, including the discovery of a comet. Her husband described the discovery:

PRIMARY SOURCE

"Early in the morning (about 2:00 A.M.) the sky was clear and starry. Some nights before, I had observed a variable star, and my wife (as I slept) wanted to find and see it for herself. In so doing, she found a comet in the sky. At which time she woke me, and I found that it was indeed a comet. . . . I was surprised that I had not seen it the night before."

—Gottfried Kirch, Winkelmann's astronomer husband

When her husband died, Winkelmann applied for a position as assistant astronomer at the Berlin Academy. She was highly qualified, but as a woman—with no university degree—she was denied the post. Members of the Berlin Academy feared that they would set a bad example by hiring a woman. "Mouths would gape," they said, by which they meant that members of the academy would be appalled.

Winkelmann's problems with the Berlin Academy reflect the obstacles women faced in being accepted as scientists. Such work was considered to be chiefly for males. In the view of most people in the seventeenth century, a life devoted to any kind of scholarship was at odds with the domestic duties women were expected to perform.

✓ Reading Check

Summarizing What did Margaret Cavendish and Maria Winkelmann contribute to the Scientific Revolution?

Philosophy and Reason

MAIN IDEA Scientists came to believe that reason is the chief source of knowledge.

HISTORY & YOU Your computer stores much information, but can it use reason? Read to learn how human reason became central to the search for knowledge.

New conceptions of the universe brought about by the Scientific Revolution strongly influenced the Western view of humankind.

Descartes and Rationalism

Nowhere is this influence more evident than in the work of the seventeenth-century French philosopher **René Descartes** (day•KAHRT). Descartes began by thinking and writing about the doubt and uncertainty that seemed to be everywhere in the confusion of the seventeenth century. He ended with a philosophy that dominated Western thought until the twentieth century.

The starting point for Descartes's new system was doubt. In his most famous work, *Discourse on Method*, written in 1637, Descartes decided to set aside all that he had learned and to begin again. One fact seemed to him to be beyond doubt—his own existence:

PRIMARY SOURCE

"But I immediately became aware that while I was thus disposed to think that all was false, it was absolutely necessary that I who thus thought should be something; and noting that this truth I think, therefore I am, was so steadfast and so assured . . . I concluded that I might without scruple accept it as being the first principle of the philosophy I was seeking."

—René Descartes, *Discourse on Method*

Descartes emphasized the importance of his own mind. He asserted that he would accept only those things that his reason said were true.

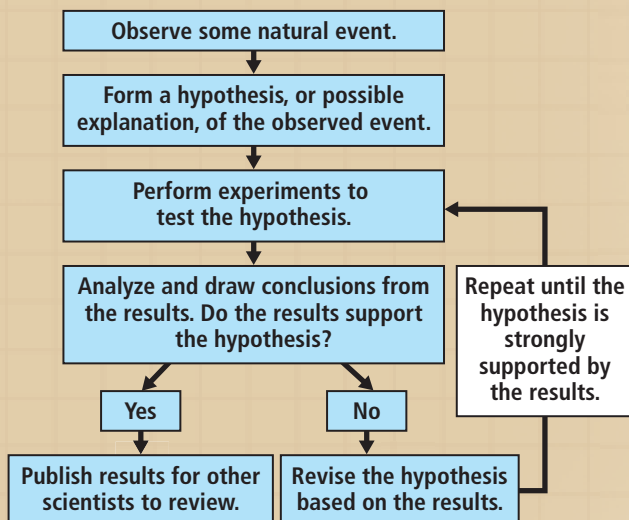
From his first principle—"I think, therefore I am"—Descartes used his reason to

SCIENCE, TECHNOLOGY, & SOCIETY

The Scientific Method

Bacon's "guarded" method began a systematic approach to collecting and analyzing evidence that today is known as the scientific method.

Flowchart of the Scientific Method



"The present discoveries in science are such as lie immediately beneath the surface of common notions [beliefs]. It is necessary, however, to penetrate the more secret and remote parts of nature, in order to abstract both notions and axioms [principles] from things, by a more certain and guarded [careful] method."

—Francis Bacon, *Novum Organum*, 1620

CRITICAL THINKING QUESTIONS

Scientists carefully review the work of other scientists and test the hypothesis themselves. The scientific community accepts the hypothesis only when the results of a large number of experiments by many scientists support it.

1. **Explaining** What do scientists do when the results of their experiments disagree with their proposed explanation?
2. **Analyzing** How does the scientific method help to arrive at a true explanation of a natural event?

arrive at a second principle. He argued that because “the mind cannot be doubted but the body and material world can, the two must be radically different.”

From this idea came the principle of the separation of mind and matter (and of mind and body). Descartes’s idea that mind and matter were completely separate allowed scientists to view matter as dead or inert. That is, matter was something that was totally detached from the mind and that could be investigated independently by reason.

Descartes has rightly been called the father of modern **rationalism**. This system of thought is based on the belief that reason is the chief source of knowledge.

Bacon and the Scientific Method

During the Scientific Revolution, people became concerned about how they could best understand the physical world. The result was the creation of the **scientific method**—a systematic procedure for collecting and analyzing evidence. The scientific method was crucial to the evolution of science in the modern world.

The person who developed the scientific method was actually not a scientist. **Francis Bacon** was an English philosopher with few scientific credentials. He believed that scientists should not rely on the ideas of ancient authorities. Instead, they should learn about nature by using **inductive reasoning**—proceeding from the particular to the general.

Before beginning this reasoning, scientists try to free their minds of opinions that might distort the truth. Then they start with detailed facts and proceed toward general principles. From observing natural events, scientists propose hypotheses (theories), or possible explanations, for the events. Then systematic observations and carefully organized experiments to test the hypotheses would lead to correct general principles.

Bacon was clear about what he believed his scientific method could accomplish. He stated that “the true and lawful goal of the sciences is none other than this: that human life be endowed with new discoveries and power.” He was much more concerned with practical matters than pure science.

Bacon wanted science to benefit industry, agriculture, and trade. He said, “I am laboring to lay the foundation, not of any sect or doctrine, but of human utility and power.”

How would this “human power” be used? Bacon believed it could be used to “conquer nature in action.” The control and domination of nature became an important concern of science and the technology that accompanied it.

✓ Reading Check

Summarizing What are the characteristics of the scientific method?

SECTION

1

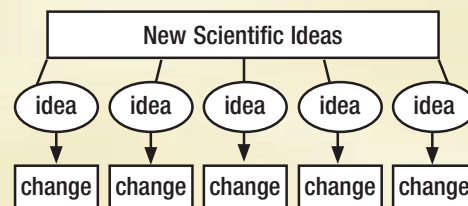
REVIEW

Vocabulary

1. **Explain** the significance of: philosopher, geocentric, sphere, Nicolaus Copernicus, heliocentric, Johannes Kepler, Galileo Galilei, Isaac Newton, universal law of gravitation, Margaret Cavendish, Maria Winkelmann, René Descartes, rationalism, scientific method, Francis Bacon, inductive reasoning.

Main Ideas

2. **Summarize** the changes in the fifteenth and sixteenth centuries that helped the natural philosophers develop new views.
3. **Identify** examples of new ideas in the form of scientific discoveries or innovations that appeared during the 1500s and 1600s. Use a diagram like the one below to identify the ideas and the changes they produced.



4. **Describe** the obstacles that women in the 1600s and 1700s faced in being accepted as scientists.

Critical Thinking

5. **The BIG Idea Contrasting** Contrast the Ptolemaic and Copernican universes.
6. **Analyzing** Why did the Catholic Church condemn Galileo’s work?
7. **Analyzing Visuals** Examine the painting of Galileo on page 542. Explain why you think the artist chose to pose Galileo as he did.

Writing About History

8. **Expository Writing** Research and write an essay about the contributions of Copernicus, Galileo, Newton, or Cavendish to the Scientific Revolution.

History ONLINE

For help with the concepts in this section of *Glencoe World History*, go to glencoe.com and click Study Central.

The Enlightenment

GUIDE TO READING

The BIG Idea

Ideas, Beliefs, and Values Enlightenment thinkers, or philosophes, believed all institutions should follow natural laws to produce the ideal society.

Content Vocabulary

- philosophe (p. 548)
- laissez-faire (p. 550)
- separation of powers (p. 548)
- social contract (p. 551)
- deism (p. 548)
- salon (p. 552)

Academic Vocabulary

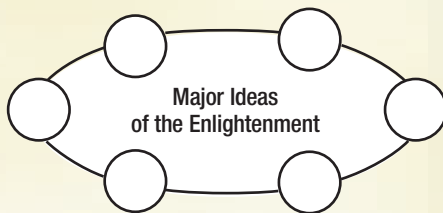
- generation (p. 548)
- arbitrary (p. 551)

People and Places

- John Locke (p. 546)
- Jean-Jacques Rousseau (p. 551)
- Montesquieu (p. 548)
- Paris (p. 551)
- Voltaire (p. 548)
- Mary Wollstonecraft (p. 551)
- Denis Diderot (p. 549)
- London (p. 552)
- Adam Smith (p. 550)
- John Wesley (p. 553)
- Cesare Beccaria (p. 550)

Reading Strategy

Summarizing Information As you read, use a diagram like the one below to list some of the main ideas introduced during the Enlightenment.



Applying the scientific method to their physical world, Enlightenment thinkers, or philosophes, reexamined all aspects of life—from government and justice to religion and women’s rights. They created a movement that influenced the entire Western world.

Path to the Enlightenment

MAIN IDEA Eighteenth-century intellectuals used the ideas of the Scientific Revolution to reexamine all aspects of life.

HISTORY & YOU Do you think you were born with some knowledge, or did you learn everything you know? Read about John Locke’s idea that when each of us is born, the mind is a tabula rasa, or blank slate.

The Enlightenment was an eighteenth-century philosophical movement of intellectuals who were greatly impressed with the achievements of the Scientific Revolution. One of the favorite words of these intellectuals was *reason*. By this, they meant the application of the scientific method to an understanding of all life. They hoped that by using the scientific method, they could make progress toward a better society than the one they had inherited. *Reason, natural law, hope, progress*—these were common words to the thinkers of the Enlightenment. The ideas of the Enlightenment would become a force for reform and eventually revolution.

John Locke

The intellectuals of the Enlightenment were especially influenced by the ideas of two seventeenth-century Englishmen, **John Locke** and Isaac Newton. In his *Essay Concerning Human Understanding*, Locke argued that every person was born with a tabula rasa, or blank mind:

PRIMARY SOURCE

“Let us then suppose the mind to be . . . white paper, void of all characters, without any ideas. How comes it to be furnished? Whence has it all the materials of reason and knowledge? To this I answer, in one word, from experience. . . . Our observation, employed either about external sensible objects or about the internal operations of our minds perceived and reflected on by ourselves, is that which supplies our understanding with all the materials of thinking.”

—John Locke, *Essay Concerning Human Understanding*

Locke’s ideas suggested that people were molded by the experiences that came through their senses from the surrounding world.

EUROPE AND THE AGE OF ENLIGHTENMENT



Enlightenment thinkers began to believe that if environments were changed and people were exposed to the right influences, then people could be changed to create a new—and better—society.

Isaac Newton

The ideas of Isaac Newton also greatly influenced eighteenth-century intellectuals. As you read earlier, Newton believed that the physical world and everything in it was like a giant machine. His “world-machine” operated according to natural

laws, which could be uncovered through systematic investigation.

The Enlightenment thinkers reasoned that if Newton was able to discover the natural laws that governed the physical world, then by applying his scientific methods, they would be able to discover the natural laws that governed human society. If all institutions would then follow these natural laws, the result would be an ideal society.

✓ Reading Check **Explaining** What did Enlightenment thinkers hope to accomplish?

Ideas of the Philosophes



The philosophes wanted to create a better society.

HISTORY & YOU Do you remember what a monarchy is? Read to learn about two other forms of government.

The intellectuals of the Enlightenment were known by the French word **philosophe** (FEE•luh•ZAWF), meaning “philosopher.” Not all philosophes were French, however, and few were philosophers in the strict sense of the term. They were writers, professors, journalists, economists, and above all, social reformers. They came chiefly from the nobility and the middle class.

Most leaders of the Enlightenment were French, although the English had provided the philosophical inspiration for the movement. It was the French philosophes who affected intellectuals elsewhere and created a movement that influenced the entire Western world.

D The Role of Philosophy

To the philosophes, the role of philosophy was to change the world. One writer said that the philosophe is one who “applies himself to the study of society with the purpose of making his kind better and happier.” One conducts this study by using reason, or an appeal to facts. A spirit of rational criticism was to be applied to everything, including religion and politics.

The philosophes often disagreed. Spanning almost a century, the Enlightenment evolved over time. Each succeeding **generation** became more radical as it built on the contributions of the previous one. A few people, however, dominated the landscape—Montesquieu (MAHN•tuhs•KYOO), Voltaire, and Diderot (dee•DROH).

Montesquieu

Charles-Louis de Secondat, the baron de **Montesquieu**, was a French noble. His famous work *The Spirit of the Laws* (1748) was a study of governments. In it, Montesquieu used the scientific method to try to find the

natural laws that govern the social and political relationships of human beings.

C Montesquieu identified three basic kinds of governments: (1) republics, suitable for small states; (2) despotism, appropriate for large states; and (3) monarchies, ideal for moderate-sized states. He used England as an example of a monarchy.

Montesquieu stated that England’s government had three branches: the executive (the monarch), the legislative (Parliament), and the judicial (the courts of law). The government functioned through a **separation of powers**. In this separation, the executive, legislative, and judicial powers of the government limit and control each other in a system of checks and balances. By preventing any one person or group from gaining too much power, this system provides the greatest freedom and security for the state.

The system of checks and balances through separation of powers was Montesquieu’s most lasting contribution to political thought. Translation of his work into English made it available to American philosophes, who worked his principles into the United States Constitution.

Voltaire

The greatest figure of the Enlightenment was François-Marie Arouet, known simply as **Voltaire**. A Parisian, Voltaire came from a prosperous middle-class family. His numerous writings brought him both fame and wealth.

Voltaire was especially well known for his criticism of Christianity and his strong belief in religious toleration. He fought against religious intolerance in France. In 1763 he penned his *Treatise on Toleration*, in which he reminded governments that “all men are brothers under God.”

Throughout his life, Voltaire championed **deism**, an eighteenth-century religious philosophy based on reason and natural law. Deism built on the idea of the Newtonian world-machine. In the Deists’ view, a mechanic (God) had created the universe. To Voltaire and most other philosophes, the universe was like a clock. God, the clockmaker, had created it, set it in motion, and allowed it to run without his interference and according to its own natural laws.

Diderot

Denis Diderot went to the University of Paris. His father hoped Denis would pursue a career in law or the Church. He did neither. Instead, he became a writer. He studied and read in many subjects and languages.

Diderot's most famous contribution to the Enlightenment was the *Encyclopedia, or Classified Dictionary of the Sciences, Arts, and Trades*, a 28-volume collection of knowledge that he edited. Published between 1751 and 1772, the *Encyclopedia*, according to Diderot, was to "change the general way of thinking."

The *Encyclopedia* became a weapon against the old French society. Many of its articles attacked religious superstition and supported religious toleration. Others called for social, legal, and political reforms. Sold to doctors, clergymen, teachers, and lawyers, the *Encyclopedia* spread Enlightenment ideas.

New Social Sciences

MAIN IDEA

The belief in logic and reason promoted the beginnings of social sciences.

HISTORY & YOU

What do you think is the purpose of punishing criminals? Read to learn about arguments against extreme punishments.

The philosophes, as we have seen, believed that Newton's methods could be used to discover the natural laws underlying all areas of human life. This led to what we would call the social sciences—areas such as economics and political science.

Smith on Economics

The Physiocrats and Scottish philosopher Adam Smith have been viewed as the founders of the modern social science of economics. The Physiocrats, a French group, were interested in identifying the natural economic laws that governed human society. They maintained that if individuals were free to pursue their own economic self-interest, all society would benefit.

✓ Reading Check

Stating What ideas did Montesquieu add to the Enlightenment?

PEOPLE in HISTORY

Voltaire

1694–1778 French Philosopher

"Those who can make you believe absurdities can make you commit atrocities." Voltaire's words reflected his observations on history, and foreshadowed atrocities yet to come. Outspoken against tyranny, ignorance, and the excesses of the Church, Voltaire never held his tongue, even in the face of threats. Forced to choose between exile and imprisonment after insulting a powerful French nobleman, Voltaire chose exile in England. While there he befriended Jonathan Swift and Alexander Pope and was influenced by John Locke and Sir Isaac Newton. He returned home more radical than ever, and his ideas later influenced both American and French revolutionaries. **Voltaire spoke out against what subjects of his day?**

Adam Smith

1723–1790 Scottish Economist and Philosopher

"No society can surely be happy, of which the far greater part of the members are poor and miserable." Someone reading this quote might think it originated with an American patriot or a French revolutionary. However, it actually came from Adam Smith, widely regarded as "the father of capitalism." Besides being the architect of the laissez-faire doctrine of government non-interference with commerce, and an opponent of heavy government taxation, Smith was also an outspoken advocate for ethical standards in society. His friends included Voltaire, Benjamin Franklin, and David Hume, three of the late eighteenth century's most revolutionary thinkers. **How did Adam Smith feel about the role of government?**

R

Laissez-Faire Economics



Mercantilism

A nation's wealth is measured by:

- the amount of gold and silver in its treasury

To increase wealth, government must:

- encourage exports to bring in gold and silver
- restrict imports to avoid draining away gold and silver
- grant monopolies and financial support to local businesses to give them an advantage over foreign competition

Laissez-Faire Economics

A nation's wealth is measured by:

- its annual output of goods and services

To increase wealth, government must:

- impose no restrictions on trade, allowing it to operate freely
- provide no support or monopoly advantages for local businesses, so that competition can occur freely

Adam Smith's *Wealth of Nations* (1776), inspired a major shift in economic theory and practice. In it, he argued that the desire for personal gain drives economic activity and that this leads to competition. He believed that allowing this competition to operate without government interference would benefit society in several ways:

- Prices are kept lower.
- Production is more efficient as businesses reduce costs to increase profit.
- Labor and capital are directed to the most profitable industries.

Unintentionally then, the pursuit of self-interest benefits all of society. In Smith's words:

"Every individual . . . neither intends to promote the public interest, nor knows how much his is promoting it. . . . [H]e intends only his own gain, and he is in this . . . led by an invisible hand to promote an end which was no part of his intention."

1. **Identifying** According to Adam Smith, why do people produce and sell products?
2. **Making Inferences** What do you think Smith means by "an invisible hand"?

The state, then, should not interrupt the free play of natural economic forces by imposing regulations on the economy. Instead, the state should leave the economy alone. This doctrine became known by its French name, **laissez-faire** (LEH•SAY FEHR), meaning "to let (people) do (what they want)."

The best statement of laissez-faire was made in 1776 by **Adam Smith** in his famous work, *The Wealth of Nations*. Like the Physiocrats, Smith believed that the state should not interfere in economic matters. Indeed, Smith gave to government only three basic roles. First, it should protect society from invasion (the function of the army). Second, the government should defend citizens from injustice (the function of the police). And finally, it should keep up certain public works that private individuals alone could not afford—roads and canals, for example—but which are necessary for social interaction and trade.

Beccaria on Justice

By the eighteenth century, most European states had developed a system of courts to deal with the punishment of crime. Punishments were often cruel. The primary reason for extreme punishments was the need to deter crime in an age when a state's police force was too weak to capture criminals.

One philosophe who proposed a new approach to justice was **Cesare Beccaria**. In his essay *On Crimes and Punishments* (1764), Beccaria argued that punishments should not be exercises in brutality. He also opposed capital punishment. He did not believe that it stopped others from committing crimes. Moreover, it set an example of barbarism: "Is it not absurd, that the laws, which punish murder, should, in order to prevent murder, publicly commit murder themselves?"

✓ Reading Check **Explaining** What is the concept of laissez-faire?

The Spread of Ideas

MAIN IDEA From the upper classes to the middle classes and from salons to pulpits, the ideas of the Enlightenment spread.

HISTORY & YOU How would your life change if you had no way to communicate—no e-mail, no phone? Learn how newspapers and magazines spread Enlightenment ideas.

By the late 1760s, a new generation of philosophes had come to maturity. Ideas about liberty, education, and the condition of women were spread through an increasingly literate society.

The Social Contract

The most famous philosophe of the later Enlightenment was **Jean-Jacques Rousseau** (ru•SOH). The young Rousseau wandered through France and Italy holding various jobs. Eventually he made his way to **Paris**, where he was introduced into the circle of the philosophes. He did not like city life, however, and often withdrew into long periods of solitude.

In his *Discourse on the Origins of the Inequality of Mankind*, Rousseau argued that people had adopted laws and government in order to preserve their private property. In the process, they had become enslaved by government. What, then, should people do to regain their freedom?

In his major work *The Social Contract*, published in 1762, Rousseau presented his concept of the **social contract**. Through a social contract, an entire society agrees to be governed by its general will. Individuals who wish instead to follow their own self-interests must be forced to abide by the general will. “This means nothing less than that [they] will be forced to be free,” said Rousseau. Thus, liberty is achieved by being forced to follow what is best for “the general will” because the general will represents what is best for the entire community.

Another important work by Rousseau is *Émile*. Written in the form of a novel, the work is a general discussion “on the education of the natural man.” Rousseau argues that education should foster, and not restrict, children’s natural instincts.

Unlike many Enlightenment thinkers, Rousseau believed that emotions, as well as reason, were important to human development. He sought a balance between heart and mind, between emotions and reason.

Rousseau did not necessarily practice what he preached. His own children were sent to orphanages, where many children died at a young age. Rousseau also viewed women as being “naturally” different from men: “To fulfill her functions, . . . [a woman] needs a soft life. . . . How much care and tenderness does she need to hold her family together.” To Rousseau, women should be educated for their roles as wives and mothers by learning obedience and the nurturing skills that would enable them to provide loving care for their husbands and children. Not everyone in the eighteenth century agreed with Rousseau’s views about women, however.

Women’s Rights

For centuries, male intellectuals had argued that the nature of women made them inferior to men and made male domination of women necessary. By the eighteenth century, however, female thinkers began to express their ideas about improving the condition of women. **Mary Wollstonecraft**, an English writer, advanced the strongest statement for the rights of women. Many see her as the founder of the modern European and American movements for women’s rights.

In *A Vindication of the Rights of Women*, Wollstonecraft identified two problems with the views of many Enlightenment thinkers. She noted that the same people who argued that women must obey men also said that government based on the **arbitrary** power of monarchs over their subjects was wrong. Wollstonecraft pointed out that the power of men over women was equally wrong.

Wollstonecraft further argued that the Enlightenment was based on an ideal of reason in all human beings. Therefore, because women have reason, they are entitled to the same rights as men. Women, Wollstonecraft declared, should have equal rights in education, as well as in economic and political life.

The Growth of Reading

Of great importance to the Enlightenment was the spread of its ideas to the literate elite of European society. Especially noticeable in the eighteenth century was the growth of both publishing and the reading public. The number of titles issued each year by French publishers rose from 300 in 1750 to about 1,600 in the 1780s. Books had previously been aimed at small groups of the educated elite. Now, many books were directed at the new reading public of the middle classes, which included women and urban artisans.

An important aspect of the growth of publishing and reading in the eighteenth century was the development of magazines and newspapers for the general public. In Great Britain, an important center for the new magazines, 25 periodicals were published in 1700, 103 in 1760, and 158 in 1780.

The first daily newspaper was printed in **London** in 1702. Newspapers were relatively cheap and were even provided free in many coffeehouses.

The Salon

Enlightenment ideas were also spread through the salon. **Salons** were the elegant drawing rooms of the wealthy upper class's great urban houses. Invited guests gathered in these salons and took part in conversations that were often centered on the new ideas of the philosophes. The salons brought writers and artists together with aristocrats, government officials, and wealthy middle-class people.

The women who hosted the salons were in a position to sway political opinion and influence literary and artistic taste. For example, Marie-Thérèse de Geoffrin, wife of a wealthy merchant, hosted salons.

INFOGRAPHICS

John Wesley Brings a New Message of Salvation

John Wesley (1703–1791), the founder of Methodism, brought religious revival to the people of England. Wesley often preached outdoors, drawing thousands of people. His preaching style made his message understandable to the uneducated lower classes.

The Church of England considered Wesley an extremist, exciting people to hysterical outbursts. Wesley taught that anyone can be saved. This idea conflicted with some Anglicans,

who believed that God had already determined who would be saved and who would not.

Wesley emphasized religion of the heart, not the mind. He urged his followers to seek Christian perfection, or holiness of heart and life, by leading a life of piety and good works:

"In every thought of our hearts, in every word of our tongues, in every work of our hands, to show forth his praise, who hath called us out of darkness into his marvelous light."

1. **Contrasting** How did Wesley's view of salvation conflict with the view of some members of the Church of England?
2. **Making Connections** In what way was Wesley's message a reaction to Enlightenment thinking?

These gatherings at her fashionable home in Paris became the talk of France and of all Europe.

Distinguished foreigners competed to receive invitations to the salons. These gatherings helped spread the ideas of the Enlightenment.

Religion in the Enlightenment

Although many philosophes attacked the Christian churches, most Europeans in the eighteenth century were still Christians. Many people also sought a deeper personal devotion to God.

The Catholic parish church remained an important center of life. How many people went to church regularly is unknown, but 90 to 95 percent of Catholic populations went to mass on Easter Sunday.

After the initial religious fervor that created Protestantism in the sixteenth century, Protestant churches settled into well-established patterns often controlled or influenced by state authorities. Many Protestant churches were lacking in religious enthusiasm. The desire of ordinary Protestants for greater depths of religious experience led to new religious movements.

In England, the most famous new religious and evangelical movement—Methodism—was the work of **John Wesley**, an Anglican minister. Wesley had a mystical experience in which “the gift of God’s grace” assured him of salvation. This experience led him to become a missionary to the English people to bring them the “glad tidings” of salvation.

Since many Anglican churches were closed to him, Wesley preached to the masses in open fields, in halls, or in cottages. He preached wherever an assembly could gather. Wesley traveled constantly, generally on horseback, and often preached two or three times a day. He appealed especially to the lower classes. He tried, he said, “to lower religion to the level of the lowest people’s capacities.”

His sermons often caused people to have conversion experiences. Many converts then joined Methodist societies to do good works. One notable reform they influenced was the abolition of the slave trade in the early 1800s. Christian reformers were also important in the American movement to abolish slavery.

Wesley’s Methodism gave the lower and middle classes in English society a sense of purpose and community. Methodists stressed the importance of hard work and spiritual contentment rather than demands for political equality. After Wesley’s death, Methodism became a separate Protestant group. Methodism proved that the need for spiritual experience had not been eliminated by the eighteenth-century search for reason.

✓Reading Check **Evaluating** How did Mary Wollstonecraft use the Enlightenment ideal of reason to advocate rights for women?

SECTION 2 REVIEW

Vocabulary

1. **Explain** the significance of: John Locke, philosophe, generation, Montesquieu, separation of powers, Voltaire, deism, Denis Diderot, laissez-faire, Adam Smith, Cesare Beccaria, Jean-Jacques Rousseau, Paris, social contract, Mary Wollstonecraft, arbitrary, London, salon, John Wesley.

Main Ideas

2. **Explain** the influence of John Locke and Isaac Newton on Enlightenment thinkers.
3. **Name** the social classes to which most philosophes belonged.
4. **Identify** factors that helped spread Enlightenment ideas through Europe by using a diagram like the one below.

Factors that Spread Enlightenment

Critical Thinking

5. **The BIG Idea Evaluating** What did Rousseau mean when he stated that if individuals wanted to pursue their own self-interests at the expense of the common good, they “will be forced to be free”? Do you agree or disagree? Why?
6. **Comparing and Contrasting** How are the branches of the U.S. government similar to the branches Montesquieu identified? How are they different?
7. **Analyzing Visuals** Examine the painting of John Wesley on page 552. Explain why the painting shows Wesley preaching outdoors.

Writing About History

8. **Persuasive Writing** Mary Wollstonecraft argued that women are entitled to the same rights as men. Do you believe this to be true? Do you believe women are accorded equal rights today? Present your argument in an essay with evidence.

History ONLINE

For help with the concepts in this section of *Glencoe World History*, go to glencoe.com and click Study Central.

The Impact of the Enlightenment

GUIDE TO READING

The BIG Idea

Ideas, Beliefs, and Values Europe's individual nations were chiefly guided by the self-interest of their rulers.

Content Vocabulary

- enlightened absolutism (p. 554)
- rococo (p. 562)

Academic Vocabulary

- rigid (p. 556)
- unique (p. 562)

People and Places

- Frederick the Great (p. 556)
- Maria Theresa (p. 556)
- Catherine the Great (p. 557)
- Balthasar Neumann (p. 562)
- Antoine Watteau (p. 562)
- Giovanni Battista Tiepolo (p. 562)
- Johann Sebastian Bach (p. 563)
- George Handel (p. 563)
- Joseph Haydn (p. 563)
- Wolfgang Mozart (p. 563)
- Henry Fielding (p. 563)

Reading Strategy

Describing As you read, use a chart like the one below to list the conflicts of the Seven Years' War. Include the countries involved and where the conflicts were fought.

Conflicts of the Seven Years' War

Conflicts of the Seven Years' War

Enlightenment ideas had an impact on the politics and arts of eighteenth-century Europe. While they liked to talk about enlightened reforms, most rulers were more interested in the power and stability of their nations. Their desire for balancing power, however, could also lead to war. The Seven Years' War became global as war broke out in Europe, India, and North America.

Enlightenment and Absolutism

MAIN IDEA Philosophes believed that, in order to reform society based on Enlightenment ideals, people should be governed by enlightened rulers.

HISTORY & YOU Have you ever ignored good advice? Why? Read to learn why European rulers considered but ultimately ignored the advice of the philosophes.

Enlightenment thought influenced European politics in the eighteenth century. The philosophes believed in natural rights for all people. These rights included equality before the law; freedom of religious worship; freedom of speech; freedom of the press; and the rights to assemble, hold property, and pursue happiness. As the American Declaration of Independence expressed, "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."

To establish and preserve these natural rights, most philosophes believed that people needed to be governed by enlightened rulers. Enlightened rulers are monarchs who allow religious toleration, freedom of speech and of the press, and the rights of private property. They nurture the arts, sciences, and education. Above all, enlightened rulers obey the laws and enforce them fairly for all subjects. Only strong, enlightened monarchs could reform society.

Enlightened Absolutism

Many historians once assumed that a new type of monarchy, which they called **enlightened absolutism**, emerged in the later eighteenth century. In the system of enlightened absolutism, rulers tried to govern by Enlightenment principles while maintaining their royal powers. Did Europe's rulers, however, actually follow the advice of the philosophes and become enlightened? To answer this question, we examine three states—Prussia, Austria, and Russia.

ENLIGHTENED ABSOLUTISM



Prussia: Army and Bureaucracy

Two able Prussian kings, Frederick William I and Frederick II, made Prussia a major European power in the eighteenth century. Frederick William I maintained a highly efficient bureaucracy of civil service workers. They observed the supreme values of obedience, honor, and, above all, service to the king. As Frederick William asserted: "One must serve the king with life and limb, . . . and surrender all except salvation. The latter is reserved for God. But everything else must be mine."

Frederick William's other major concern was the army. By the end of his reign in 1740, he had doubled the army's size. Although Prussia was tenth in physical size and thirteenth in population in Europe, it had the fourth-largest army after France, Russia, and Austria. The Prussian army, because of its size and its reputation as one of the best in Europe, was the most important institution in the state.

Members of the nobility, who owned large landed estates with many serfs, were the officers in the Prussian army.

These officers, too, had a strong sense of service to the king or state. As Prussian nobles, they believed in duty, obedience, and sacrifice.

Frederick II, or **Frederick the Great**, was one of the best educated and most cultured monarchs of the time. He was well versed in Enlightenment ideas and even invited the French philosophe Voltaire to live at his court for several years.

Frederick was a dedicated ruler. He, too, enlarged the Prussian army by actively recruiting the nobility into civil service.

R Frederick kept a strict watch over the bureaucracy.

For a time, Frederick seemed quite willing to make enlightened reforms. He abolished the use of torture except in treason and murder cases. He also granted limited freedom of speech and press, as well as greater religious toleration. However, Frederick kept Prussia's serfdom and **rigid** social structure intact and avoided any additional reforms.

The Austrian Empire

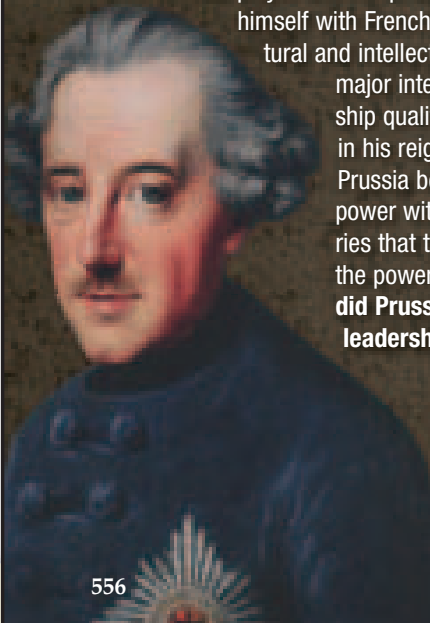
The Austrian Empire had become one of the great European states by the start of the eighteenth century. It was hard to rule, however, because it was a sprawling empire composed of many nationalities, languages, religions, and cultures. Empress **Maria Theresa**, who inherited the throne in 1740, worked to centralize and strengthen the state. She was not open to the philosophes' calls for reform, but she worked to improve the condition of the serfs.

Her son, Joseph II, believed in the need to sweep away anything standing in the path of reason: "I have made Philosophy the lawmaker of my empire." Joseph's reforms were far-reaching. He abolished serfdom and eliminated the death penalty. He established the principle of equality of all before the law and enacted religious reforms, including religious toleration. In his effort to change Austria, Joseph II issued thousands of decrees and laws.

PEOPLE *in* HISTORY

Frederick II (Frederick the Great) 1712–1786 King of Prussia

When Napoleon visited the tomb of Frederick the Great in 1807, he remarked, "Gentlemen, if this man were still alive, I would not be here." This was high praise, especially considering that Prussia's Frederick II cared more about the arts, music, and philosophy than about warfare. Frederick was a flute player and composer who liked to surround himself with French intellectuals. Although cultural and intellectual pursuits remained his major interests, Frederick's leadership qualities began to emerge early in his reign. Under his 46-year rule, Prussia became a major military power with brilliantly executed victories that thwarted the expansion of the powerful Hapsburg Empire. **How did Prussia change under the leadership of Frederick II?**



Maria Theresa 1717–1780 Ruler of the Austrian Empire

W Maria Theresa married at age 18. She remained devoted to her husband, Francis Stephen, throughout their 29-year marriage. She bore 16 children, many of whom would later become rulers of European nations or spouses of rulers. When her father, Charles VI of Austria, died in 1740, she became the only woman to rule during the 650-year Hapsburg dynasty. She enacted some reforms during her reign, but she never wavered from her belief in the legitimate right of monarchs to rule. Throughout her life, Maria Theresa showered her children with practical advice—especially her youngest daughter. This daughter would later fall victim to the anti-royalty hysteria of the French Revolution. Her name was Marie Antoinette. **What form of government did Maria Theresa support?**



Joseph's reform program largely failed. He alienated the nobles by freeing the serfs. He alienated the Catholic Church with his religious reforms. Even the serfs were unhappy because they could not understand the drastic changes. Joseph realized his failure when he wrote his own epitaph for his gravestone: "Here lies Joseph II who was unfortunate in everything that he undertook." His successors undid almost all of Joseph II's reforms.

Catherine the Great

In Russia, Peter the Great was followed by six weak successors who were often put in power and deposed by the palace guard. A group of nobles murdered the last of these six successors, Peter III. His German wife emerged as ruler of all the Russians.

Catherine II, or **Catherine the Great**, ruled Russia from 1762 to 1796. She was an intelligent woman who was familiar with the works of the philosophes and seemed to

favor enlightened reforms. She invited the French philosophe Denis Diderot to Russia and urged him to speak frankly "as man to man." Diderot did so, outlining an ambitious program of reform. Catherine, however, was skeptical. Diderot's impractical theories, she said, "would have turned everything in my kingdom upside down." She did consider the idea of a new law code that would recognize the principle of the equality of all people in the eyes of the law.

In the end, however, Catherine did nothing because she knew that her success depended on the support of the Russian nobility. Catherine's policy of favoring the landed nobility led to worse conditions for the Russian peasants and eventually to rebellion. Led by an illiterate Cossack (a Russian warrior), Yemelyan Pugachov, the rebellion spread across southern Russia, but soon collapsed. Catherine took stronger measures against the peasants. All rural reform was halted; serfdom was expanded into newer parts of the empire.

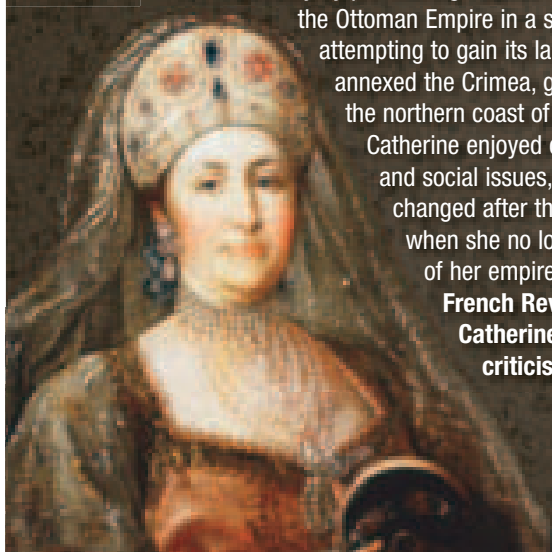
Catherine II (Catherine the Great)

1729–1796 Ruler of Russia

Catherine was an obscure German princess in 1744 when Elizabeth of Russia chose her to be the wife of Russia's future king, Peter III. Peter's foolish acts as king made him many enemies. Catherine, however, was popular among her husband's opponents, who overthrew Peter in 1762 and proclaimed Catherine queen. Catherine became a strong ruler, working to increase Russia's power and influence. She extended Russian territory by partitioning Poland. She tried to break up

the Ottoman Empire in a series of wars, attempting to gain its lands for Russia. She annexed the Crimea, gaining territory on the northern coast of the Black Sea.

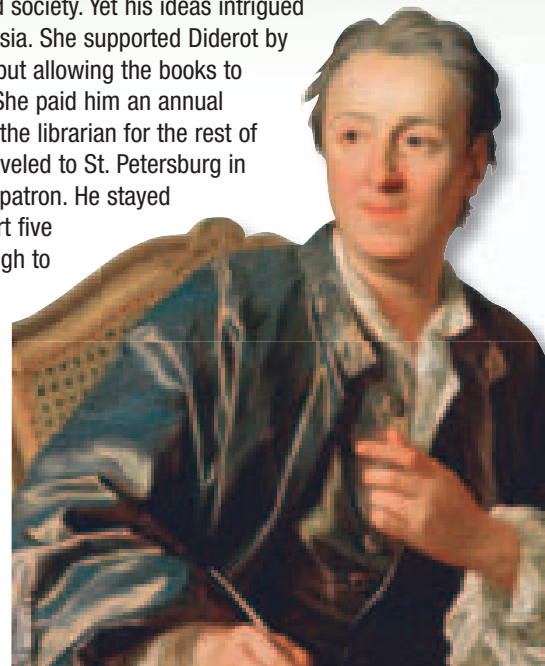
Catherine enjoyed discussing political and social issues, but her attitude changed after the French Revolution when she no longer tolerated critics of her empire. **Why did the French Revolution change Catherine's attitude toward criticism of her empire?**



Denis Diderot

1713–1784 French Philosopher and Writer

"The good of the people must be the great purpose of government. . . . And the greatest good of the people is liberty." With liberal ideas like this one expressed in his *Encyclopedia*, Denis Diderot challenged prevailing views of government and society. Yet his ideas intrigued Catherine II of Russia. She supported Diderot by buying his library but allowing the books to remain with him. She paid him an annual salary to serve as the librarian for the rest of his life. Diderot traveled to St. Petersburg in 1773 to thank his patron. He stayed at Catherine's court five months, long enough to conclude that enlightened absolutism would not lead to liberty, as he had hoped. **Why did Catherine II buy Diderot's library?**



Catherine proved to be a worthy successor to Peter the Great in her policies of territorial expansion. Russia spread southward to the Black Sea by defeating the Turks under Catherine's rule. To the west, Russia gained about 50 percent of Poland's territory.

Enlightened Absolutism?

Of the rulers we have discussed, only Joseph II sought truly radical changes based on Enlightenment ideas. Both Frederick II and Catherine II liked to talk about enlightened reforms. They even attempted some, but their interest in strengthening the state and maintaining the existing system took priority.

In fact, all three of these enlightened absolutists—Frederick, Joseph, and Catherine—were guided primarily by their interest in the power and welfare of their state. When they did manage to strengthen their position as rulers, they did not use their enhanced position to undertake enlightened reforms to benefit their subjects. Rather, their power was used to collect more taxes and thus to create armies, to wage wars, and to gain even more power.

The philosophes condemned war as a foolish waste of life and resources. Despite their words, the rivalry among states that led to costly struggles remained unchanged in eighteenth-century Europe. Europe's self-governing, individual states were chiefly guided by the self-interest of their rulers.

D The eighteenth-century monarchs were concerned with the balance of power. This concept proposed that states should have equal power in order to prevent any one from dominating the others. This desire for a balance of power, however, did not imply a desire for peace. Large armies created to defend a state's security were often used to conquer new lands as well. As Frederick II of Prussia remarked, "The fundamental rule of governments is the principle of extending their territories."

✓ Reading Check **Evaluating** What effect did enlightened reforms have in Prussia, Austria, and Russia?

The Seven Years' War

MAIN IDEA The Seven Years' War (1756–1763) became global as new alliances were formed and as war broke out in Europe, India, and North America.

HISTORY & YOU Do you and your classmates form friendship groups based on common interests? Read to learn about the changing alliances among European powers.

The stage was set for the Seven Years' War, when, in 1740, a major war broke out in connection with the succession to the Austrian throne.

Austrian Succession

When the Austrian emperor Charles VI died without a male heir, his daughter, Maria Theresa, succeeded him. King Frederick II of Prussia took advantage of the confusion surrounding the succession of a woman to the throne by invading Austrian **Silesia**. By this action, Frederick clearly stated that he did not recognize the legitimacy of the empress of Austria. France then entered the war against Austria, its traditional enemy. In turn, Maria Theresa allied with Great Britain.

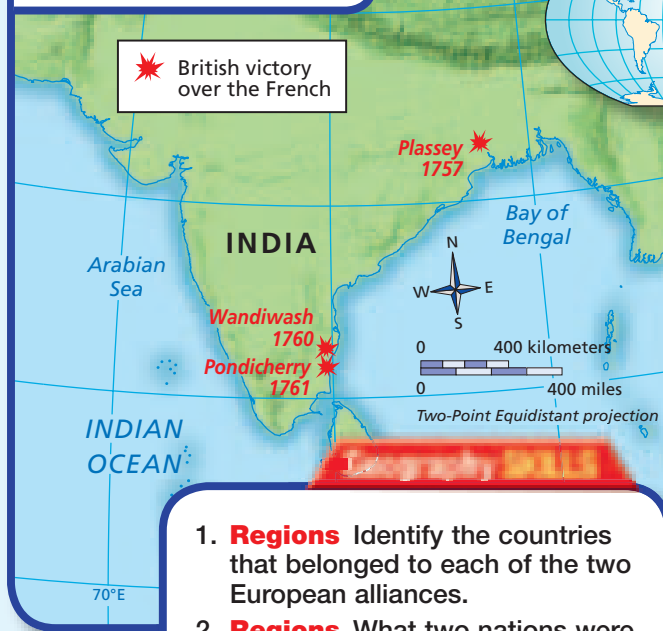
The War of the Austrian Succession (1740 to 1748) was fought in three areas of the world. In Europe, Prussia seized Silesia while France occupied the Austrian Netherlands. In Asia, France took Madras (today called Chennai) in India from the British. In North America, the British captured the French fortress of Louisbourg at the entrance to the St. Lawrence River.

After seven years of warfare, all parties were exhausted and agreed to the Treaty of Aix-la-Chapelle in 1748. This treaty guaranteed the return of all occupied territories except Silesia to their original owners. Prussia's refusal to return Silesia meant yet another war between Prussia and Austria.

Maria Theresa refused to accept the loss of Silesia. She rebuilt her army while working diplomatically to separate Prussia from its chief ally, France. In 1756 her hopes were realized when a diplomatic revolution reversed two longstanding alliances. How did this change come about?

THE SEVEN YEARS' WAR, 1756–1763

The Seven Years' War in India



1. **Regions** Identify the countries that belonged to each of the two European alliances.
2. **Regions** What two nations were battling for control of India?

The Seven Years' War in Europe



The War in Europe

French-Austrian rivalry had been a fact of European diplomacy since the late sixteenth century. However, two new rivalries now replaced the old one: the rivalry of Britain and France over colonial empires and the rivalry of Austria and Prussia over Silesia.

France abandoned Prussia and allied with Austria. Russia, which saw Prussia as a major threat to Russian goals in central Europe, joined the new alliance with France and Austria. In turn, Britain allied with Prussia. This diplomatic revolution of 1756 led to another worldwide war. The war had three major areas of conflict: Europe, India, and North America.

Europe witnessed the clash of the two major alliances: the British and Prussians against the Austrians, Russians, and French. Frederick the Great of Prussia was admired as a great tactical genius. His superb army and military skill enabled Frederick to defeat the Austrian, French, and Russian armies for a time. His forces were under attack from three different

directions, however, and were gradually worn down.

Frederick faced disaster until Peter III, a new Russian czar who greatly admired Frederick, withdrew Russian troops from the conflict and from the Prussian lands that the Russians had occupied. This withdrawal created a stalemate and led to the desire for peace. The European war ended in 1763. All occupied territories were returned to their original owners, except Silesia. Austria officially recognized Prussia's permanent control of Silesia.

The War in India

The struggle between Britain and France that took place in the rest of the world had more decisive results. Known as the Great War for Empire, it was fought in India and North America. The French had returned Madras to Britain after the War of the Austrian Succession, but the struggle in India continued. The British ultimately won out, not because they had better forces but because they were more persistent.

R With the Treaty of Paris in 1763, the French withdrew and left India to the British.

The War in North America

The greatest conflicts of the Seven Years' War took place in North America. On the North American continent, the French and British colonies were set up differently. The French government administered French North America (Canada and Louisiana) as a vast trading area. It was valuable for its fur, leather, fish, and timber. Because the French state was unable to get people to move to North America, its colonies were thinly populated.

British North America consisted of thirteen prosperous colonies on the eastern coast of what is now the United States. Unlike the French colonies, the British colonies were more populated, containing more than one million people by 1750.

The British and French fought over two main areas in North America. One consisted of the waterways of the Gulf of St. Lawrence, which were protected by the

fortress of Louisbourg and by forts that guarded French Quebec. The other area they fought over was the unsettled Ohio River valley. The French began to move down from Canada and up from Louisiana to establish forts in the Ohio River valley. This French activity threatened to cut off the British settlers in the thirteen colonies from expanding into this vast area. The French were able to gain the support of the Native Americans who lived there. As traders and not settlers, the French were viewed by Native Americans with less hostility than the British.

The French scored a number of victories, at first. British fortunes were revived, however, by the efforts of William Pitt the Elder, Britain's prime minister. Pitt was convinced that the French colonial empire would have to be destroyed for Britain to create its own colonial empire. Pitt's policy focused on doing little in the European theater of war while putting resources into the colonial war, especially through the use of the British navy. The French had more troops in North America but not

POLITICAL CARTOONS

PRIMARY SOURCE

The Seven Years' War in North America

The French and Indian War, 1754–1763



The rivalry between France and Britain for territories brought the Seven Years' War to North America. Known here as the French and Indian War, it began in the Ohio River valley. When the French built a fort in an area claimed by Virginia, the governor of Virginia sent 21-year-old George Washington to warn the French to leave.

"They [the French] told me it was their absolute Design to take Possession of the Ohio. . . . They pretended to have an undoubted right to the river from a Discovery made by one La Sol [La Salle] 60 Years ago, & the use of this Expedition is to prevent our Settling on the River or Waters of it. . . ."

—George Washington, *Diaries of George Washington*, 1753

In May 1754, George Washington, commanding a small force of Virginians, surprised French troops on the eastern side of the Ohio River and drove them out. Washington's men built a fort there, which they named Fort Necessity. The French soon regrouped, however. They captured Fort Necessity in July 1754. The French and Indian War was underway.

enough naval support. The defeat of French fleets in major naval battles gave the British an advantage. Without their fleets, the French could not easily reinforce their forts.

A series of British victories soon followed. In 1759 British forces under General Wolfe defeated the French under General Montcalm on the Plains of Abraham, outside Quebec. Both generals died in the battle. The British went on to seize Montreal, the Great Lakes area, and the Ohio River valley. The French were forced to make peace.

By the Treaty of Paris, the French transferred Canada and the lands east of the Mississippi to England. Spain, ally of the French, transferred Spanish Florida to British control. In return, the French gave their Louisiana territory to the Spanish. By 1763, Great Britain had become the world's greatest colonial power.

✓ Reading Check **Explaining** How did Great Britain become the world's greatest colonial power?

Enlightenment and Arts

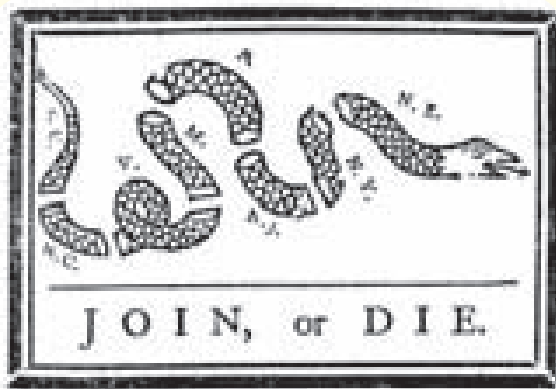
Now Use The eighteenth century was a great period in the history of European architecture, art, music, and literature.

HISTORY & YOU What style of music is most popular with your friends? Which musicians are the best examples of this style? Read to learn about popular music and musicians of the eighteenth century.

The ideas of the Enlightenment also had an impact on the world of culture. Eighteenth-century Europe witnessed both traditional practices and important changes in art, music, and literature.

Architecture and Art

The palace of Louis XIV at Versailles, in France, had made an enormous impact on Europe. The Austrian emperor, the Swedish king, and other European rulers also built grand residences. These palaces were modeled more on the Italian baroque style of the 1500s and 1600s than on the late seventeenth-century French classical style of Versailles.



To show the danger of disunity, Franklin drew an image of a snake cut into eight sections. The sections represented the eleven colonies that had joined the Albany Congress (the New England colonies were combined).

In 1754, as war with France loomed, Benjamin Franklin realized that the American colonies must band together for their mutual defense. Franklin published this cartoon—America's first political cartoon—to gain support for an association among the colonies called the Albany Congress.

Although the Albany Plan of Union drawn up by the congress was never formally adopted, it was the forerunner of the first constitution of the United States. Although the war ended their empire in North America, the French would later take their revenge by fighting on the American side in the American Revolution.

- CRITICAL THINKING**
1. **Explaining** Why did the governor of Virginia send George Washington to talk to the French?
 2. **Predicting** Based on their activities in the French and Indian War, what roles do you think Washington and Franklin would play in the American Revolution?

Rococo Style

In this painting, Watteau created a dreamlike world in an outdoor setting.

The soft shades of gold and ivory and the graceful curves are typical of Rococo style.

Though well-dressed, the people play gracefully, free of the stiffness of formal society.

This painting, by Antoine Watteau (1684–1721), is called *La Fête Champêtre*, meaning a rural feast or open-air entertainment.

1. **Identifying** What details in the painting represent rococo style?
2. **Contrasting** In what ways does the painting differ from baroque style?

Thus, a **unique** architectural style was created. Architects might choose traditional, classical, or any combination, but usually on a grand scale.

One of the greatest architects of the eighteenth century was **Balthasar Neumann**. Neumann's two masterpieces are the Church of the Fourteen Saints in southern Germany and the Residence, the palace of the prince-bishop of Würzburg. In these buildings, secular and spiritual become one, as lavish and fanciful ornament, light, bright colors, and elaborate detail greet the visitor. Inside the church, a pilgrim in search of holiness is struck by the incredible richness of detail.

The baroque and neoclassical styles that had dominated seventeenth-century art continued into the eighteenth century. By the 1730s, however, a new artistic style, known as **rococo**, had spread all over Europe.

W Unlike the baroque style, which stressed grandeur and power, rococo emphasized grace, charm, and gentle action. Rococo made use of delicate designs colored in gold with graceful curves. The rococo style was highly secular. Its lightness and charm

spoke of the pursuit of pleasure, happiness, and love.

Rococo's appeal is evident in the work of **Antoine Watteau**. In his paintings, gentlemen and ladies in elegant dress reveal a world of upper-class pleasure and joy. Underneath that exterior, however, is an element of sadness. The artist suggests such sadness in his paintings by depicting the fragility and passing nature of pleasure, love, and life. One of his masterpieces, the *Embarkation for Cythera*, shows French rococo at its peak.

R Another aspect of rococo was a sense of enchantment and enthusiasm, especially evident in the work of **Giovanni Battista Tiepolo**. He brought fresco painting to new heights of dramatic effect with numerous active figures that are ranged in vivid pastels across vast, airy spaces. Many of Tiepolo's paintings came to adorn the walls and ceilings of churches and palaces. His masterpiece, *Allegory of the Planets and Continents*, adorns the ceiling of the bishop's residence at Würzburg. This painting is the largest ceiling fresco in the world at 7,287 square feet (677 sq. m).

History
ONLINEStudent Web
Activity—

Visit glencoe.com and complete the activity on rococo style.

Music

Eighteenth-century Europe produced some of the world's most enduring music. In the first half of the century, two composers—Johann Sebastian Bach and George Frideric Handel—stand out as musical geniuses.

Bach, a renowned organist as well as a composer, spent his entire life in Germany. While he was music director at the Church of Saint Thomas in Leipzig, he composed his *Mass in B Minor* and other works that gave him the reputation of being one of the greatest composers of all time.

Handel was a German who spent much of his career in England. He is probably best known for his religious music. Handel's *Messiah* has been called a rare work that appeals immediately to everyone and yet is a masterpiece of the highest order.

Bach and Handel perfected the baroque musical style. Two geniuses of the second half of the eighteenth century, Franz Joseph Haydn and Wolfgang Amadeus Mozart, were innovators who wrote music called classical rather than baroque.

Haydn spent most of his adult life as musical director for wealthy Hungarian princes. Visits to England introduced him to a world where musicians wrote for public concerts rather than princely patrons. This "liberty," as he called it, led him to write two great works, *The Creation* and *The Seasons*.

Mozart was truly a child prodigy. His failure to get a regular patron to support him financially made his life miserable. Nevertheless, he wrote music passionately. His works *The Marriage of Figaro*, *The Magic Flute*, and *Don Giovanni* are three of the world's greatest operas. Haydn remarked to Mozart's father, "Your son is the greatest composer known to me."

Literature

In the eighteenth century, European novelists began to choose realistic social themes over the past century's focus on heroic deeds and the supernatural. Novels were especially attractive to a growing number of middle-class readers.

The English writer **Henry Fielding** wrote novels about people without morals who survive by their wits. Fielding's best-known work is *The History of Tom Jones, a Foundling*, which describes the adventures of a young scoundrel. In a number of hilarious episodes, Fielding presents scenes of English life from the slums of London to the country houses of the English aristocracy. His characters reflect real types in eighteenth-century English society.

✓ Reading Check **Identifying** What are the characteristics of the rococo style of art?

SECTION 3 REVIEW

Vocabulary

- Explain** the significance of: enlightened absolutism, Frederick the Great, Maria Theresa, Catherine the Great, Balthasar Neumann, rococo, Antoine Watteau, Giovanni Battista Tiepolo, Johann Sebastian Bach, George Handel, Joseph Haydn, Wolfgang Mozart, Henry Fielding.

Main Ideas

- Summarize** the reforms of Joseph II of Austria, Frederick II of Prussia, and Catherine II of Russia by using a chart like the one below.

Joseph II	Frederick II	Catherine II

- List** all the countries in the world that fought in the Seven Years' War. Which country gained the most territory?
- Identify** two composers who led the shift from baroque to classical music.

Critical Thinking

- The BIG Idea Analyzing** Why were Enlightenment ideals never fully practiced by eighteenth-century rulers?
- Drawing Conclusions** Describe the characteristics of an ideal enlightened ruler. Did any of the eighteenth-century rulers discussed in this section have these traits?
- Analyzing Visuals** Examine the painting by Watteau on page 562. What choices do you think the artist made to incorporate rococo style into the scene?

Writing About History

- Expository Writing** Listen to a selection of medieval religious music and of Mozart's *The Magic Flute*. Write an essay describing how the two pieces are similar and different. What kind of emotion does each piece convey?

History ONLINE

For help with the concepts in this section of *Glencoe World History*, go to glencoe.com and click Study Central.

The 18th-Century Salon

The French word *salon* refers to a parlor or living room, a main gathering space in a private home. In the 18th century, the salons became gathering places for intellectual conversation. Writers, scientists, and philosophers met weekly to discuss important discoveries and new works of poetry and theater.

C

Reunion des Musées Nationaux/Art Resource, NY



▲ *Molière received by Louis XIV*, by Jean Hégésippe Vetter

THE SHORTCOMINGS OF LIFE AT COURT

R The king's court was a very formal place. There were strict rules about how courtiers had to dress, when and where they could sit, and when and where they could speak to certain people. Even courtiers who had the privilege of joining a conversation chose their words carefully. Some topics were objectionable to Church authorities or high-ranking nobility. Court gossip and intrigue often dominated discussion.

The salon of Madame de Geoffrin, an early, but not the original, gathering of thinkers. Most salon hosts were women, while guests were mostly men.

Participants came from the middle class as well as the aristocracy.

In the salon, a guest's good manners and original thought were highly prized displays of the guest's wealth and standing.

▲ *Reading of Voltaire's tragedy, "L'Orphelin de la Chine" at the salon of Madame de Geoffrin, by Anicet Charles Gabriel Lemonnier*

A GOLDEN AGE OF CONVERSATION

Madame de Geoffrin (1699–1777) made two important salon innovations. She focused on an early afternoon meal, instead of a late dinner, allowing an entire afternoon of conversation. She also introduced a regular weekly schedule of themes, with days devoted to the visual arts and literature. She was remembered as a generous listener, and she had a talent for saying just enough, at the right time, to keep a conversation moving.

ANALYZING VISUALS

1. **Expressing** What ideas about government in France can you form by looking at this representation of the king?
2. **Speculating** In Madame de Geoffrin's salon, many specialties and interests were represented by the participants. Do you think such wide-ranging discussions helped or distracted each participant in his studies and writing?

The American Revolution

GUIDE TO READING

The BIG Idea

Self-Determination The American Revolution and the formation of the United States of America seemed to confirm premises of the Enlightenment.

Content Vocabulary

- federal system (p. 569)

Academic Vocabulary

- amendment (p. 569)
- guaranteed (p. 569)

People, Places, and Events

- Hanoverians (p. 566)
- Robert Walpole (p. 566)
- George Washington (p. 568)
- Declaration of Independence (p. 568)
- Thomas Jefferson (p. 568)
- Yorktown (p. 568)
- Bill of Rights (p. 569)

Reading Strategy

Summarizing Information As you read, use a chart like the one below to identify key aspects of the government created by the American colonists.



The ideas of the Enlightenment had clearly made an impact on the colonies in North America. In response to unfair taxation and other issues, the colonists revolted against British rule, formed their own army, and declared their independence. Many Europeans saw the American Revolution as the embodiment of the Enlightenment's political dreams.

Britain and the American Revolution

MAIN IDEA Drawing on the theory of natural rights, the Declaration of Independence declared the colonies to be independent of Britain.

HISTORY & YOU What comes to mind when you celebrate the Fourth of July? Learn why the colonists declared their independence.

The United Kingdom of Great Britain came into existence in 1707, when the governments of England and Scotland were united. The term *British* came to refer to both the English and the Scots.

In eighteenth-century Britain, the monarch and the Parliament shared power, with Parliament gradually gaining the upper hand. The monarch chose ministers, who were responsible to the Crown. These ministers set policy and guided Parliament. Having the power to make laws, levy taxes, and pass the budget, Parliament indirectly influenced the ministers of the monarch.

In 1714 a new dynasty—the **Hanoverians**—was established when the last Stuart ruler, Queen Anne, died without an heir. The crown was offered to her nearest relatives, Protestant rulers of the German state of Hanover. The first Hanoverian king, George I, did not speak English. Neither the first nor the second George knew the British system well, so their chief ministers were allowed to deal with Parliament.

Robert Walpole served as head of cabinet (later called prime minister) from 1721 to 1742. Walpole pursued a peaceful foreign policy. However, growing trade and industry led to an ever-increasing middle class. The middle class favored expansion of trade and of Britain's world empire. They found a spokesman in William Pitt the Elder, who became head of cabinet in 1757. He expanded the British Empire by acquiring Canada and India in the Seven Years' War.

In North America, then, Britain controlled Canada as well as the thirteen colonies on the eastern coast of what is now the United States. The British colonies were well populated, containing more than one million people by 1750. They were also prosperous. The British Board of Trade, the Royal Council, and Parliament

LAND CLAIMS AFTER THE AMERICAN REVOLUTION, 1783



in theory controlled the colonies. In actuality, the colonies had legislatures that tended to act independently. Merchants in port cities such as Boston, New York City, and Charleston did not want the British government to run their affairs.

The American Revolution Begins

After the Seven Years' War, British leaders wanted to get new revenues from the colonies. These revenues would then be used to cover war costs. They would also pay for the expenses of maintaining an army to defend the colonies.

In 1765 Parliament imposed the Stamp Act on the colonies. The act required certain printed materials, such as legal documents and newspapers, to carry a stamp showing that a tax had been paid to Britain. Opposition was widespread and often violent. The act was repealed in 1766, ending the immediate crisis, but the cause of the dispute was not resolved.

Crisis followed crisis in the 1770s. To counteract British actions, the colonies organized the First Continental Congress, which met in Philadelphia in September 1774. Members urged colonists to "take up arms and organize militias."

Fighting finally erupted between colonists and the British army in April 1775 in Lexington and Concord, Massachusetts. Meeting soon afterward, the Second Continental Congress set up an army, called the Continental Army. **George Washington** served as its commander in chief.

More than a year passed before the colonies declared independence from the British Empire. On July 4, 1776, the Second Continental Congress approved the **Declaration of Independence** written by **Thomas Jefferson**. With this stirring political document, the American Revolution had formally begun.

The war against Great Britain was a huge gamble. Britain was a strong military power with enormous financial resources. The Continental Army of the Americans was made up of undisciplined civilians who agreed to serve for only a short time.

British Defeat

Of great importance to the colonies' cause was support from foreign countries. These nations were eager to gain revenge for earlier defeats at the hands of the

British. The French supplied arms and money to the rebels. French officers and soldiers also served in Washington's army. In February 1778, following a British defeat, the French granted diplomatic recognition to the new United States. When Spain and the Dutch Republic entered the war, the British faced war with the Europeans as well as the Americans.

When General Cornwallis was forced to surrender to the American and French forces under Washington at **Yorktown** in 1781, the British decided to end the war. The Treaty of Paris, signed in 1783, recognized the independence of the American colonies. The treaty also granted the Americans control of the western territory from the Appalachians to the Mississippi River.



✓ Reading Check **Explaining** Why did foreign countries support the Americans?

CONNECTING TO THE UNITED STATES

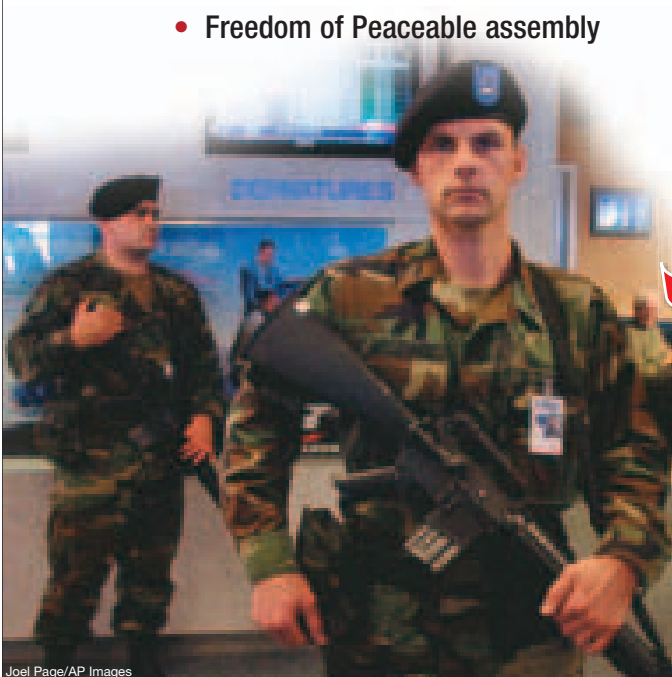
GUARANTEED FREEDOMS

- Freedom of Religion
- Freedom of Speech
- Freedom of Peaceable assembly

After the American Revolution, the founders of the new United States set up a system whereby its citizens could govern themselves. They created the Bill of Rights to ensure individual liberties for future generations. Today, in the wake of terrorist attacks on U.S. soil, security has become a top priority for many Americans. Will new security measures encroach on the liberties that our revolutionary ancestors fought for and guaranteed in the Bill of Rights?

CONNECTING TO TODAY

1. **Analyzing** How has the search for terrorists impacted American liberty?
2. **Applying** In a 1929 case, U.S. Supreme Court Justice Holmes stated his understanding of free speech: "... the principle of free thought—not free thought for those who agree with us, but freedom for the thought that we hate." Give an example that applies this principle to today.



The Birth of a New Nation

MAIN IDEA The formation of the United States convinced many eighteenth-century philosophes that a new age and a better world could be created.

HISTORY & YOU Recall the philosopher Rousseau's concept of the social contract. Read to learn how the new United States set up government by the general will of the people.

After throwing off oppressive rule, the former colonies, now states, feared a strong central government. Thus, their first constitution, the Articles of Confederation (1781), created a government that lacked the power to deal with the nation's problems. In 1787, delegates met in Philadelphia at the Constitutional Convention to revise the Articles of Confederation. The delegates decided to write a plan for an entirely new government.

The Constitution

The proposed Constitution created a **federal system** in which the national government and the state governments shared power. Based on Montesquieu's ideas, the national, or federal, government was separated into three branches: executive, legislative, and judicial. Each branch had some power to check, or restrain, acts of the other branches.

A president served as the chief executive in the executive branch. The legislative branch consisted of elected representatives in two houses—the Senate and the House of Representatives. The Supreme Court and other courts formed the judicial branch. After ratification, or approval, by 9 of the 13 states, the Constitution took effect.

The Bill of Rights

As promised during negotiations over ratification, the new Congress proposed 12 **amendments** to the Constitution. The states approved 10 of the amendments. Together, these amendments became known as the **Bill of Rights**.

These 10 amendments **guaranteed** freedom of religion, speech, press, petition, and assembly. They gave Americans the right to bear arms and to be protected against unreasonable searches and arrests. They guaranteed trial by jury, due process of law, and the protection of property rights.

Many of the rights in the Bill of Rights were derived from the natural rights proposed by the eighteenth-century philosophes. Many European intellectuals saw the American Revolution as the embodiment of the Enlightenment's political dreams. The premises of the Enlightenment seemed confirmed. A new age and a better world could be achieved.

✓ Reading Check **Identifying** What was the main weakness of the Articles of Confederation?

SECTION

4

REVIEW

Vocabulary

1. **Explain** the significance of: Hanoverians, Robert Walpole, George Washington, Declaration of Independence, Thomas Jefferson, Yorktown, federal system, amendment, Bill of Rights, guaranteed.

Main Ideas

2. **Explain** why England wanted revenues from the American colonies.
3. **Explain** the purpose of the Stamp Act.
4. **Summarize** the rights and freedoms guaranteed by the American Bill of Rights by using a chart like the one below.

Guarantees of the Bill of Rights

Critical Thinking

5. **The BIG Idea Making Inferences** Why did many Europeans see the American Revolution as the embodiment of the Enlightenment's political dreams?
6. **Analyzing** If going to war with the British was such a huge gamble, why then did the colonists win?
7. **Analyzing Visuals** Study the photograph on page 568. What does the body language of the people in the photograph suggest to you?

Writing About History

8. **Expository Writing** Do further research on how the French supported the colonies during the American Revolution. Then write an essay analyzing the importance of the French assistance to the colonists.

History ONLINE

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CHAPTER 17 Visual Summary



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THE SCIENTIFIC REVOLUTION

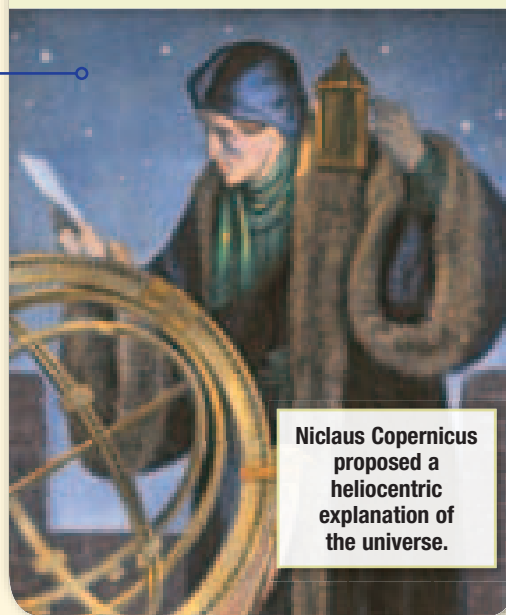
- The Scientific Revolution changed the way Europeans viewed their world.
- Copernicus, Kepler, and Galileo provided new explanations of the universe.
- Breakthroughs in chemistry and medicine changed the understanding of human anatomy.
- Women scientists made important advances, but faced many obstacles.

CATHERINE THE GREAT INVITES PHILOSOPHE DENIS DIDEROT TO RUSSIA



Like most rulers of her time, Catherine the Great outwardly supported Enlightenment ideas but did not always act upon them.

COPERNICUS STUDIES THE NIGHT SKY



Niclaus Copernicus proposed a heliocentric explanation of the universe.

THE ENLIGHTENMENT

- Philosophes applied the scientific method to examine government, justice, and religion.
- The ideas of the Enlightenment became a force for social reform.
- Some rulers considered governing by Enlightenment principles but ultimately were more interested in maintaining power.
- Architecture, art, music, and literature were influenced by Enlightenment ideas.

THE AMERICAN REVOLUTION

- American colonists revolted against British rule.
- France, Spain, and the Dutch Republic helped the American colonies win independence.
- Many believed the American Revolution confirmed Enlightenment principles.

THE BRITISH SURRENDER AT YORKTOWN, VIRGINIA



British Lord Cornwallis surrenders to George Washington.