

Cultural Contributions

775 B.C.—338 B.C.



▲ Greek vase with women runners



◀ Statue of an Athenian girl

776 B.C.
First Olympic Games

585 B.C.
Thales predicts eclipse of sun

399 B.C.
Trial of Socrates

387 B.C.
Plato sets up Academy

322 B.C.
Aristotle dies

Chapter Focus



Read to Discover

- How the Greeks honored their gods and goddesses.
- What contributions in athletics and the arts were made during the “Golden Age” of Greek culture.
- How Greek thinkers influenced the development of world civilization.

Chapter Overview

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Terms to Learn

oracles
prophecy
pancratium
pentathlon
philosophia
Socratic
method
hypothesis
syllogism



People to Know

Herodotus
Socrates
Plato
Aristotle



Places to Locate

Mount Olympus
Olympia



Why It's Important The Greeks made many contributions to world civilization. Their accomplishments resulted, in part, because of an important religious belief. The Greeks felt their gods were honored if people tried to imitate them. The greater the skill the Greeks showed in thinking, athletic games, or the arts, the more the gods were honored. Greek efforts to do their best produced a “Golden Age” of learning. Many historians call this period the “Classical Age of Greece.”

SECTION 1 Religious Practices

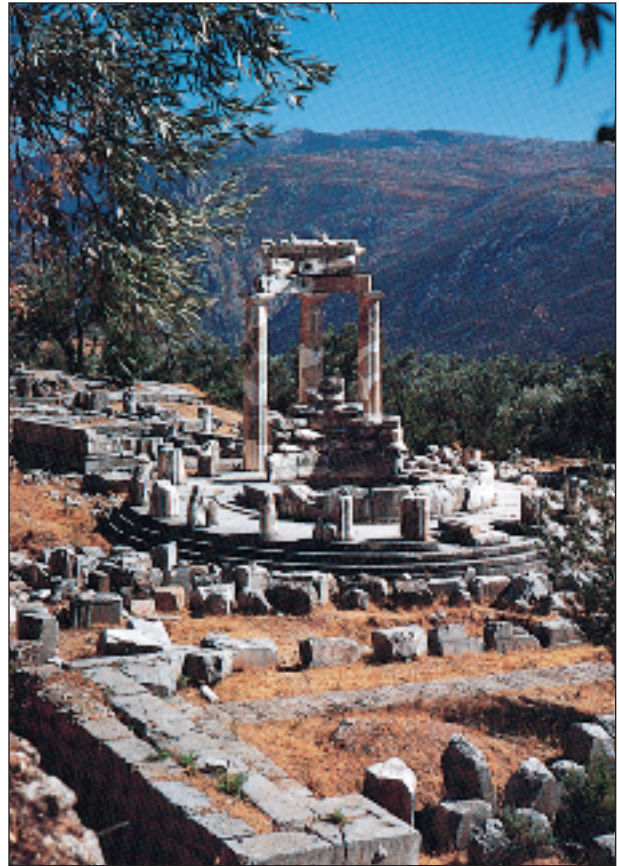
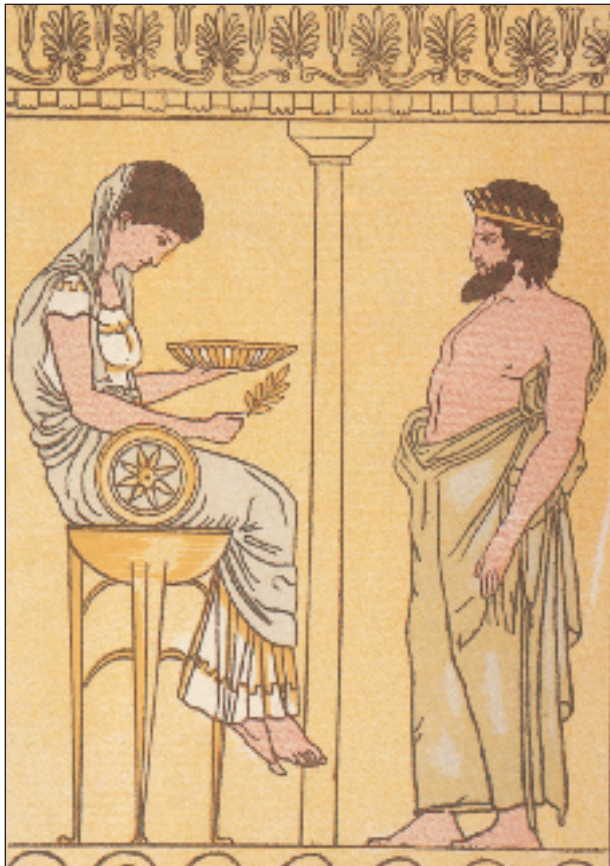
Although most Greeks held similar religious beliefs, there was no single Greek religion. Each city-state worshiped its own gods. Officials in each polis were in charge of public feasts and sacrifices. In their own homes, heads of families prayed and offered sacrifices to the gods.

Greek priests and priestesses often served as **oracles**, or persons who, it was believed, could speak with the gods. Many Greeks went to oracles for advice. The advice was generally given in the form of a **prophecy** (prof' uh sē), or a statement of what might



Reading Check

Why did many Greeks go to the **oracles**?
What is a **prophecy**?



THE DELPHIC ORACLE The most popular oracle was a priestess in the temple at Delphi. The Greeks believed that Delphi was the center of the world, and they built many temples and other public buildings there (right). The painting of the Delphic oracle (left) shows her offering a prophecy to a Greek man. **Why was a prophecy from an oracle often confusing?**

Fun Facts . . .

The Oracle at Delphi

Pilgrims to the oracle at Delphi descended a staircase into an underground vault in the Temple of Apollo, where a priestess sat. Sulfurous gases bubbled up from the crack in the earth beneath her chair, swirling around her as the pilgrim asked a question. Priests then translated the answer into a verse for the pilgrim to recite and try to understand.

happen in the future. Often, a prophecy could mean more than one thing. The person seeking advice had to decide what he or she believed to be the true meaning of the prophecy.

Gods and Goddesses of Mount Olympus During the Golden Age, the Greeks worshiped the gods of Mount Olympus (ō lim' puhs). There were 12 major gods and goddesses. Each had specific duties to carry out.

Most ancient peoples feared their gods. They believed that people were put on Earth only to obey and serve the gods. The Greeks were the first people to feel differently. They placed importance on the worth of the individual. Because they believed in their own value, the Greeks had a great deal of self-respect. This allowed them to approach their gods with dignity.

The Greeks built temples to honor their gods. Inside each temple stood a statue of the god being honored. In front of the

statue was an altar. Because the Greeks believed the temple was the god’s home, they did not enter it. They worshiped outside, as a sign of respect.

Another way the Greeks honored their gods was with different kinds of festivals. Each showed the power of the god in whose honor it was given. Out of the festivals came two important contributions to western culture. These were the Olympic Games and the theater.

The Olympic Games Every four years, in the middle of summer, a festival was held in Olympia (ōlim’ pē uh) to honor the god Zeus. Olympia was not really a town. It was a group of


Student Web Activity

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OLYMPIAN GODS AND GODDESSES

Name	Realm
Zeus	ruler of Mount Olympus; king of the gods; god of the weather
Aphrodite	goddess of love and beauty
Apollo	god of the sun; patron of truth, archery, music, medicine, and prophecy
Ares	god of war
Artemis	goddess of the moon; mighty huntress and “rainer of arrows”; guardian of cities, young animals, and women; twin sister of Apollo
Athena	goddess of wisdom; city god of Athens; patron of household crafts; protectress in war of those who worshiped her; daughter of Zeus
Demeter	goddess of crops, giver of grain and fruit
Dionysus	god of fertility, of joyous life and hospitality, and of wild things
Hephaestus	god of fire and artisans; maker of Pandora, the first mortal woman; husband of Aphrodite
Hera	protectress of marriage, children, and the home; wife of Zeus
Hermes	god of orators, writers, and commerce; protector of thieves and mischief-makers; guardian of wayfarers; messenger to mortals; son of Zeus
Poseidon	god of the sea and earthquakes; giver of horses to mortals



Fun Facts

The Olympics

According to legend, King Pelops founded the Olympics to repay Zeus for helping him win a chariot race and gain Hippodameia, a rival king's daughter. Hippodameia then began the Heraia, a festival honoring Zeus's wife Hera. The Heraia, held at the same time as the Olympics, gave women a chance to compete in foot races.

temples and arenas built in fields. A 40-foot, or 12-meter, gold and ivory statue of Zeus stood in one of the temples.

The festival was known as the Olympic Games. It was the most important sporting event in Greece. While the games were going on, the Greeks would stop fighting any war in which they were involved. When the Spartans refused to call a truce during the Peloponnesian War to compete in the games, they had to pay a fine.

Athletes came from all over Greece and from Greek colonies in Africa, Italy, and Asia Minor to take part in the games. Individuals, rather than teams, competed. Only men were allowed to take part. Women were not even allowed to watch. Each athlete had to swear on the sacred boar of Zeus that he would follow the rules of the games. Those who broke the rules were fined.

The Olympics were made up of many events. One of the most exciting was the chariot race. It was held in the Hippodrome (hip' uh drōm), which was an oval track with grandstands around it. The chariots had small wheels and were open in the back. At first, they were pulled by four horses. Later, only two horses were used. About 40 chariots started the race, but only a few could finish the 9 miles, or 14.4 kilometers. The driver of the winning chariot received a crown made from olive leaves.

WARRIOR'S RACE The first Olympic Games were mainly simple foot races. Later, other events were added. One of these additions was the warrior's race. In it, runners competed wearing full armor and carrying a shield. **What were some other events in the early Olympics?**



Another major event was boxing. Boxers did not use their fists. They wrapped their hands with strips of ox hide and slapped one another with the flat of the hand. There were no set rounds or points. A match between two boxers went on until one raised a finger in the air as a sign of defeat.

Another fighting event was the **pancratium** (pan krā' shē uhm). This was a combination of boxing and wrestling in which no holds were barred between the two fighters. The only two things a fighter could not do were gouge an opponent's eyes or bite.

The winner of the **pentathlon** (pen tath' luhn) was considered the best all-around athlete. The pentathlon itself was made up of five events. Those who took part had to run, jump, throw the discus (dis' kuhs), wrestle, and hurl the javelin (jav' luhn). Like other winners, the winner of the pentathlon was crowned with an olive-leaf wreath.

Olympic winners were heroes. Poets wrote about them. City-states held parades for them. Some city-states even gave them free meals for a year.


Between the different events at the games, poets read their works aloud. Herodotus (hi rahd' uh tuhs), the "Father of History," first read his account of the Persian Wars at the Olympics. Greek historians even dated events by Olympiads (ō lim' pē ads), or the four-year periods between games. The first recorded date in Greek history is the date of the first Olympic Games, which occurred in 776 B.C.

The Theater The theater grew out of festivals given in honor of the god Dionysus (dī uh nī' suhs). About 600 B.C., the Ionians began telling stories about Dionysus at festivals. A chorus chanted and danced each story to the music of a flute. At certain points, the chorus fell silent. The chorus leader then gave a *soliloquy* (suh lil' uh kwē), or talk in which personal thoughts and feelings are expressed to the audience.

In time, the chorus became shorter and the soliloquies longer. Stories were then told about other gods and heroes. About the time of the Persian Wars, a Greek poet named Aeschylus (es' kuh luhs) added an additional character to each story. Now, instead of singing or telling a story, it was acted out. Thus, Aeschylus created what came to be known as a play.

The first Greek plays were *tragedies* (traj' uh dēz), or stories about suffering. All dealt with the past and with the relationships between people and gods. Not all of them had unhappy endings. Still, they all pointed out that though people suffered, most individuals were able to carry on despite their suffering.

Three of the great writers of tragedy were Aeschylus, Sophocles (sahf' uh klēz), and Euripides (yū rip' uh dēz). All three lived in Athens during its Golden Age. Aeschylus wrote about power and its effect on people. Sophocles showed that people

 **Reading Check**
How did athletes compete in the **pancratium**?
What five events made up the **pentathlon**?

Then... & Now

Orchestra *Orchestra* is a Greek word from the verb "to dance." At first, it meant the space between the stage and the audience where the chorus performed. In modern times, the term designates both the area in front of the stage and the group of musicians who plays there.



Comedy and Tragedy Masks

suffered because of their sins and mistakes and that suffering could make someone a better person. Euripides tried to show that people suffered because they did bad things.

Soon after the development of tragedy, a second kind of play came into being. It was *comedy*, or a play with a happy ending. Unlike tragedies, Greek comedies were about the present. At first, they poked fun at certain politicians and other polis leaders, who often were in the audience. Later, comedies did away with the chorus. They also stopped poking fun at specific people. Instead, they poked fun at a certain kind of person, such as a son who wastes money or an enslaved person who plots against a master. One of the greatest writers of Greek comedy was Aristophanes (ar uh stahf' uh nēz). He found something funny about everyone.

Greek plays were performed only at community festivals. They began at sunrise and went on all day. Tragedies were presented in the morning and comedies in the afternoon. All the performers were men. Women were allowed to watch plays but could not act in them.

Each actor wore a huge canvas and plaster mask that showed the gender, age, and mood of the character. The mouth of the mask was shaped like a funnel. This helped carry the sound of the actor's voice to the entire audience. Actors also wore heavy padding under their robes and boots with thick soles. This made them seem larger than they really were.

Linking Across Time

Greek Theaters The idea of having audiences sit around a stage to watch a play started with the Greeks (left). Today people go to theaters to watch everything from plays to movies to rock concerts (below). **How did the design of Greek theaters allow many people to attend a performance?**



Plays were given in open-air theaters. Anyone who did not have enough money to buy a ticket was admitted free. The audience sat on rows of stone benches set on the side of a hill. The benches were arranged in a semicircle around a stage that was level with the ground.

The Greeks believed support of the theater was a public responsibility. An official of each polis chose the plays to be performed. This official then assigned each play to a wealthy citizen to stage. A panel of citizens judged the plays at each festival.

Section 1 Assessment

- 1. Define:** oracles, prophecy, pancratium, pentathlon.
- How did the Greeks honor their gods and goddesses?
- Who took part in the Olympics?

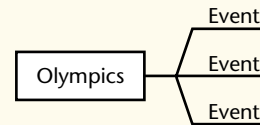
Critical Thinking

- 4. Demonstrating Reasoned Judgment**
Do you think support of the theater

should be the responsibility of government or private groups? Explain.

Graphic Organizer Activity

- 5.** Draw a diagram like this one, and use it to list events at the Greek Olympics. (Add additional answer lines as needed.)




SECTION 2 Science

Among the things on which the Greeks placed great importance was *intellect* (in' tuh lekt), or the ability to learn and reason. The Greeks thought intellect should be used to its fullest. Because of this, they asked questions about many things and studied the laws of nature. To the Greeks, studying the laws of nature and loving wisdom were the same thing. They called it *philosophia* (fi la sō fē' ya). Today, people who search for such knowledge and wisdom are known as scientists and *philosophers*. Much of what they know is based on the thoughts of the Greeks.

Socrates In 399 B.C., a trial was held in Athens. The person on trial was Socrates (sok' ruh tēz), a 70-year-old Athenian philosopher who was interested in the thinking process. Socrates gave up private business so he could spend his time searching for truth. He believed people could discover truth if they knew how to think.

In his search for truth, Socrates walked throughout Athens trying to teach people how to think. He did this by asking questions. Each question was designed to make a person arrive

 **Reading Check**
What did *philosophia* mean to the ancient Greeks?

Reading Check

How did the Socratic method encourage people to think?

Fun Facts

Rules for Life

Many quotes about ethical, or morally correct, living have been attributed to Socrates. These are two of the best known:

- “The unexamined life is not worth living.”
- “I am a citizen, not of Athens or Greece, but of the world.”

step-by-step at a final conclusion, or truth. This form of questioning is known as the **Socratic** (sō krat’ ik) **method**.

All Athenians did not react in the same way to Socrates’s teachings. Some were pleased because they learned how to examine their own beliefs and to think things out. Others saw Socrates’s ideas as dangerous. They did not like self-examination, particularly when it pointed out their own mistakes. In time, they began to consider Socrates a threat to Athens. Finally, they accused him of denying the gods, corrupting the young, and trying to overthrow the government.

Socrates was tried before a jury of some 500 citizens. He defended himself by speaking about truth and goodness. He said, “Wealth does not bring goodness. But goodness brings wealth and every blessing, both to the citizen and to the polis.” He also said he would not change his beliefs even to save his life.

The jury found Socrates guilty and sentenced him to death. The sentence was carried out by making Socrates drink poisonous hemlock juice. Later, the Athenians regretted having executed Socrates, so they put up a bronze statue in his honor.

DEATH OF SOCRATES

Socrates faced death with self-control and dignity. Here, in an eighteenth-century painting, he is surrounded by his sorrowing friends as he prepares to drink poisonous hemlock juice. **How did the Athenians regard Socrates after his death?**





GREEK PHILOSOPHERS The ideas of Greek thinkers influenced the development of world civilization. Here, in a sixteenth-century European painting, Plato and Aristotle discuss the meaning of human achievement with their pupils. **What was the subject of Plato's *The Republic*?**

Plato Socrates left no writings. All that is known about him comes from one of his pupils, an Athenian aristocrat named Plato (plā' tō). Plato recorded the speeches Socrates made at his trial and just before his death.

Plato was 30 years old when Socrates died. Until then, Plato had wanted to become a politician. In 399 B.C., he changed his mind. He left Greece and traveled in Egypt and Italy for the next 12 years. When he returned, he set up a school outside Athens in the sacred grove of the hero Academus (ak uh dē' muhs). The school, where Plato hoped to train government leaders, was called the Academy. Plato taught there almost 40 years. The Academy itself lasted almost 900 years after Plato's death.

Plato's beliefs were contrary to the ideas that had made Athens great. Plato believed in order. He thought political liberty was disorder and did not approve of it. He thought only the wise and good should rule.


Plato set down his ideas about an ideal state in a book called *The Republic*. It is the first book ever written on **political science**, or the study of government. In it, Plato examined different kinds of government and explained how to avoid political errors.

Like Socrates, Plato believed in truth. He thought it could be found only after a long, hard search. In a work called *The Dialogues*

 **Reading Check**
What is the subject of **political science**?



Sculpture of Aristotle

 **Reading Check**
What is the purpose of the **scientific method**? What is a **hypothesis**? How does a **syllogism** work?

People in History

Aristotle
384 B.C.–322 B.C.

Greek Scientist

After studying in Greece, Aristotle returned to Macedonia to teach the son of King Philip II. This boy, later known as Alexander the Great, would one day conquer many lands, including Greece. Thus, Aristotle's ideas came to influence an entire empire.

(dī' uh logs), he showed how difficult it is to discover truth. *The Dialogues* consists of a series of discussions in which different people talk about such things as truth and loyalty. Socrates is the leading speaker in many discussions. Through these discussions, Plato brings out the self-questioning that goes on within a person troubled by such issues.

Aristotle One of Plato's brightest pupils was Aristotle (ār' uh stot l). Aristotle came to the Academy when he was 17 years old and stayed for 20 years. Before he died in 322 B.C., he founded his own school in Athens and wrote more than 200 books.

Aristotle was known as "the master of them that know." He believed in using one's senses to discover the laws that govern the physical world. He was the first to *classify*, or group together, plants and animals that resemble each other. His system, with some changes, is still used today. It has helped scientists handle a great amount of information in an orderly way.

Aristotle also added to the ideas of an earlier Greek scientist named Thales (thā' lēz) of Miletus (mi let' uhs). Thales developed the first two steps of what is known today as the **scientific method**. This is the process used by scientists to study something. First, Thales collected information. Then, based on what he observed, he formed a **hypothesis** (hī poth' uh sis), or possible explanation. Aristotle provided a third step in the scientific method when he said that a hypothesis must be tested to see if it is correct.

Another important contribution Aristotle made was in *logic* (loj' ik), or the science of reasoning. He developed the **syllogism** (sil' uh jiz uhm). This is a method of reasoning that uses three related statements. The third statement is a conclusion based on the information given in the first two. For example:

Athenians are Greeks.

Socrates is an Athenian.

Therefore, Socrates is Greek.

Discoveries and Inventions Greek scientists were not looking for ways to make life easier or better. They were trying to add to their store of knowledge. They had none of the tools scientists have today. There were no telescopes, microscopes, or scales that weigh small amounts. Even without these, however, the Greeks made important discoveries.

Their curiosity led Greek scientists to discover that natural events are not caused by the way gods behave. They also learned that the world is governed by natural laws that people can discover and understand.

There were many Greek scientists. The first was Thales of Miletus, who came from Ionia. Thales not only developed the first two steps of the scientific method, but he also correctly predicted

GREEK SCIENTISTS

Name	Field	Accomplishments
Archimedes	<i>Mathematics</i>	explained principle of lever
Aristarchus	<i>Astronomy</i>	concluded that Earth revolves around the sun
Anaximander	<i>Astronomy</i>	pioneered concept of Earth as a body suspended in space
Eratosthenes	<i>Geography</i>	figured Earth's circumference within 200 miles, or 320 kilometers; made map complete with longitude and latitude of Asia, Africa, and Europe that accurately showed the three continents forming single landmass
Euclid	<i>Mathematics</i>	collected and organized all existing knowledge about geometry; developed axioms, or fundamental rules, used in modern geometry
Hipparchus	<i>Astronomy</i>	created system of celestial mechanics to explain how heavenly bodies move
Hippocrates	<i>Medicine</i>	founder of scientific medicine
Ptolemy	<i>Astronomy</i>	developed mathematical model of Hipparchus' system of celestial mechanics
Pythagoras	<i>Mathematics</i>	sought to explain the nature of all things in mathematical terms
Thales of Miletus	<i>Science</i>	first known Greek scientist; using Chaldean observations of stars, planets, and moon, predicted solar eclipse of 585 B.C.; developed theory about basic substance common to matter; developed first two steps of scientific method

an eclipse of the sun in 585 B.C. The contributions made by Thales and other Greek scientists were important to the growth of scientific thought.

Greek scientists also contributed to the field of medicine. The “Father of Scientific Medicine” was Hippocrates (hi pok’ ruh tēz). Hippocrates was considered the perfect physician. He traveled throughout Greece diagnosing illnesses and curing sick people. He believed diseases came from natural causes. At the time, most other doctors thought diseases were caused by evil spirits entering the body.

Hippocrates drew up a list of rules about how doctors should use their skills to help their patients. His rules are known as the Hippocratic (hip uh krat’ ik) Oath. The oath says that doctors should honor their teachers, do their best for the sick, never give poisons, and keep the secrets of their patients. Doctors all over the world still promise to honor the Hippocratic Oath.

Section 2 Assessment

1. **Define:** *philosophia*, Socratic method, political science, scientific method, hypothesis, syllogism.
2. What were Plato’s beliefs about government?

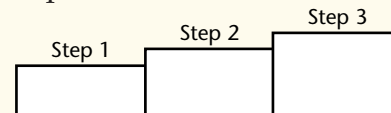
Critical Thinking

3. **Drawing Conclusions** Review the syllogism on page 188. Then write a syllogism to help you draw a conclu-

sion about one of the Greek thinkers in this chapter.

Graphic Organizer Activity

4. Draw a diagram like this one. Use it to show the steps in the scientific method that Thales of Miletus and Aristotle developed.



Chapter Summary & Study Guide

1. During the “Golden Age,” the Greeks made many contributions in thinking, athletics, and the arts.
2. The Olympic Games, held every four years in honor of the Greek god Zeus, was the most important sporting event in Greece.
3. The theater, and eventually the play, developed out of a festival given in honor of the Greek god Dionysus.
4. Socrates, in his search for truth, developed a form of questioning known as the Socratic method.
5. Plato, who was one of Socrates’s pupils, founded a school and wrote the first book on political science.
6. Aristotle developed a system of classification and provided a third step in the scientific method.



CLICK HERE

Self-Check Quiz

Visit the *Human Heritage* Web site at humanheritage.glencoe.com and click on **Chapter 11—Self-Check Quiz** to assess your understanding of this chapter.

CHAPTER 11 Assessment

Using Key Terms

Use the following words to make a chart that explains the ideas and contributions of the Greeks.

oracles	prophecy
pancratium	pentathlon
<i>philosophia</i>	Socratic method
political science	scientific method
hypothesis	sylogism

Understanding Main Ideas

1. What was the role of oracles in Greek religion?
2. What role did women play in the Olympic Games?
3. What was the relationship between Greek historians and the Olympic Games?
4. How did tragedies differ from comedies?
5. How did Athenians react to the teachings of Socrates?
6. Why did Plato set up the Academy?
7. How does the scientific method work?
8. In what subjects were Greek scientists most interested?
9. What was Euclid's most famous achievement?

Critical Thinking

1. What would you have done if it had been your decision whether or not to put Socrates on trial?
2. Why is the scientific method important to modern science?
3. How important was religion in ancient Greek civilization? Explain your answer.
4. Would you like being taught through the Socratic method? Why or why not?

Graphic Organizer Activity

History Draw a chart like this one, and use it to list four Greek ideas or inventions and to explain the effect each has had on your life.

Idea/Invention	Effect on My Life
1.	
2.	
3.	
4.	



Geography in History

Human Systems The Olympic Games drew contestants from all the areas under Greek control. What different methods of travel would athletes have used to reach Olympia where the games were held? Create a poster advertising transportation to the games.

Using Your Journal

Review any details you may have noted about the ideas developed by the Greeks. Imagine that you have a chance to interview an important Greek thinker. Write a list of questions you might like to ask this person.