Muslim Contributions to Civilization

An Interactive Curriculum for Middle and High Schools

Developed by ING
Introduction

This curriculum, *Muslim Contributions to Civilization*, was designed to supplement content standards in social studies and world history. The curriculum was developed by ING based on our long experience delivering this and other presentations through live speakers. If you live in an area where there is a local Islamic Speakers Bureau (ISB) program, we recommend inviting a live speaker to deliver the presentation since this provides an opportunity to interact face-to-face. If you live in an area where there is no speaker’s bureau, or you prefer to deliver the presentation yourself, we have provided the scripts for each slide to accompany the digital presentation.

The curriculum is composed of six lesson plans that each focus on the different parts of the digital presentation *Muslim Contributions to Civilization*. The curriculum begins with notes for each slide in the presentation. In addition to the presentation notes, each lesson includes discussion questions, activities, and film clips that you can link to as well as discussion questions about the films. While the presentation can be used independently, it is more effective when supplemented by film clips which highlight the different topics addressed in each lesson. Please use the clips that you feel will resonate best with your students. These lessons were designed to be used either jointly or independently as stand-alone curriculum depending on the time available and your desired focus. For educators who want a more general overview, we also provide a basic curriculum about Muslim beliefs and practices called *Getting to Know American Muslims and Their Faith*.

The mission of Islamic Networks Group (ING) is to promote interreligious understanding, tolerance, and harmony through dialogue and religious literacy. It is our hope that through this curriculum we can provide balanced information to educators that will supplement their curriculum in a manner that is relevant, engaging, and informative.

Curriculum Standards

This six-part series of lessons and accompanying films for *Muslim Contributions to Civilization* is designed to support teachers working in middle schools, high schools, and colleges. This curriculum addresses many themes put forth by the National Council for the Social Studies Curriculum Standards and the National Center for History in the Schools at UCLA. Many of these themes are also addressed in state social studies content standards including those of California, Texas, and New York.

Relevant Themes

How have changes in science and technology impacted individuals, groups, societies, nations, and the environment, past and present, in both positive and negative ways? (National Curriculum Standards for Social Sciences - 8: Science, Technology, and Society)

What can be learned from the past about how science and technology have resulted in broad social change, planned or unanticipated? (National Curriculum Standards for Social Sciences - 8: Science, Technology, and Society)

How do we balance the possibilities and advancements in science and technology against ways in which they may conflict with existing beliefs, ethics, and values? (National Curriculum Standards for Social Sciences - 8: Science, Technology, and Society)

Values, beliefs, and attitudes that have been influenced by new scientific and technological knowledge (e.g., invention of the printing press, conceptions of the universe, etc.). (National Curriculum Standards for Social Sciences - 8: Science, Technology, and Society)

Science and technology have contributed to making the world increasingly interdependent. (National Curriculum Standards for Social Sciences - 8: Science, Technology, and Society)
Students analyze the geographic, political, economic, religious, and social structures of the civilizations of Islam in the Middle Ages. (Social Science Content Standards for California Public Schools – 7.2)

Understand the intellectual exchanges among Muslim scholars of Eurasia and Africa and the contributions Muslim scholars made to later civilizations in the areas of science, geography, mathematics, philosophy, medicine, art, and literature. (Social Science Content Standards for California Public Schools – 7.2.6)

Describe the Golden Age of cooperation between Jews and Muslims in medieval Spain that promoted creativity in art, literature, and science, including how that cooperation was terminated by the religious persecution of individuals and groups (e.g., the Spanish Inquisition and the expulsion of Jews and Muslims from Spain in 1492). (Social Science Content Standards for California Public Schools – 7.9.7)

Students analyze the historical developments of the Scientific Revolution and its lasting effect on religious, political, and cultural institutions. Discuss the roots of the Scientific Revolution (e.g., Greek rationalism; Jewish, Christian, and Muslim science; Renaissance humanism; new knowledge from global exploration). (Social Science Content Standards for California Public Schools – 7.10.1)

Identify the origin and diffusion of major ideas in mathematics, science, and technology that occurred in river valley civilizations, classical Greece and Rome, classical India, the Islamic caliphates between 700 and 1200, and in China from the Tang to Ming dynasties. (Texas Education Agency Curriculum Standards-Social Studies – World History Studies - 27.A)

Lesson Topics

This curriculum *Muslim Contributions to Civilization* is divided into six lesson plans with accompanying presentation notes, discussion and test questions, activities, and supplemental films. Each lesson covers the topics outlined below and can be used alone or as part of the entire curriculum.

**Lesson One: World Civilizations**
- Muslim Contributions to Civilization
- Flow of Civilization
- The Missing Link
- Elements of Culture

**Lesson Two: Home and Daily Life**
- Drinks
- Cuisine and Spices
- Fruits and Vegetables
- Sweets
- Clothing and Fabrics
- Hygiene and Lifestyle
- Furniture and Carpets

**Lesson Three: Architecture, the Arts, and Recreation**
- Architecture and Architectural Masterpieces
- City Planning
- Gardens
- Tiles
- Art and Arabesque
• Calligraphy
• Glassmaking
• Trade and Commerce
• Music and Musical Instruments
• Musical Influences
• Polo
• The Arabian Horse
• Chess

Lesson Four: Libraries, Colleges, and Mathematics
• Paper and Books
• Libraries
• Colleges and Universities
• Mathematics
• Arabic Numerals
• Geometry

Lesson Five: Medicine, Hospitals, and Pharmacies
• Medicine
• Physicians
• Anatomy
• Surgery
• Hospitals
• Pharmacies
• Zoology

Lesson Six: Science and Humanities
• Astronomy
• Astronomers
• Constellations and Stars
• Observatories
• Optics
• Timekeeping
• Mechanical Inventions
• Aviation
• Cartography and Navigation
• Geography and History
• Philosophy
• Literature
• Poetry
• Language
• Tolerance
• Famous American Muslims
• Conclusion
Muslim Contributions to Civilization

LESSON ONE:
World Civilizations

Presentation Content, Discussion Questions, and Activities
Introduction

Every civilization has borrowed from and contributed to other civilizations. Therefore it is important to acknowledge all the peoples and cultures that have made contributions. Muslim contributions, particularly those made during the Golden Age of Islam in medieval times, have often failed to be fully recognized and acknowledged. This lesson introduces some of the areas where Muslims made significant contributions, including art, architecture, science, math, medicine, astronomy, chemistry, physics, navigation, geography, literature, philosophy, and countless other fields. It also discusses the various elements of culture that enhance our life and well-being, and emphasizes the importance of all civilizations.

Content Focus and Themes

Social Studies, World Civilizations, Islamic Studies

Guiding Question

• What elements are cultures and civilizations made up of and how do different cultures and civilizations influence each other?

Learning Objectives

At the end of this lesson, students will be able to:
• Identify the elements that make up a culture.
• Identify how all cultures influence each other.
• Name some areas where Muslims made contributions to other cultures, including American culture.
• Identify the influences that Islamic civilization has had on world civilization.
Lesson One Presentation Content: World Civilizations

The following presentation notes are designed to explain the subject matter on each slide in the digital presentation that accompanies this curriculum.

Slide #1: Copyright

Notes:

• Do not remove this slide. However, you should skip over it in a presentation.

Slide #2: Title – Muslim Contributions to Civilization

• Since 9/11, and even before, Muslims and their culture have been associated with terror and violence, backwardness and oppression, and regarded as the opposite of Western civilization and values.

• Yet if we look at Muslim civilization, especially during its Golden Age in medieval times, we find that it contributed much to the world in many fields, including art, architecture, botany, zoology, mathematics, medicine, astronomy, physics, navigation, geography, literature, and philosophy.

• Many of these contributions were adopted from previous civilizations by Muslims, who enhanced them and passed them on to Europe, while others were invented by Muslims themselves during the Golden Age of Islam.

Slide 3: Outline of Presentation

• This presentation and curriculum is divided into the following topics:
  – In part one we will examine the topic of world civilizations and how they interact with each other.
  – In part two we will look at Muslim influences on home and daily life.
  – In part three we will look at Muslim contributions to architecture, the arts, and recreation.
  – In part four we examine the rise of libraries and colleges in Muslim lands and one of the most important fields where Muslims contributed, mathematics.
  – In part five we will look at how Muslims expanded the work of previous civilizations in the field of medicine and medical institutions, including hospitals and pharmacies.
  – In part six we conclude with a discussion of various scientific contributions, including astronomy, and Muslims’ impact on the humanities.

Slide 4: Part One: World Civilizations

• If we look at history and the contributions of all global cultures and peoples, we find that all civilizations have made important contributions.

• In many ways, world civilization is like a tapestry or quilt, the patches of which are taken from multiple sources and then sewn together to produce a single product. Humans are like bees that gather from many flowers to produce a substance that is basically the same but differs in taste, texture, and color.
Slide 5: Flow of Civilization

• Every civilization has borrowed and learned from others. For example, in America our everyday mathematics comes largely from Indian and Arabic sources; our system of government comes from American Indian, Greek, Middle Eastern, and modern European sources; and our music comes from Europe, Africa, and the Americas.

• Jazz and blues, from which rock and roll originates, have their roots in African rhythms and melodies. Our foods have many different influences as well, including Chinese, Italian, Native American, Greek, and Arab. Our clothes also have influences from as far as China and South Asia.

• Similarly, if we look at Muslim civilization, we can see many influences that impacted it. For example, China gave Muslims their knowledge of papermaking, which they in turn passed on to Europe; their mathematics, which they also passed on to Europe, came largely from India; their organization and structure of knowledge came from Greece; and their medicine came from both Eastern and Western sources.

• The Muslims and Arabs were strategically located between the Far East and Europe to play an important role in this transfer of knowledge.

Slide 6: The Missing Link

• It would be impossible to have a clear understanding of the modern world and the events that lead up to the Renaissance without looking at the contributions of previous civilizations, including that of the Muslims.

• While the Middle Ages in the West are sometimes referred to as the “Dark Ages,” for the Muslim world this was a time which became known as the Golden Age of Islamic civilization, generally defined as the period between the 8th and 15th centuries. All world civilizations generally go through a period of ascent and reach a pinnacle, after which they fall into a period of decline.

• Today, we are going to look at Muslim contributions, recognizing that Muslim civilization is one among countless civilizations that have contributed to and enhanced our understanding, growth, and well-being.

• While there are other less positive characteristics in all cultures and peoples that need to examined and discussed, our focus here is on the positive features of Muslim civilization that have often not received the recognition and credit they deserve.

Slide 7: Elements of Culture

• When we begin to talk about a particular culture or civilization, we should first ask: what are the elements that make up a culture or civilization? How do those elements help to further global civilization?

• The elements of a culture include anything that helps a society grow and enhances the collective life of its members. These include the development of various foods through cuisine; of dress through textiles and design; of living and work spaces through architecture and engineering; of understanding through knowledge and science; and of human growth and development through religion, language, and traditions.
Post-Presentation Questions

Analysis/Comprehension Questions (Questions about the facts on each slide)

Muslim Contributions to Civilization
1. What are some of the different areas that Muslims contributed to during their Golden Age?

Flow of Civilization
2. Name some of the civilizations that have contributed to American culture.
3. Name examples of contributions that the Muslims adopted from other civilizations.

The Missing Link
4. Why is it important to study the contributions of all civilizations?
5. What is the period generally viewed as the Golden Age of Islamic civilization?

Elements of Culture
6. What elements make up a culture?

Discussion Questions
1. What are some ways that different cultures and peoples influence one another over time? Discuss both historical and contemporary examples.
2. How does culture and civilization affect your life? What aspects of culture do you and your family practice and where do you think these traditions come from? What other culture besides your own do you think influenced your family’s culture?
3. Do you think Islamic civilization has influenced your life and the culture you are a part of? If so, how, and if not, why not? What makes you believe these things?

Activities
1. Divide the class into groups. Have each group create a collage of different aspects of American culture, such as pizza, that come from other cultures.
2. Have students make a list of the various cultural practices that they might have adopted from the original culture of their parents or grandparents.
Supplemental Film Content

In this section of the lesson we provide recommendations or links to films that relate to the topics we are discussing in this lesson. These films vary from clips taken from full length documentaries to short documentaries. Each of the film names or links is accompanied by a brief description of the film as well as discussion questions for the class.

Note: like any online content, video or film links may change or no longer work over time. We apologize for any inconvenience.

**1001 Inventions and the Library of Secrets, 2010.** 1001 Inventions: Discover the Muslim Heritage in Our World.

**Themes:** Muslim Contributions, Technology, Health/Medicine, Science

This award-winning educational film is part of the 1001 Inventions traveling exhibit and is a good introduction to the Muslim heritage that is still alive in our world today. According to the 1001 Inventions website, “Oscar-winning actor and screen legend Sir Ben Kingsley has taken the starring role in a short feature film about the scientific heritage of Muslim civilization. The mini-movie, entitled 1001 Inventions and the Library of Secrets, accompanies a global touring exhibition which was previously open to the public at the Science Museum in London. The 1001 Inventions exhibition completed its record-breaking residency at London’s Science Museum with 400,000 visitors in the first half of 2010, followed by a blockbuster residency at the iconic and historic Sultan Ahmed Square in Istanbul with a further 400,000 visitors over a seven-week period. The exhibition then opened at the New York Hall of Science in December 2010, welcoming an additional 250,000 during its five-month US premiere. The next venue on the 1001 Inventions exhibition’s global tour is the California Science Center in Los Angeles where it will reside from May 27th 2011 until December 31st 2011. In the movie, Sir Ben takes on the role of a mysterious and cantankerous librarian who takes a group of school children on an enlightening journey to meet pioneering scientists and engineers from the history of Muslim civilization. The librarian is then revealed to be 12th-century engineering genius Al-Jazari.”

**Questions about the film:**

1. What impact did Muslim contributions have on the modern world?
2. Were the “Dark” or “Middle Ages” really so dark? What important things happened during that era?
3. What name did the character in the film Al-Jazari say the era should be called?
4. What inventions were mentioned in the film that came from Islamic civilization? Who were the specific scholars mentioned in the film and how did they contribute?

**Further Resources:** For more in-depth curriculum related to the 1001 Inventions touring exhibition and website see: [http://1001inventions.com/media/teachers-pack](http://1001inventions.com/media/teachers-pack)
References and Further Resources

The following are key resources that were used to research this lesson plan, in addition to internet searches which augmented these sources. They are also useful resources for further study on the topics covered in this lesson.

Books

Films

Websites
Muslim Heritage: [http://www.muslimheritage.com/](http://www.muslimheritage.com/)