



# 3

## Muslim Culture

### MAIN IDEA

**CULTURAL INTERACTION**  
Muslims combined and preserved the traditions of many peoples and also advanced learning in a variety of areas.

### WHY IT MATTERS NOW

Many of the ideas developed during this time became the basis of today's scientific and academic disciplines.

### TERMS & NAMES

- House of Wisdom
- calligraphy

**SETTING THE STAGE** The Abbasids governed during a prosperous period of Muslim history. Riches flowed into the empire from all over Europe, Asia, and Africa. Rulers could afford to build luxurious cities. They supported the scientists, mathematicians, and philosophers that those cities attracted. In the special atmosphere created by Islam, the scholars preserved existing knowledge and produced an enormous body of original learning.

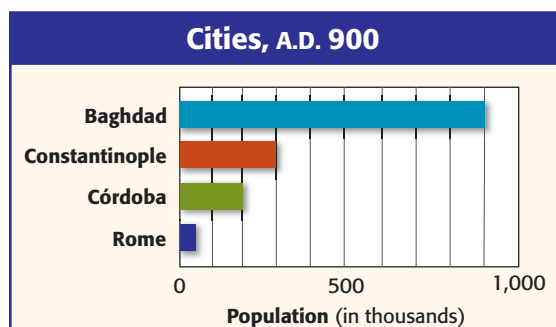
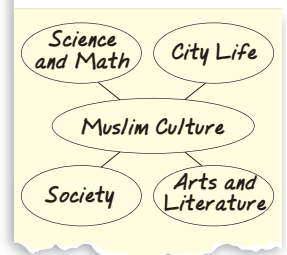
### Muslim Society

Over time, the influence of Muslims grew as the empire attracted people from a variety of lands. The many cultural traditions combined with the Arabic culture to create an international flavor. Muslim society had a sophistication matched at that time only by the Tang Empire of China. That cosmopolitan character was most evident in urban centers.

**The Rise of Muslim Cities** Until the construction of Baghdad, Damascus was the leading city. It was also the cultural center of Islamic learning. Other cities grew up around power centers, such as Córdoba (the Umayyad capital), Cairo (the Fatimid capital), and Jerusalem. (See the map on page 261.) Cities, which symbolized the strength of the caliphate, were very impressive.

### TAKING NOTES

**Clarifying** Use a web diagram to show the key elements of Muslim culture.



Source: Tertius Chandler and Gerald Fox, *3,000 Years of Urban Growth*.

**SKILLBUILDER: Interpreting Graphs**  
**Comparing** How much larger in population was Baghdad than Córdoba?

The Abbasid capital city, Baghdad, impressed all who saw it. Caliph al-Mansur chose the site for his capital on the west bank of the Tigris River in 762. Extensive planning went into the city's distinctive circular design, formed by three circular protective walls. The caliph's palace of marble and stone sat in the innermost circle, along with the grand mosque. Originally, the main streets between the middle wall and



▲ In a miniature painting from Persia, women are shown having a picnic in a garden. Gardens were seen as earthly representations of paradise.

the palace were lined with shops. Later, the marketplace moved to a district outside the walls. Baghdad's population approached one million at its peak.

**Four Social Classes** Baghdad's population, made up of different cultures and social classes, was typical for a large Muslim city in the eighth and ninth centuries. Muslim society was made up of four classes. The upper class included those who were Muslims at birth. Converts to Islam were in the second class. The third class consisted of the "protected people" and included Christians, Jews, and Zoroastrians. The lowest class was composed of slaves. Many slaves were prisoners of war, and all were non-Muslim. Slaves most frequently performed household work or fought in the military.

**Role of Women** The Qur'an says, "Men are the managers of the affairs of women," and "Righteous women are therefore obedient." However, the Qur'an also declares that men and women, as believers, are equal. The shari'a gave Muslim women specific legal rights concerning marriage, family, and property. Thus, Muslim women had more economic and property rights than European, Indian, and Chinese women of the same time period. Nonetheless, Muslim women were still expected to submit to men. When a husband wanted to divorce his wife, all he had to do was repeat three

times, "I dismiss thee." The divorce became final in three months.

Responsibilities of Muslim women varied with the income of their husbands. The wife of a poor man would often work in the fields with her husband. Wealthier women supervised the household and its servants. They had access to education, and among them were poets and scholars. Rich or poor, women were responsible for the raising of the children. In the early days of Islam, women could also participate in public life and gain an education. However, over time, Muslim women were forced to live increasingly isolated lives. When they did go out in public, they were expected to be veiled.

## Muslim Scholarship Extends Knowledge

Muslims had several practical reasons for supporting the advancement of science. Rulers wanted qualified physicians treating their ills. The faithful throughout the empire relied on mathematicians and astronomers to calculate the times for prayer and the direction of Mecca. However, their attitude also reflected a deep-seated curiosity about the world and a quest for truth. Muhammad himself believed strongly in the power of learning:

### PRIMARY SOURCE **A**

Acquire knowledge. It enableth its possessor to distinguish right from wrong; it lighteth the way to Heaven; it is our friend in the desert, our society in solitude, our companion when friendless; it guideth us to happiness; it sustaineth us in misery; it is an ornament amongst friends, and an armour against enemies.

MUHAMMAD, quoted in *The Sayings of Muhammad*

### MAIN IDEA

#### Analyzing Primary Sources

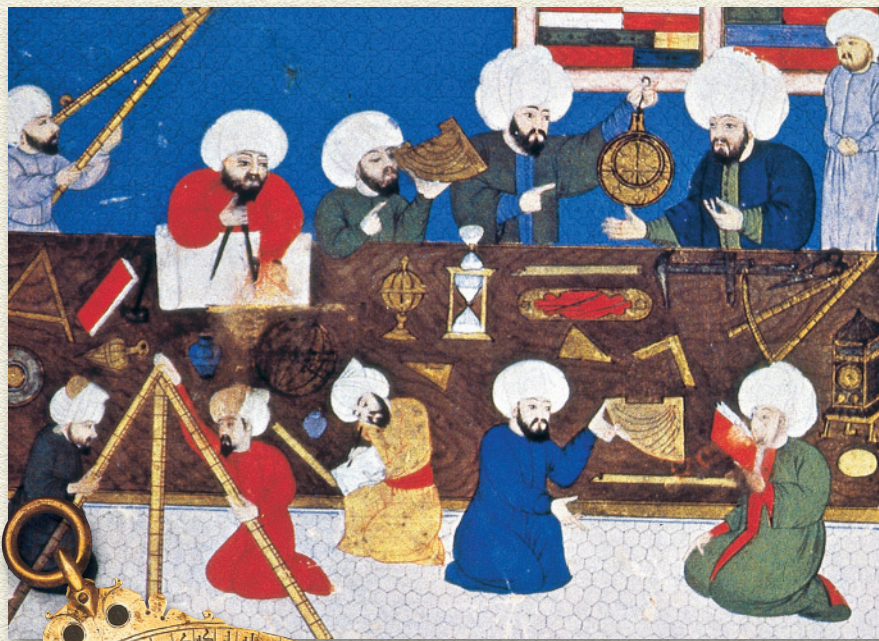
**A** According to Muhammad, what are the nine valuable results of knowledge?

## Astronomy

Muslim interest in astronomy developed from the need to fulfill three of the Five Pillars of Islam—fasting during Ramadan, performing the hajj, and praying toward Mecca. A correct lunar calendar was needed to mark religious periods such as the month of Ramadan and the month of the hajj. Studying the skies helped fix the locations of cities so that worshipers could face toward Mecca as they prayed. Extensive knowledge of the stars also helped guide Muslim traders to the many trading cities of the ancient world.

### INTEGRATED TECHNOLOGY

**RESEARCH LINKS** For more on astronomy, go to [classzone.com](http://classzone.com)



▲ The device shown here is called an **armillary sphere**. The man standing in the center is aligning the sphere, while the seated man records the observations. Astronomers calculated the time of day or year by aligning the rings with various stars. This helped Muslims set their religious calendar.

◀ **Muslim observatories** were great centers of learning. This scene depicts astronomers working at the observatory in Istanbul. They are using many instruments including an astrolabe like the one shown on this page.



◀ **The astrolabe** was an early scientific instrument. It had a fixed “plate” and a rotating “rete.” The plate was a map of the sky and the rete simulated the daily movement of the earth in relation to the stars. Using this tool, one could calculate time, celestial events, and relative position. For Muslims, the astrolabe helped determine where they were in relation to Mecca.

**This is the plate.** The plate was etched with a map of the sky for a certain latitude.

**This is the rete**—it rotated over the plate. The rete was mostly cut away so the map beneath was visible.

**These pointers** on the rete represented different stars. At night, observers could look at the sky, position the pointers, and make their calculations.

### Connect to Today

**1. Recognizing Effects** How did fulfilling religious duties lead Muslims to astronomy and a better understanding of the physical world?

📖 See Skillbuilder Handbook, page R6.

**2. Comparing and Contrasting** Muslim astronomers developed instruments to improve their observations of the sky. We do the same thing today. Research how modern astronomers make their observations and compare their methods with early Muslim astronomers. Write two paragraphs on how their methods are similar to and different from each other.

The Prophet's emphasis on study and scholarship led to strong support of places of learning by Muslim leaders. After the fall of Rome in A.D. 476, Europe entered a period of upheaval and chaos, an era in which scholarship suffered. The scientific knowledge gained up to that time might have been lost. However, Muslim leaders and scholars preserved and expanded much of that knowledge. Both Umayyads and Abbasids encouraged scholars to collect and translate scientific and philosophical texts. In the early 800s, Caliph al-Ma'mun opened in Baghdad a combination library, academy, and translation center called the [House of Wisdom](#). There, scholars of different cultures and beliefs worked side by side translating texts from Greece, India, Persia, and elsewhere into Arabic.

## Art and Sciences Flourish

Scholars at the House of Wisdom included researchers, editors, linguists, and technical advisers. These scholars developed standards and techniques for research that are a part of the basic methods of today's research. Some Muslim scholars used Greek ideas in fresh new ways. Others created original work of the highest quality. In these ways, Muslims in the Abbasid lands, especially in Córdoba and Baghdad, set the stage for a later revival of European learning.

**Muslim Literature** Literature had been a strong tradition in Arabia even before Islam. Bedouin poets, reflecting the spirit of desert life, composed poems celebrating ideals such as bravery, love, generosity, and hospitality. Those themes continued to appear in poetry written after the rise of Islam.

The Qur'an is the standard for all Arabic literature and poetry. Early Muslim poets sang the praises of the Prophet and of Islam and, later, of the caliphs and other patrons who supported them. During the age of the Abbasid caliphate, literary tastes expanded to include poems about nature and the pleasures of life and love.

Popular literature included *The Thousand and One Nights*, a collection of fairy tales, parables, and legends. The core of the collection has been linked to India and Persia, but peoples of the Muslim Empire added stories and arranged them, beginning around the tenth century.

**Muslim Art and Architecture** As the Muslim Empire expanded, the Arabs entered regions that had rich artistic traditions. Muslims continued these traditions but often adapted them to suit Islamic beliefs and practices. For example, since Muslims believed that only Allah can create life, images of living beings were discouraged. Thus, many artists turned to [calligraphy](#), or the art of beautiful handwriting. Others expressed themselves through the decorative arts, such as woodwork, glass, ceramics, and textiles.

It is in architecture that the greatest cultural blending of the Muslim world can be seen. To some extent, a building reflected the culture of people of the area. For example, the Great Mosque of Damascus was built on the site of a Christian church. In many ways, the huge dome and vaulted ceiling of the mosque blended Byzantine architecture with Muslim ideas. In Syrian areas, the architecture included features that were very Roman, including baths using Roman heating systems. In Córdoba, the Great

### Global Impact



#### ***The Thousand and One Nights***

*The Thousand and One Nights* is a collection of stories tied together using a frame story. The frame story tells of King Shahryar, who marries a new wife each day and has her killed the next. When Scheherezade marries the king, however, she tells him fascinating tales for a thousand and one nights, until the king realizes that he loves her.

The tradition of using a frame story dates back to at least 200 B.C., when the ancient Indian fables of the *Panchatantra* were collected. Italian writer Giovanni Boccaccio also set his great work, *The Decameron*, within a frame story in 1335.

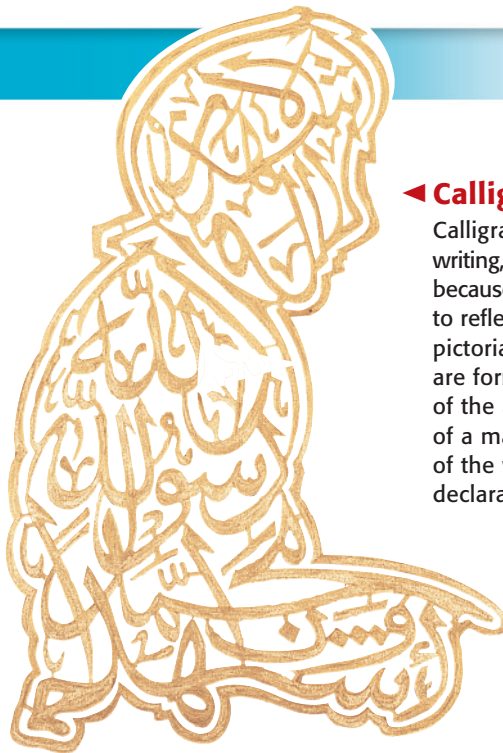
## Muslim Art

Muslim art is intricate and colorful but often does not contain images of living beings. Muslim leaders feared that people might worship the images rather than Allah. Thus, Muslim artists found different ways to express their creativity, as shown on this page.



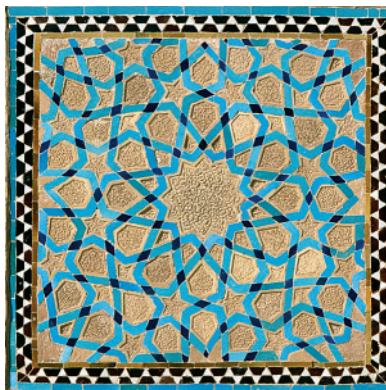
### ▲ Arabesque

Arabesque decoration is a complex, ornate design. It usually incorporates flowers, leaves, and geometric patterns. These arabesque tiles are from the Jami Masjid Mosque. Arabesque designs are also found in Muslim mosaics, textiles, and sculptures.



### ◀ Calligraphy

Calligraphy, or ornamental writing, is important to Muslims because it is considered a way to reflect the glory of Allah. In pictorial calligraphy, pictures are formed using the letters of the alphabet. This picture of a man praying is made up of the words of the Muslim declaration of faith.



### ◀ Geometric Patterns

Muslim artwork sometimes focuses on strictly geometric patterns. Geometric designs can be found in everything from pottery to architecture. This mosaic is from the Jami Masjid Mosque in India (shown below) and uses intricate patterns radiating out from the central shape.



### SKILLBUILDER: Interpreting Visual Sources

**Drawing Conclusions** What do these three artistic techniques suggest about Muslim art?



▲ This interior view of the Great Mosque of Córdoba showed a new architectural style. Two tiers of arches support the ceiling.

Mosque used two levels of arches in a style unknown before. The style was based on principles used in earlier mosques. These blended styles appeared in all the lands occupied by the Muslims.

**Medical Advances** Muslim contributions in the sciences were most recognizable in medicine, mathematics, and astronomy. A Persian scholar named al-Razi (Rhazes, according to the European pronunciation) was the greatest physician of the Muslim world and, more than likely, of world civilization between A.D. 500 and 1500. He wrote an encyclopedia called the *Comprehensive Book* that drew on knowledge from Greek, Syrian, Arabic, and Indian sources as well as on his own experience. Al-Razi also wrote *Treatise on Smallpox and Measles*, which was translated into several languages. He believed patients would recover more quickly if they breathed cleaner air.

**Math and Science Stretch Horizons** Among the ideas that Muslim scholars introduced to modern math and science, two especially stand out. They are the reliance on scientific observation and experimentation, and the ability to find mathematical solutions to old problems. As for science, Muslims translated and studied Greek texts. But they did not follow the Greek method of solving problems. Aristotle, Pythagoras, and other Greek thinkers preferred logical reasoning over uncovering facts through observation. Muslim scientists preferred to solve problems by conducting experiments in laboratory settings.

Muslim scholars believed that mathematics was the basis of all knowledge. Al-Khwarizmi, a mathematician born in Baghdad in the late 700s, studied Indian rather than Greek sources. He wrote a textbook in the 800s explaining “the art of bringing together unknowns to match a known quantity.” He called this technique *al-jabr*—today called algebra.

Many of the advances in mathematics were related to the study of astronomy. Muslim observatories charted stars, comets, and planets. Ibn al-Haytham (Alhazen), a brilliant mathematician, produced a book called *Optics* that revolutionized ideas about vision. He showed that people see objects because rays pass from the objects to the eyes, not from the eyes to the objects as was commonly believed. His studies about optics were used in developing lenses for telescopes and microscopes.

## Philosophy and Religion Blend Views

In addition to scientific works, scholars at the House of Wisdom in Baghdad translated works of Greek philosophers like Aristotle and Plato into Arabic. In the 1100s, Muslim philosopher Ibn Rushd (also known as Averroës), who lived in

## History Makers

**Ibn Rushd**  
1126–1198

Today Ibn Rushd is considered by many to be the most important of all Muslim philosophers. Yet his views were so offensive to Islamic conservatives that he was once stoned in the Great Mosque of Córdoba. In 1184, the philosopher began serving as physician to Caliph al-Mansur in Marrakech. Under pressure by conservatives, however, the caliph accused Ibn Rushd of heresy and ordered some of his books to be burned.

Fortunately, all of his work was not lost. Ibn Rushd's writings had a great impact on Europe in the 13th century and played a major role in the revival of Christian scholarship. In the 16th century, Italian painter Raphael placed Ibn Rushd among the ancient Greek philosophers in *School of Athens*.

### INTEGRATED TECHNOLOGY

**RESEARCH LINKS** For more on Ibn Rushd, go to [classzone.com](http://classzone.com)

Córdoba, was criticized for trying to blend Aristotle's and Plato's views with those of Islam. However, Ibn Rushd argued that Greek philosophy and Islam both had the same goal: to find the truth.

Moses Ben Maimon (Maimonides), a Jewish physician and philosopher, was born in Córdoba and lived in Egypt. Like Ibn Rushd, he faced strong opposition for his ideas, but he came to be recognized as the greatest Jewish philosopher in history. Writing during the same time as Ibn Rushd, Maimonides produced a book, *The Guide for the Perplexed*, that blended philosophy, religion, and science.

**The "Ideal Man"** The values of many cultures were recognized by the Muslims. A ninth-century Muslim philosophical society showed that it recognized the empire's diverse nature when it described its "ideal man":

### PRIMARY SOURCE

The ideal and morally perfect man should be of East Persian derivation, Arabic in faith, of Iraqi education, a Hebrew in astuteness, a disciple of Christ in conduct, as pious as a Greek monk, a Greek in the individual sciences, an Indian in the interpretation of all mysteries, but lastly and especially a Sufi in his whole spiritual life.

IKHWAN AS-SAFA, quoted in *The World of Islam*

### MAIN IDEA

#### Drawing Conclusions

**B** What is the advantage of blending various traditions within a culture?

Though the unified Muslim state broke up, Muslim culture continued. Three Muslim empires—the Ottoman, the Safavid, and the Mughal—would emerge that would reflect the blended nature of the culture of this time. The knowledge developed and preserved by the Muslim scholars would be drawn upon by European scholars in the Renaissance, beginning in the 14th century. **B**

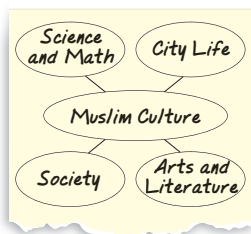
## SECTION 3 ASSESSMENT

**TERMS & NAMES** 1. For each term or name, write a sentence explaining its significance.

- House of Wisdom
- calligraphy

### USING YOUR NOTES

2. Which of these elements most strengthened the Abbasid rule? Explain.



### MAIN IDEAS

3. What was the role of women in Muslim society?
4. How did Muslim scholars help preserve the knowledge of the ancient Greeks and Romans?
5. What were some of the Muslim contributions in medicine, mathematics, and astronomy?

### CRITICAL THINKING & WRITING

6. **EVALUATING** What do you consider to be the five most significant developments in scholarship and the arts during the reign of the Abbasids?
7. **MAKING INFERENCES** What united the scholars of different cultures who worked in the House of Wisdom?
8. **SYNTHESIZING** What role did cities play in the advancement of Muslim culture?
9. **WRITING ACTIVITY** **CULTURAL INTERACTION** Write a one-paragraph **analysis** explaining how the primary source quotation on this page reflects the Muslim Empire's diversity.

### CONNECT TO TODAY CREATING A POSTER

Research to find out how the discoveries of Muslim physician al-Razi have influenced medicine today. Present your findings in a **poster**.