

Section

4

The Spread of Greek Culture

Guide to Reading



History Social Science Standards

WH.6.4 Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Ancient Greece.

Looking Back, Looking Ahead

In Section 3, you read that Alexander's conquests helped to spread Greek culture. The kings who came after Alexander also tried to attract the best and brightest Greeks to Asia and Egypt. They hoped to recreate the glory of Greece's Golden Age in their own kingdoms.

Focusing on the Main Ideas

- Hellenistic cities became centers of learning and culture. (page 407)
- Philosophers and scientists in the Hellenistic Era introduced new ideas and made major discoveries. (page 408)
- Greek power declined as a new power in the Mediterranean arose: Rome. (page 411)

Meeting People

- Euclid** (YOO•kluhd)
Archimedes (AHR•kuh•MEE•deez)
Hypatia (hy•PAY•shuh)

Locating Places

- Rhodes** (ROHDZ)
Syracuse (SIHR•uh•KYOOS)

Content Vocabulary

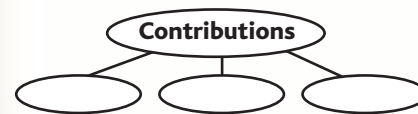
- Epicureanism**
 (EH•pih•kyu•REE•uh•NIH•zuhm)
Stoicism (STOH•uh•SIH•zuhm)
astronomer (uh•STRAH•nuh•muhr)
plane geometry (jee•AH•muh•tree)
solid geometry (jee•AH•muh•tree)

Academic Vocabulary

- goal** (GOHL)
lecture (LEHK•chuh)
major (MAY•juhr)

Reading Strategy

Summarizing Information Create a diagram to show the major Greek contributions to Western civilization.



Where & When?



350 B.C.

c. 300 B.C.
 King Ptolemy I invites Euclid to Alexandria

275 B.C.

291 B.C.
 Menander, the playwright, dies

200 B.C.

212 B.C.
 Archimedes killed by Romans



WH6.4.7 Trace the rise of Alexander the Great and the spread of Greek culture eastward and into Egypt.

WH6.4.8 Describe the enduring contributions of important Greek figures in the arts and sciences (e.g., Hypatia, Socrates, Plato, Aristotle, Euclid, Thucydides).

Greek Culture Spreads

Main Idea Hellenistic cities became centers of learning and culture.

Reading Connection Imagine you are a leading citizen in a new city. How would you make it the best city possible? Read to find out how leaders in the Hellenistic Era improved their cities.

During the Hellenistic Era, philosophers, scientists, poets, and writers flocked to the new Greek cities in southwest Asia and Egypt, especially Alexandria. Many came to take advantage of Alexandria's library. Its more than 500,000 scrolls were useful to students of literature and language. Alexandria also had a museum where researchers went to do their work.

Architecture and Sculpture The Hellenistic kingdoms were lands of opportunity for Greek architects. New cities were being founded, and old ones were being rebuilt. The Hellenistic kings wanted to make these cities like the cultural centers of Greece. They paid handsome fees to line the streets with baths, theaters, and temples.

Hellenistic kings and other wealthy citizens hired Greek sculptors to fill their towns and cities with thousands of statues. These statues showed the same level of workmanship as the statues from Greece's Golden Age.

Literature and Theater Hellenistic leaders also admired talented writers. Kings and leading citizens spent generous sums of money supporting writers' work. As a result, the Hellenistic Age produced a large body of literature. Sadly, very little of this writing has survived.

One of the works we know about is an epic poem by Appolonius (A•puh•LOH•nee•uhs) of **Rhodes** (ROHDZ). Called *Argonautica*, it tells the legend of Jason and his band of heroes. They sail the seas in search of a ram

with golden fleece. Another poet, Theocritus (thee•AH•kruh•tuhs), wrote short poems about the beauty of nature.

Athens remained the center of Greek theater. Playwrights in Athens created a new kind of comedy. The stories had happy endings and still make people laugh. However, unlike the comedies of Greece's Golden Age, they did not poke fun at political leaders. Instead the plays told stories about love and relationships. One of the best known of the new playwrights was Menander (muh•NAN•duhr), who lived from 343 B.C. to 291 B.C.

Reading Check Explain How did the Hellenistic kingdoms spread Greek culture?

Primary Source The Poetry of Theocritus

Theocritus is considered the creator of pastoral poetry. Pastoral poetry deals with rural life, especially the lives of shepherds. It often compares rural and city life. In this selection, he talks about shepherding as a way of life.

"Shepherd, your song is sweeter than the water that tumbles and splashes down from the rocks.

If the Muses get the ewe for their prize, you'll win the [baby] lamb. But if they choose

the lamb, you'll carry away the ewe."

—Theocritus, "First Idyll"



▲ Sculpture of shepherd

DBQ Document-Based Question

How does Theocritus describe the song of the shepherd?



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The Way It Was

Science and Inventions

Greek Medicine The ancient Greeks believed that their gods had the power to cure them of illnesses and injuries. Greek temples were places of healing as well as places of worship. In temples, priests treated patients with herbs, prayers and sacrifices to the gods.

In the 400s B.C., Hippocrates (hīh • PAH • kruh • TEEZ), a doctor and pioneer of medical science, began to separate medicine from religion. He stressed that it was important to examine the body and look at a patient's symptoms.

Hippocrates asked his students to recite an oath, or pledge, promising never to harm and always to care for their patients. Doctors today still take a version of the Hippocratic Oath when they graduate from medical school.



▲ Greek doctor treating patients

Connecting to the Past

1. How were illnesses and injuries treated before Hippocrates?
2. How did Hippocrates change the way medicine was practiced in ancient Greece?

New Philosophy and Science

Main Idea Philosophers and scientists in the Hellenistic Era introduced new ideas and made major discoveries.

Reading Connection What makes you happy? Read on to learn different Greek ideas about happiness.

During the Hellenistic Era, Athens continued to attract the most famous philosophers in the Greek world. The two most important philosophers were Epicurus and Zeno.

Epicureans Epicurus founded a philosophy we now know as **Epicureanism** (EH • pih • kyu • REE • uh • NIH • zuhm). He taught his students that happiness was the **goal** of life. He believed that the way to be happy was to seek out pleasure.

Today the word *epicurean* means the love of physical pleasure, such as good food or comfortable surroundings. However, to Epicurus, pleasure meant spending time with friends and learning not to worry about things. Epicureans avoided worry by staying out of politics and public service.

Who Were the Stoics? A Phoenician named Zeno developed **Stoicism** (STOH • uh • SIH • zuhm). It became a very popular philosophy in the Hellenistic world. When Zeno came to Athens, he could not afford to rent a **lecture** hall. So he taught at a building known as the “painted porch” near the city market. “Stoicism” comes from *stoa*, the Greek word for “porch.”

For Stoics, happiness came from following reason, not emotions, and doing your duty. Today the word *stoic* is used to describe someone who is not affected by joy or grief. Unlike Epicureans, Stoics thought people had a duty to serve their city. The ideas of the Stoic philosophers would later influence Roman philosophers.

Greek Science and Math Scientists, especially mathematicians and astronomers, made **major** contributions during the Hellenistic Era. **Astronomers** (uh•STRAH•nuh•muhrs) study stars, planets, and other heavenly bodies. Aristarchus (AR•uh•STAHR•kuhs), an astronomer from Samos, claimed that the sun was at the center of the universe and that Earth circled the sun. At the time, other astronomers rejected his ideas. They thought that Earth was the center of the universe.

Another astronomer, Eratosthenes (EHR•uh•TAHS•thuh•NEEZ), was in charge of the library at Alexandria. Eratosthenes concluded that Earth is round. He then used his knowledge of geometry and astronomy to measure Earth’s circumference—the distance around Earth.

Eratosthenes put two sticks in the ground far apart from each other. When the sun was directly over one stick, the shadow was shorter than the shadow at the other stick. By measuring the shadows, he was

Greek Scientists and Their Contributions

Scientist

Scientific “Firsts”

Archimedes

Established the science of physics
Explained the lever and compound pulley

Aristarchus

Established that Earth revolves around the sun

Eratosthenes

Figured out that Earth is round

Euclid

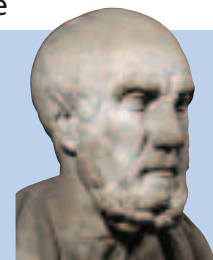
Wrote a book that organized information about geometry

Hipparchus

Created a system to explain how planets and stars move

Hippocrates

Known as the “Father of Medicine”
First to write a medical code of good behavior



▲ Hippocrates

Hypatia

Expanded knowledge of mathematics and astronomy



◀ Hypatia

Pythagoras

First to establish the principles of geometry



◀ Pythagoras

Understanding Charts

The ancient Greeks made advances in science.

1. What were Archimedes’ achievements?
2. **Identify** Who wrote a code of behavior that doctors still follow today?



▲ Euclid

▼ Archimedes



able to calculate the curve of Earth’s surface and Earth’s diameter.

Using his measurements, Eratosthenes estimated that the distance around Earth equaled 24,675 miles (39,702 km). Amazingly, his estimate was within 185 miles (298 km) of the actual distance. Using similar methods, he measured the distance to the sun and to the moon. His measurements were quite accurate for the time.

Euclid (YOO•kluhd) is probably the most famous Greek mathematician. His best-known book *Elements* describes plane geometry. **Plane geometry** (jee•AH•muh•tree) is the branch of mathematics that shows how points, lines, angles, and surfaces relate to one another.

Around 300 B.C., King Ptolemy I (TAH•luh•mee) of Egypt asked Euclid if he knew an easier way to learn geometry than by reading *Elements*. Euclid answered that “there is no royal way” to learn geometry. In other words, if the king wanted to understand Euclid’s teachings, he would have to study the same as everyone else. Euclid’s theories have influenced mathematicians up to the present day.

The most famous scientist of the Hellenistic Era was **Archimedes** (AHR•kuh•MEE•deez) of **Syracuse** (SIHR•uh•KYOOOS). He worked on **solid geometry** (jee•AH•muh•tree)—the study of ball-like shapes called spheres and tubelike shapes called cylinders. He also figured out the value of *pi*. This number is used to measure the area of circles and is usually represented by the symbol π .

Archimedes was also an inventor. One story about Archimedes tells how he came to invent weapons for a war. It all happened because Archimedes had been bragging. “Give me a lever and a place to stand on,” Archimedes said to the king of Syracuse, “and I will move the earth.”

The king of Syracuse was impressed. He asked Archimedes to use his levers to defend the city. So Archimedes designed catapults—machines that hurled arrows, spears, and rocks.

When the Romans attacked Syracuse in 212 B.C., Archimedes’ catapults drove them back. It took the Romans three years to capture Syracuse. During the massacre that followed, Archimedes was killed.

Hellenistic thought and culture had long-lasting effects. The mathematician **Hypatia** (hy•PAY•shuh) is a good example. She lived in Alexandria in Egypt around A.D. 400, over 700 years after Alexander the Great first spread Hellenism. Hypatia continued the Greek tradition of studying philosophy and mathematics. In fact, she is one of the first women mathematicians whose records survive. In addition, she also wrote about astronomy. Her commentaries on other writers provided important information for later generations of historians and scientists.

Reading Check Explain Who was the most famous scientist of the Hellenistic Era? What did he contribute?



WH6.4. Students analyze the geographic, political, economic, religious, and social structures of the early civilizations of Ancient Greece.

Greece Falls to Rome

Main Idea Greek power declined as a new power in the Mediterranean arose: Rome.

Reading Connection Think about what makes your country strong. What would happen if you took those things away? Read on to find out what happened to Greece when it grew weak.

The four Greek kingdoms that developed from Alexander's empire shared Hellenistic culture. Despite their common culture, they were unable to work together and often fought wars with one another.

Macedonia dominated Greece for a time but could not keep the various city-states permanently under control. Sparta and many other city-states gained their freedom. These states were Hellenistic in culture but did not have a strong military, so they could not keep their independence long.

In the late 200s B.C., a city-state in Italy called Rome conquered the Italian peninsula. The Romans then began expanding into Greece in order to secure their shipping lanes from pirates. This gave the Romans the excuse to interact directly with the Greeks.

As Roman power grew, the Greeks, especially in Macedonia, began supporting Rome's enemies in times of war. The Romans proved victorious, however. They defeated the Greeks and their allies, invaded Macedonia, and divided it into four kingdoms.

By 146 B.C., Rome had conquered all of Greece. Although Greece was no longer free, Greek ideas and culture continued to influence societies in Europe and Asia for hundreds of years.

Reading Check Explain Why did Rome conquer the Greek city-states?

History Online

Study Central Need help understanding the Hellenistic Era? Visit ca.hss.glencoe.com and click on Study Central.

Section 4 Review

Reading Summary

Review the Main Ideas

- Hellenistic cities, such as Alexandria, attracted some of the Greek world's best architects, sculptors, and writers.
- During the Hellenistic Era, new philosophies developed, such as Stoicism and Epicureanism, and scientists made important advances in the fields of astronomy and mathematics.
- The Hellenistic kingdoms fought constantly and were eventually conquered by Rome.

What Did You Learn?

1. Why did the city of Alexandria attract scholars?
2. Describe the form of philosophy developed by Zeno.
4. **The Big Ideas** How were the comedies of the Hellenistic Era influenced by Greece's Golden Age? **CA 6RC2.2**

Critical Thinking

3. **Summarize** Draw a table like the one below. Write several facts about each scientist in the correct column. **CA 6RC2.4**

Aristarchus	
Eratosthenes	
Euclid	
Archimedes	

5. **Analyze** How would knowledge of geometry be helpful to the Greeks? **CA HI.2**
6. **Identify** What did the Epicureans believe about happiness? **CA 6RC2.0**
7. **Writing Poetry** Reread the Primary Source on page 407. How do the author's words create a picture of the shepherd? Use these writing tools to write a poem about Greece. **CA 6RL3.4; 6WA2.1**

Analyzing Primary Sources



WH6.4.4 Explain the significance of Greek mythology to the everyday life of people in the region and how Greek literature continues to permeate our literature and language today, drawing from Greek mythology and epics, such as Homer's *Iliad* and *Odyssey*, and from Aesop's *Fables*. **WH6.4.8** Describe the enduring contributions of important Greek figures in the arts and sciences (e.g., Hypatia, Socrates, Plato, Aristotle, Euclid, Thucydides).

Words of Wisdom

Like many ancient societies, the ancient Greeks admired and wrote about their heroes and military leaders. However, their great thinkers also wrote about many other subjects, from government and religion to science and culture. Many of their works were intended to convey an idea or message, or to convince people of their point of view.

Read the passages on pages 412 and 413, and answer the questions that follow.

Plato ▶



Reader's Dictionary

Glaucon: a man the narrator is addressing
compelling: persuading
dissension (dih•SEHN•shuhn): conflict

destined: decided beforehand
refute (rih•FYOOT): prove wrong
imputation (ihm•pyuh•TAY•shuhn): accusation

The Republic of Plato

Plato was one of the great philosophers of ancient Athens. In his *Republic* Plato argues that the ideal government is one ruled by philosopher-kings. Here he discusses what kind of person should be a ruler.

You will see then, **Glaucon**, that there will be no real injustice in **compelling** our philosophers to watch over and care for the other citizens. We can fairly tell them . . . we have brought you into existence for your country's sake . . . you have been better and more thoroughly educated than those others and hence you are more capable of playing your part both as men of thought and as men of action . . . in truth, government can be at its best and free from

dissension only where the **destined** rulers are least desirous of holding office.

. . . All goes wrong when, starved for lack of anything good in their own lives, men turn to public affairs hoping to snatch from thence the happiness they hunger for. They set about fighting for power, and this conflict ruins them and their country. The life of true philosophy is the only one that looks down upon offices of state. . . . So whom else can you compel to **undertake** the guardianship of the **commonwealth**, if not those who, besides understanding best the principles of government, enjoy a nobler life than the politician's and look for rewards of a different kind?

Aesop's Fables

Fables are short tales with the purpose of teaching a lesson. The most famous author of Greek fables is Aesop. His fables were passed down by word of mouth for hundreds of years before finally being collected into written volumes.

The Father and His Sons

A FATHER had a family of sons who were perpetually quarreling among themselves. When he failed to heal their disputes by his exhortations, he determined to give them a practical illustration of the evils of disunion; and for this purpose he one day told them to bring him a bundle of sticks. When they had done so, he placed the [bundle of sticks] into the hands of each of them in succession, and ordered them to break it in pieces. They tried with all their strength, and were not able to do it. He next . . . took the sticks separately, one by one, and again put them into his sons' hands, upon which they broke them easily. He then addressed them in these words: "My sons, if you are of one mind, and unite to assist each other, you will be as this [bundle of sticks], uninjured by all the attempts of your enemies; but if you are divided among yourselves, you will be broken as easily as these sticks."

The Wolf and the Lamb

WOLF, meeting with a Lamb astray from the fold, resolved not to lay violent hands on him, but to find some plea to justify to the Lamb the Wolf's right to eat him. He thus addressed him: "Sirrah, last year you grossly insulted me."

"Indeed," bleated the Lamb in a mournful tone of voice, "I was not then born." Then said the Wolf, "You feed in my pasture."

"No, good sir," replied the Lamb, "I have not yet tasted grass." . . . Upon which the Wolf seized him and ate him up, saying

"Well! I won't remain supperless, even though you **refute** every one of my **imputations**." The tyrant will always find a pretext for his tyranny.



▲ Aesop

—Aesop's Fables, George Fyler Townsend, trans.

DBQ Document-Based Questions

The Republic of Plato

1. Why do you think the best ruler is someone who does not want power?
2. Why does Plato believe that philosophers would make the best rulers?
3. What kind of men make the worst rulers?

Aesop's Fables

4. Explain the moral of the first fable.
5. Explain the moral of the second fable.

6. Give a modern example of the moral of the first fable.

Read to Write

7. Explain how Aesop's fables are related to creating a strong government. Do you think Plato would have agreed with the morals in Aesop's fables? Why? **CA HR5**

Chapter 8 Assessment

Standard WH6.4

Review Content Vocabulary

1. Write a brief paragraph that defines and compares the following terms.

epic fable myth

Decide if each statement is *True* or *False*.

- 2. An oracle was a shrine Greeks visited to receive prophecies.
- 3. Sophists were professional teachers.
- 4. The death of Socrates marks the beginning of the Hellenistic Era.
- 5. Astronomers study stars, planets, and other heavenly bodies.
- 6. Euclid developed plane geometry.

Review the **Main Ideas**

Section 1 • The Culture of Ancient Greece

7. What did the Greeks believe about their gods and goddesses?
8. How did the Greeks use poetry and fables to teach values?
9. What are two types of Greek dramas?
10. What did Greek art and architecture express?

Section 2 • Greek Philosophy and History

11. How have the ideas of Greek philosophers influenced our world today?
12. Why are Greek historians so important?

Section 3 • Alexander the Great

13. Which leader united the Greek states?
14. What are the two main accomplishments of Alexander the Great?

Section 4 • The Spread of Greek Culture

15. Why were Hellenistic cities important?
16. In what fields did Hellenistic scientists make advances?
17. What new power arose in the Mediterranean and threatened Greece?

Critical Thinking

18. **Understanding Cause and Effect** How did the Peloponnesian War weaken the Greek states? **CA HI.2**
19. **Analyze** Why would knowing the circumference of Earth have been helpful to the Greeks? **CA 6RC2.0**
20. **Compare** How was religion in ancient Greece similar to religion in ancient Egypt? **CA 6RC2.2**
21. **Analyze** Why do you think the development of written history is important? **CA 6RL3.0**

Geography Skills

Study the map below and answer the following questions.

22. **Location** Analyze the location of the Hellenistic kingdoms. What present-day countries control territory that was controlled by the Seleucid empire? **CA CS3**
23. **Human/Environment Interaction** Which kingdom do you think was the most difficult to govern based on its geography? **CA CS3**



Read to Write

24. **The Big Ideas** **Understanding Cultures** As Hellenistic cities became centers of learning and trade, they were influenced by Greek culture. Write a three-paragraph essay describing how Greek culture affected people in Asia in the Hellenistic Era. **CA CS3.**
25. **Using Your** **FOLDABLES** Review the developments in early Greece that you listed on your foldable. Using numbers, rank each development from the most valuable to the least valuable. Explain the reason for your highest and lowest ranking. **CA CS1.**

Using Academic Vocabulary

26. Review the list of words below. Write a paragraph that uses all of these words in the past tense. Then rewrite that same paragraph using the words in the present and future tenses.

grant	achieve
conflict	lecture
reject	major

Linking Past and Present

27. **Expository Writing** The Nobel Prize is awarded yearly to people who have made great achievements. Do research to find out more about the award. Then choose one Greek philosopher, writer, scientist, or leader you think deserves the Nobel Prize. Write a short speech to explain why. Present your speech to the class. **CA 6WA2.5**

Economics Connection

28. **Writing Research Reports** The vast empire established during the reign of Alexander the Great allowed many different cultures and people to more easily reach one another. Write a research report that explains how this joining of cultures affected the economies of people in the empire. Use evidence from your local library and the Internet to support your position. **CA 6WA2.3**

Reviewing Skills

29. **Visualizing** Using the visualizing techniques that were introduced in this chapter, create a story describing Alexander the Great's soldiers during their march across Iran's southern desert. Reread page 401 to help you visualize the scene. Write your story from a soldier's point of view. Use visualization to help you describe the setting of the story. **CA 6WA2.1**
30. **Building a Time Line** Using information from the chapter, create a time line that shows the major authors, artists, and philosophers of ancient Greece. Include each person's most important contributions and works. **CA CS2.**



Standards Practice

Select the best answer for each of the following questions.

31. **The *Iliad* and the *Odyssey* are**
- A two ships that traveled to Troy.
 - B poems by Aesop.
 - C epics by Homer.
 - D Greek comedies performed in outdoor theaters.
32. **What do Sophists, Socrates, Plato, and Aristotle have in common?**
- A all were Greek philosophers
 - B they agreed that democracy was the best system of government
 - C they were pupils of Libanius
 - D all of the above