The Silk Road

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Lesson Plans for Educators

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Introduction to the Silk Road

Although we traditionally think of the Silk Road as a single route across the deserts of Central Asia, it was in fact was a complex web of overland and maritime trade routes that linked Asia, the Middle East and Europe. The land routes were used extensively from the 2nd century B.C.E. onwards and were complemented in the medieval period by sea routes that linked the coastal regions of China, Southeast Asia, India, the Persian Gulf, East Africa and Mediterranean Europe. The best known segment of the Silk Road began in China, wandered into northern and southern routes that entered parts of Central Asia, crossed the Iranian plateau, and ended on the eastern shores of the Mediterranean. Important periods for the Silk Road were the Chinese Han dynasty (206 B.C.E.-C.E. 220), the Chinese Tang dynasty (618-907 C.E.), and the Mongol Khanate (13th and 14th centuries C.E.).

This lesson plan packet examines the materials, goods, technologies, ideas, and religions that traveled the Silk Road, exploring the vast influence this flow of commerce had across the world. Some of the objects from the collection of the Utah Museum of Fine Arts that are highlighted in these lessons may have actually traveled on these trade routes, while others, including more modern objects represent the broad range of commodities—both physical and conceptual—that were exchanged.

Because of the great length and cultural and political complexity of the Silk Road, trade was multi-directional, and very few people traveled the entire route. Most traders traveled from one center of trade to another and back again. But the spread of goods and ideas went far beyond the established routes. Silk from China made its way into the courts of Europe along the same routes that brought knowledge of gunpowder, paper and navigation technology to Europe and Western science to China. Leopard fur from Africa was traded in Asia along routes that also brought the religion of Islam. The lapis lazuli stone, from Afghanistan, was traded throughout Europe, Asia, the Middle East, Africa and Europe, while itinerant monks took Buddhism from Afghanistan to Central and East Asia.

Trade on the land routes of the Silk Road began to decline in the 1400s, due in part to political instability in several regions after the collapse of the Mongol Empire, while maritime exploration and trade became increasingly lucrative and efficient for carrying huge quantities of goods like silk, porcelain, and tea. The legacy of the Silk Road is visible today in the high volume of trade between Asia and the West and the global ubiquity of products like coffee, porcelain, and Hello Kitty.

The term Silk Road was not coined until the 1877 by the German explorer and geographer Baron Ferdinand von Richthofen.

Materials and Goods

Most of the materials and goods traded on the land routes by camel caravans were small, lightweight, and easily transportable, like paper and silk. Heavier items, like porcelain were only transported in quantity after the development of sea trading which also allowed for the shipping of huge volumes of products like tea and spices. Cinnamon, ginger, nutmeg and saffron were prized commodities on the Silk Road, and some foods that could be easily transported—coconuts, apples, and mushrooms, for example—were traded as well. There are even records of traders carrying grapes, packed in ice in lead containers. Animals made the journey, too: camels and donkeys carrying goods, and strong horses sold for military use, and peacocks, quails, and hawks that filled zoos of exotic animals in courts across the globe.

Technologies and Ideas

The spread of ideas and technologies on the Silk Road cannot be underestimated. Indeed, in many cases, transmission of new concepts had more lasting effects than the introduction of foreign goods or materials. Printing technologies including woodblock and movable type originated in China and spread quickly with printed texts. Eventually, printed money, also invented in China, became a common currency in some regions. The technologies of compasses, umbrellas, and chairs were passed along with the goods themselves.

Some technologies were intentionally kept secret. The Chinese exported their blue and white porcelain, but did not disclose the method for creating it for hundreds of years. Chess was so widely popular along the Silk Road that it is impossible to know where the game originated: several cultures claim they invented it. Mathematics also traveled the Silk Road, with abacuses and Arabic numerals making their way into the west.

Religions

The languages, clothing, cultures, and religions of traders on the Silk Road varied widely. Just as different cultures dominated the trade routes at different times during its history, the spread of different religions waxed and waned as each gained or lost popularity and followers.

Many religions expanded in numbers by way of the Silk Road. Manichaeism, Buddhism, Christianity, and Islam were proselytizing religions that used the Silk Road as a means of teaching their religious practices to others. Monks and missionaries traveled these routes along with merchants who adhered to various faiths. Merchants sponsored the building temples, monasteries, and shrines in oasis cities like Samarkand and Dunhuang as well as trading ports like Canton and Calcutta that often became major religious centers. Other religions such as Zoroastrianism, Judaism, Hinduism, and Shinto did not proselytize, but were situated in heavily populated areas and thus grew as well.

Beyond the Silk Road

Early routes of the Silk Road stretched from China, through Central Asia to the Middle East and Europe. By the early Renaissance, advancement in navigational techniques brought the Silk Road off land and onto the great waterways of the Eastern hemisphere. Cities that had been early sites of exchange grew into large commercial centers such as Constantinople and Antioch before the Middle Ages, and Venice and Lisbon in the Renaissance.

When Marco Polo returned from his fantastic voyage in 1295, he told stories of marvelous places and extraordinary luxuries he had found, such as tea and porcelain. It sparked a craze for these exotic goods in Europe. Just two centuries later, luxury trade was a global phenomenon with styles and fashions being exchanged for the first time between Asia and Europe. It would not be long before Europe reached West to the New World, completing the paths of circumnavigation first forged by the Silk Road. Globalization, whose effects we feel ever more powerfully today, had begun.

Ancient Routes of the Silk Road

Perfume Containers — *Chinese*

These Chinese perfume bottles represent many goods and materials that traveled on the Silk Road. Ivory made its way into China from India and horses were imported from the Central Asian Steppe Region. Originally perfume and perfumery, or the art of making perfumes, was only known in Egypt, but through the Silk Road, the idea of perfume was introduced to Persia, India, China, Korea and Japan.

The world's first recorded chemist is considered to be a woman named Tapputi, a perfume maker who was mentioned in a cuneiform tablet from the second millennium B.C.E. in Mesopotamia. The Arabian chemist, Al-Kindi (Alkindus), wrote in the 9th century a book on perfumes which he named *Book of the Chemistry of Perfume and Distillations*. It contained more than a hundred recipes for fragrant oils, salves, aromatic waters and substitutes or imitations of costly drugs. The Persian Muslim doctor and chemist Avicenna (also known as Ibn Sina) introduced the process of extracting oils from flowers by means of distillation, the procedure most commonly used today.

Chinese
Perfume Containers
Ivory
Gift of Mrs. Richard A. Hudnut
Museum # 1951.045_a,b and 1951.046_a,b

- http://www.cerritos.edu/jhaas/silk%20road%20project/silk_road.htm
- http://www.advantour.com/silkroad/goods.htm
- http://en.wikipedia.org/wiki/Perfume

Perfume Containers
Silk Road Stories Lesson

written by Jenny Woods

Objectives:

1. Students will understand the difference between myths, folktales and legends.
2. Students will learn about the Silk Road.
3. Students will learn stories from the Silk Road.
4. Students will learn about the importance of story telling as an oral history

State Core Links:

3rd and 4th Grade Language Arts
Standard 7: Comprehension, objective 3 : Identify different genres: fairy tales, poems, realistic fiction, fantasy, fables. Folktales, tall tales, biographies, historical fiction.

Standard 8: Writing, Students write daily to communicate effectively for a variety of purposes and audiences.

5th and 6th Grade Language Arts
Standard 7: Comprehension, Students understand, interpret, and analyze narrative and informational grade level text.

Standard 8 Writing, Students write daily to communicate effectively for a variety of purposes and audiences.

7th Grade Language Arts
Standard One, Objective 3 (Comprehension of Literary Text): Comprehend literature using elements of narrative and poetic text.

Standard 2 (Writing): Students will write informational and literary text to reflect on and recreate experiences, report observations, and persuade others.

Standard 3, Objective 3 (Oral Communication of Inquiry): Communicate ideas and information appropriately in classroom settings.

Grade Level:

Grade Level: 3rd – 7th – teacher should adapt the basic concept of this lesson plan to meet their students abilities.

Materials:

Stories from the Silk Road – Included with this lesson plan
Images from this packet that illustrate aspects of the stories including the ivory horse perfume containers and the child's silk hat.

Background:
Myths, Folktales and Legends – often these terms are used interchangeably, but each has a specific definition.

A myth is a sacred story. It may explain the origin of life or express a culture's moral values.

*** Please note that the term myth is commonly used to indicate something is false. That is not the definition that we will be using for this lesson plan. Teachers, please be sure to explain to your students that by referring to a religious story as a myth, you are not saying that story is false or trying to be disrespectful to that religion in any way.

A folktale is a story that is pure fiction and may include elements of fantasy.

A legend is a story about the past that is believed to be true.

The Silk Road was a series of trade routes that linked China to the Middle East. Many goods besides silk were traded along the Silk Road. Along with these goods, stories were also spread from one merchant to another. Four famous stories from the Silk Road are included in this lesson plan.

Activity:

Review the definitions of myths, folktales and legends with your students. Ask students to suggest examples of myths, folktales and legends that they already know.

Read each of the following stories to the class and then as a group, discuss and answer the questions found at the end of each story.

Buddha and the Snails
How Silk was Discovered
Julius Caesar's Passion for Purple
The Heavenly Horses

Divide the class into three groups. Have each group research another myth, folktale or legend from the Silk Road region. Have each group present their story to the class.

Assessment: Assess students based on their comprehension and participation in the lesson.

Adaptations:
Younger grades could create their own myth, folktale or legend instead of researching one.

Stories from the Silk Road

Buddha and the Snails

Buddha was a spiritual teacher who lived in India and founded the Buddhist religion. One very hot summer day, Buddha was meditating. He was so focused on his meditations that he did not notice that he was in danger of getting heatstroke. A group of snails saw Buddha meditating. They recognized that he was enlightened and they also noticed that he was in danger from the hot sun. They crawled up onto his head and crowded close together to provide Buddha with some shade from the hot sun and to help him cool down. Buddha was very grateful to the snails. Often, when artists carve statues of Buddha, they portray him with the snails on his head.

Is this a myth, a folktale or a legend? Why?

Does this story teach a lesson or a moral?

Why is this story told?

How Silk Was Discovered

A long, long time ago there was no silk cloth to make clothes from because it had not yet been discovered. One day the Chinese Emperor's wife Xi Ling was sitting under a mulberry tree, drinking a hot cup of tea. Suddenly there was a splash! Something had fallen out of the tree and into Xi Ling's tea. Xi Ling peered inside the cup. It was a caterpillar's cocoon. She tried to fish it out of her tea, but she noticed that as soon as she touched the wet cocoon, it dissolved into a beautiful, silky thread. Xi Ling took the thread and wove it into a cloth and called it silk. Everyone loved the silk cloth and soon people began to raise the caterpillars (which they renamed silkworms) and harvested the silk thread to make silk cloth.

Is this a myth, a folktale or a legend? Why?

Is the Empress' status an important part of this story? Why do you think she is credited with discovering silk?

Why is this story told?

Julius Caesar's Passion for Purple

Julius Caesar was the emperor of all of Rome. He was a great battle commander, a great leader of the people and he loved the color purple. The dye that ancient Romans used to make the color purple was very difficult to find. It was so hard to find and so difficult to make that the color purple was usually reserved for royalty – no one else could wear that color. One day a trader from the east came to Rome selling a luxurious cloth he called silk. The cloth was very expensive and the trader knew that only a few people would be wealthy enough to buy it. The trader took the cloth to Caesar's palace to offer the silk to Caesar. Caesar liked the feel of the silk cloth and he decided that he should be the only person allowed to wear silk. He had some silk cloth dyed purple and made into a toga for himself. Other Romans saw the silk and were interested in wearing silk as well. After much persuading Caesar finally allowed the Roman senators to have a stripe of purple silk added to their togas, but he still would not allow regular citizens to wear silk. Despite his rule, wealthy

citizens began buying their own silk from traders and silk (in every color except purple) became a popular material for wealthy Roman's clothing.

Is this a myth, a folktale or a legend? Why?

What significance do you think the color purple had for royalty?

Can you think of another historical example of clothes or colors forbidden by the government or ruler?

The Heavenly Horses

In China, during the time of Emperor Wudi (around 100 B.C.E.) the Chinese people had horses that they used for farming or riding short distances. These horses were small and docile. They did not use these horses in battles. One day a man who had traveled across China and Central Asia came to the Emperor and told him about a breed of magical horses from the Ferghana Basin of Central Asia. The people of Central Asia rode them in battles and the horses were fierce and fearless. These horses were strong, fast and very intimidating in battles because they sweated blood. Emperor Wudi desperately wanted some of these blood-sweating horses. He called them Heavenly Horses and sent a group of representatives to Ferghana with gold to purchase as many Heavenly Horses as they could buy. The people of Ferghana refused to sell any horses and they stole the emperors gold. When Wudi heard of this treachery, he sent 60,000 soldiers to Ferghana. This large force quickly defeated the Ferghana people and they brought 3,000 Heavenly Horses back to China with them.

(Teachers – ask your class to guess if this story is a myth, a folktale or a legend at this point, prior to reading the epilogue).

Epilogue – For many years the story of the Heavenly Horses was thought to be a folktale, because the idea of blood-sweating horses seemed to be fictional and added to the story to make the horses seem more fierce. It was only recently that scientists discovered a blood- sucking parasite that lives under some horses' skin and causes blood to mix in with the horse's sweat.

After hearing the epilogue, does your classification of this story change?

Does the epilogue change the way you think about this story?

Can you think of another example of how science has changed the way we understand components of a story?

Hadith — *Kashmiri, Persian*

The Hadith are traditions relating to the words and deeds of the Islamic prophet Muhammad and are important tools for determining the Muslim way of life (Sunnah). The Hadith consists of two aspects: the text of the report and the chain of narrators (Sanad), which are the citations or references that supported Muhammad's sayings. Hadith was originally told as an oral tradition of Muhammad's actions and customs. People then questioned the sources of the Hadith, since there was not actual proof of Muhammad's words and deeds, therefore Hadith was written down. Muslims consider Hadith to be essential supplements and clarifications to the Qur'an, Islam's holy book.

- http://en.wikipedia.org/wiki/Hadith

Kashmiri, Persian (18th Century)
Hadith
Ink and gold leaf on vellum
Gift of Kent C. Day
Museum # 2002.5.2

Hadith
Religion along the Silk Road Lesson

written by Jennifer Jensen

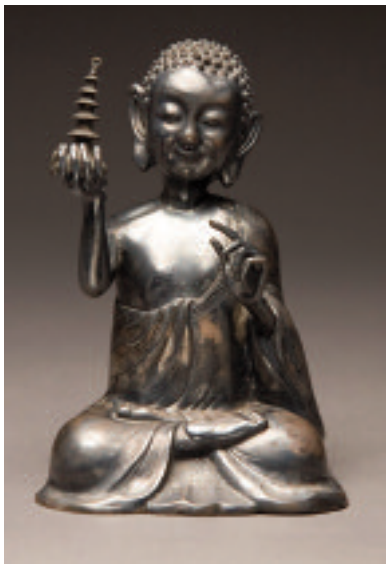
Objectives:

1. Students will gain a greater knowledge about the different religions that expanded along the Silk Road by a variety of activities targeting each learning style.
2. Students will be able to compare and contrast two different religions that spread along the Silk Road by completing a final project.

State core links:
World Civilizations
Standard 2, Objective 1: Describe the purpose and influence of religions and philosophies on classical civilizations of Greece, Rome, China, and India.

World Civilizations
Standard 3, Objective 1: Describe the impact the Silk Road had on trade across Europe and Asia.

Grade Level: Junior High and High School but can be adapted for younger grades



Buddha, Chinese, Silver, Gift of Mrs. Richard A. Hudnut, Museum # 1951.019

Materials:
- Religious objects or pictures of objects that could have been traded and used on the Silk Road such as the Hadith, statue of Buddha, a Muslim prayer rug, a cross, and a dreidel. These objects can be found in the *Trade and Travel Along the Silk Road* box from the UMFA Teacher Resource Center - Call 801-581-8336 to reserve.
- Modeling clay
- Walkman or radio with headphones
- Paint/colored pencils
- Access to computers and the internet

Background:
Many religions expanded in numbers by means of the Silk Road. Religions such as Manichaeism, Buddhism, Christianity, and Islam were all proselytizing religions that used the Silk Road as a way to teach their religion to others. They often sent missionaries to actively seek out new members and built temples and shrines along the route. Other religions such as Judaism, Hinduism, Zoroastrianism, and Shinto did not proselytize but were situated in heavily populated areas along the Silk Road and their numbers grew as well.

Activity:

1. Begin by discussing with the class the background of religions and their spread along the Silk Road.
2. Set up stations in your classroom depending on which activities you would like to use from the layered curriculum sheet. For example, an audio station, computer station, library station with books on the Silk Road.

3. Also, set up a section with the religious objects. If you are using the *Trade and Travel Along the Silk Road* box, set up the jade Buddha, prayer rug, amber cross, and silver dreidel.
4. Give students the layered curriculum sheet once you have set up stations in your classroom and give them the guidelines that they must have 100 points total. They must do four A activities, one B activity, and one C activity.

Evaluation:

Students' work can be evaluated by making sure they completed the correct number of projects for each section. Once that has been determined, evaluate each project based on completion, creativity, and presentation.

Adaptations:

For younger students, fewer projects could be completed or only section A could be given. For older students, more activities could be added or required. For English language learners, some of the activities could be done in their native language. For special education students, activities could be done in partners if needed.

Religions of the Silk Road **Name** _____

Section A – choose four of the following

1. Create a trail on a map of the Silk Road of how Buddhism, Islam, Judaism, and Christianity spread along the Silk Road. Place a star where each religion started. (10 pts)
2. Use modeling clay to recreate either a cross, dreidel, Buddha, or prayer rug. (10 pts)
3. Create a collage of images you collect from magazines, newspapers, photographs, etc. to describe one of the main religions that spread along the Silk Road. (10 pts)
4. Compare the design of mosques with cathedrals in Europe. How do they differ? How are they the same? You can find pictures of both on the Internet. (10 pts)
5. Listen to a CD with music from the Silk Road and write a scene from a movie about the Silk Road and which song would play in the background of it. (10 pts)
6. Look on the Internet at different mosques and temples built along the Silk Road then build a clay model of one. (10 pts)
7. Write 2-3 paragraphs explaining the difference between a Buddha and Bodhisattva. (10 pts)
8. Research the defining characteristics of Buddha then draw a picture of him. (10 pts)

Section B – choose one of the following

1. Create a brochure for a tour of the Silk Road. Include descriptions of places, prominent religions, and religious sites. Draw pictures of the places and sites that you highlight. (20 pts).
2. Make a front-page newspaper article about the construction of a temple or mosque by one of the religions along the Silk Road. Choose a religion, write an article about the construction of the religious building, notifying readers when the project will be completed, and draw a picture. Don't forget to think of an eye-catching headline. (20 pts)
3. Use a tape recorder or video recorder and record yourself as a news anchor reporting a story about an event along the Silk Road. Type up a script of your story, find others to interview, etc. Be sure to turn in your script when you turn in your tape. (20 pts)

Section C – choose one of the following

1. Compare and contrast two religions that traveled along the Silk Road by creating a Power Point presentation to present to the class. (40 pts)
2. Compare and contrast two religions that traveled along the Silk Road by writing a three-page research paper. (40 pts)
3. Compare and contrast two religions that traveled along the Silk Road by creating two separate poster boards describing both religions with words and pictures. (40 pts)

Ishaandy Hat — *Kuba*

Fur trade was so prolific on the Silk Road that some scholars refer to specific trade routes as being part of the "Fur Road." While the leopard fur that traveled the Silk Road could have originated in South East Asia (once a major part of the Leopard's habitat) or Africa, this more contemporary hat is made from the fur of an African leopard. Other commonly traded furs included: musk, ermine, marten and fox from the Steppe region.

The Ishaandy Hat is from the Kuba culture of Zaire, now called The Republic of Congo. The hat is made from leopard's fur, which is a symbolic reference to the kings' status. Most hats made by the Kuba culture either serve to show the persons status or they are used to express creativity and personal design. The Kuba people are known to always be adorned with some type of accessory.

Kuba (Mid 20th Century)
Ishaandy Hat
Leopard skin, raffia, metal, basketry
Gift of Owen D. Mort, Jr. Collection of African Art
Museum # 2008.32.21

• Willis J., Karen. *Expressions Of Culture: Visual Forms Of The Kuba*, 1996
• Coles, Janet. *A Book And Craft Kit*, Metropolitan Museum of Art, Elizabeth Bigham

Ishaandy Hat
Goods Traded on the Silk Road Lesson

written by Jenny Woods

Objectives:

1. Students will identify the geographic regions of the Silk Road.

2. Students will learn about some of the goods that traveled along the silk road, and identify the origins, purposes and directional routes of the goods.

State Core Links:
4th Grade Visual Arts
Standard 4: The student will interpret and apply visual arts in relation to cultures, history, and all learning.
Objective 1: Compare the arts of different cultures to explore their similarities and diversities
Objective 2: connect various kinds of art with particular cultures, times or places.

7-10th Grade Geography for life
Standard 2: Students will understand the human and physical characteristics of places and regions.

7-10th Grade World Civilizations
7-12th Grade Geography for Life
Standard 3: Students will investigate the diffusion and interaction of cultures from the Classical Period through the Age of Discovery.
Objective 1: Appraise the major characteristics of interregional contact that linked the people of Africa, Asia and Europe.
a. Describe the impact the Silk Road had on trade across Europe and Asia.
Objective 2: Assess the influence of advancing technologies on the development of societies.
a. Identify the significant technological developments in Tang China.
b. Investigate key technologies that diffused to Europe from Asia; e.g., gunpowder, printing.

Materials:
• Goods or pictures of goods that could have been traded and used on the Silk Road (see possible list below). These objects can be found in the *Trade and Travel Along the Silk Road* box from the UMFA Teacher Resource Center - Call 801-581-8336 to reserve.

Prayer Rug
Compass
Jade Buddha
Ceramic Horse
Decorative Fire Crackers
Amber Cross
Stages of Silk
Chair
Blue and White Porcelain
Silver Dreidel

• Maps of silk road region (overhead and/or hard copies for each student)
• Pictures of objects (overhead and/or hard copies for each student)
• Colored pencils for each student
• Glue or tape
• Object Information Sheet
• Goods from the silk road list and answers sheet overheads

Activity:

1. Begin by discussing what the silk road is and show the maps of where the silk road was located.

2. Show the students the following objects:

Prayer Rug
Compass
Jade Buddha
Ceramic Horse
Decorative Fire Crackers
Amber Cross
Stages of Silk
Chair
Blue and White Porcelain
Silver Dreidel

3. As each object is shown ask students to identify what the object is. After identifying the object, talk as a group about its use. Ask students to make a hypothesis about where each object might have originated.

4. Assign students to find where each object originated. Students can be assigned to work individually or in groups. Older students should do the research in books or on the internet. Younger students can read through the object information sheet.

5. Have students cut out the picture of the objects and glue or tape them onto their region of origin on the map (or do this activity as a group using the overhead set of maps and objects). Once each object is placed, use colored pencils to indicate the direction or directions the object traveled on the silk road.

6. Write the following titles on the board: "Originated in the east and traveled west" or "Originated in the west and traveled east." As a class go through the "Goods from the Silk Road" list, and guess which title each good should go under. After everyone has taken a turn, reveal the answers to them and facilitate a discussion about the student's guesses and why they were or were not accurate.

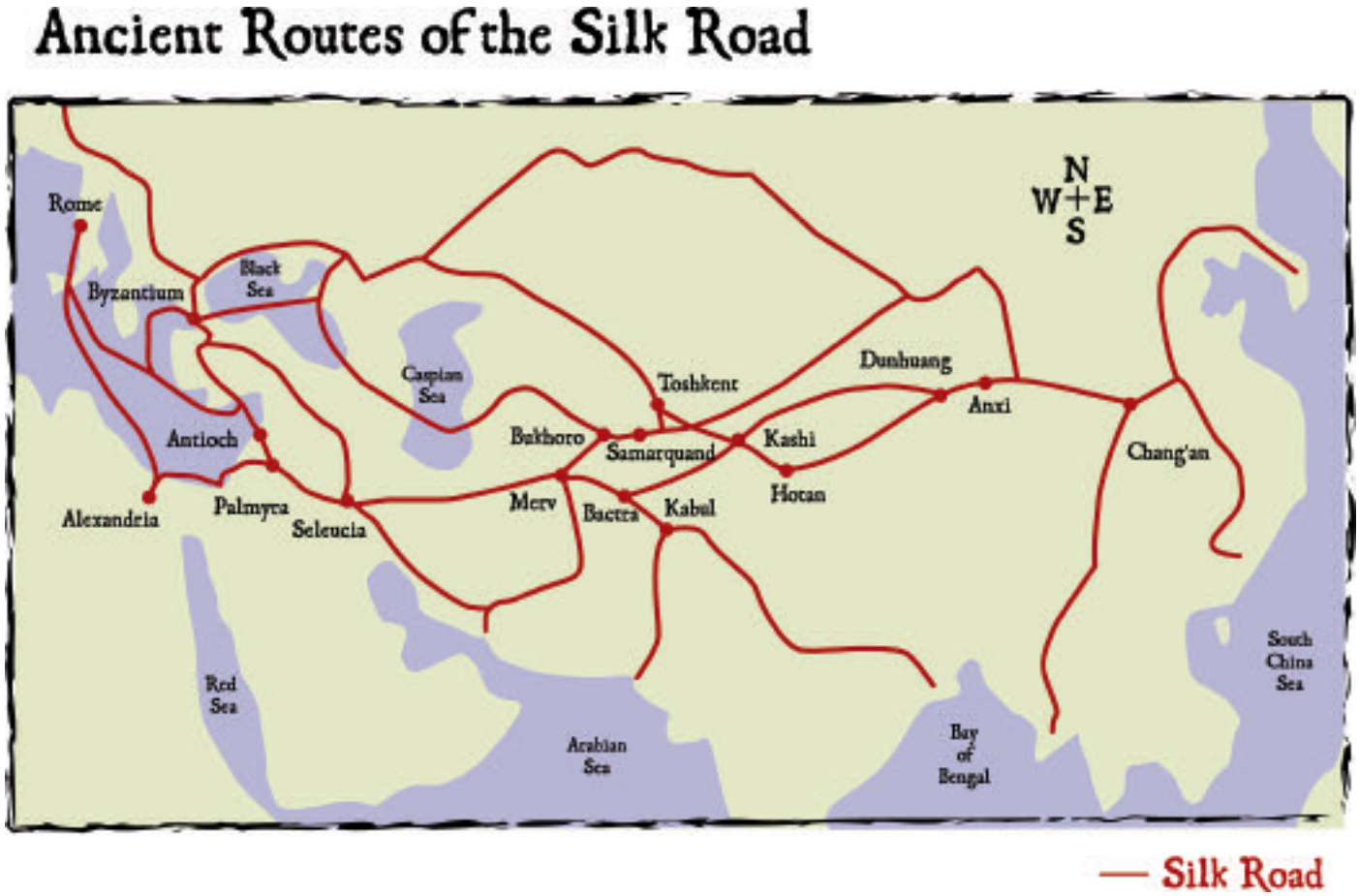
Assessment:

Assess students based on their participation in the activity and their comprehension of the material.

Sources:

http://www.ee.ryerson.ca/~elf/abacus/history.html
http://www.ess.uci.edu/~oliver/silk.html
http://www.asiasociety.org/arts/monksandmerchants/silk5.htm
http://www.silk-road.com/artl/papermaking.shtml
http://en.wikipedia.org/wiki/Camera_obscura
http://www.nmhschool.org/tthornton/mehistorydatabase/persian.php
http://www.asiasociety.org/arts/monksandmerchants/silk2.htm
http://scsc.essortment.com/chesshistory_rmct.htm

http://www.silk-road.com/artl/printing.shtml
http://www.smith.edu/hsc/museum/ancient_inventions/compass2.html
http://www.silk-road.com/artl/gun.shtml
http://gallery.sjsu.edu/silkroad/civilization.htm.
http://www.ess.uci.edu/~oliver/silk.html
http://www.silk-road.com/artl/papermoney.shtml
http://gallery.sjsu.edu/silkroad/culture.htm
http://www.silk-road.com/artl/silkhistory.shtml
http://www.nmhschool.org/tthornton/mehistorydatabase/persian.php
http://en.wikipedia.org/wiki/Umbrella



Some Goods and Materials that Traveled along the Silk Road

Abacus
Amethyst
Bamboo Paper
Bronze
Camera Obscura
Cedar
Chrysanthemums
Cloisonné
Cosmetics
Fur
Glass
Gold
Iron
Ivory
Lapis Lazuli
Paper Money
Perfume
Polo
Spices
Tea
Turquoise
Umbrellas
Wool

Some Goods and Materials that Traveled along the Silk Road
Answer Sheet

From the East, Traveled West	From the West, Traveled East
Abacus	Amethyst
Bamboo Paper	Camera Obscura
Bronze	Cedar
Chrysanthemums	Cloisonné
Fur	Cosmetics
Iron	Glass
Paper Money	Gold
Spices	Ivory
Tea	Perfume
Umbrella	Polo
	Turquoise

Study Guide

Abacus – Many different cultures developed and used counting devices. The abacus comes from 13th century China, but it's design may have been influenced by other counting boards that traveled on the Silk Road to China. http://www.ee.ryerson.ca/~elf/abacus/history.html

Amber Cross – Amber as a gemstone and Christianity both originated in the west and traveled east along the Silk Road. http://www.ess.uci.edu/~oliver/silk.html

Bamboo instruments – Musical instruments traveled in both directions along the Silk Road. An instrument made of bamboo would have originated in the east and traveled west.
http://www.asiasociety.org/arts/monksandmerchants/silk5.htm

Bamboo Paper – Paper was invented in China as early as 100 BCE. A sheet of paper is created from the settling of a layer of disintegrated fibers from a watery solution onto a flat mold. Once the water is drained away, the deposited layer is removed and dried. The Chinese made paper from the fibers of many plants including bamboo.
http://www.silk-road.com/artl/papermaking.shtml

Camera Obscura – The first description of a camera obscura comes from approximately 1000 C.E. from an Iraqi scientist named Abu Ali Al-Hasan Ibn al-Haitham. The Camera Obscura is an optical device that was a precursor to the camera. The technology of the camera obscura spread both east and west.
http://en.wikipedia.org/wiki/Camera_obscura

Carpet (Prayer Rug) – Beautiful carpets and the Islamic religion traveled on the Silk Road from the Middle East to the east. http://www.nmhschool.org/tthornton/mehistorydatabase/persian.php

Chair – Chairs began to replace floor mats in China after chairs were brought along the Silk Road from Turkish and Persian Cultures. http://www.asiasociety.org/arts/monksandmerchants/silk2.htm

Chess Set – Different variations of chess were played in Ancient China, India and Persia, and no one knows which culture invented the game. The similarities between the games indicate that it spread along the Silk Road, but it is unclear which direction it traveled. http://scsc.essortment.com/chesshistory_rmct.htm

Chop – The Chinese invented printing, sometime between the 4th and 7th centuries. Blocks of wood were carved with texts and printed on textiles. The printed texts traveled along the Silk Road, but the technique of printing did not spread until several hundred years later. The chop is similar to a signature. Each person would have a unique chop that they would use to sign a document. This chop says "Art Museum" and you may print this chop with the red ink that is provided. http://www.silk-road.com/artl/printing.shtml

Compass – The earliest compass was invented in China during the Han Dynasty (2nd Century BCE to 2nd Century C.E.). The concept of a compass was adapted into many different types of compasses including needle compasses and water compasses. http://www.smith.edu/hsc/museum/ancient_inventions/compass2.html

Gunpowder (Decorative Firecracker) – Gunpowder was invented in China by accident when alchemists mixed several ingredients in search of the elixir of immortality. The resulting product was first used in warfare in the 10th century. Gunpowder traveled from China to the west on the Silk Road. http://www.silk-road.com/artl/gun.shtml

Horse – Many areas along the Silk Road had domesticated ponies, but a certain breed of horse that was strong, fast and could carry an armored man in to battle became a common trade good along the Silk Road. These horses, known as "heavenly horses," originated in western Asia and traveled east into China and Mongolia. http://gallery.sjsu.edu/silkroad/civilization.htm.

Jade Buddha – Jade entered the Silk Road at the oasis town called Hotan in western Asia and Buddhism originated in India. Buddhism primarily traveled on the Silk Road into China, and jade traveled both east and west. http://www.ess.uci.edu/~oliver/silk.html

Paper Money – Paper currency originated in China in the 9th century after the development of block printing. The concept of paper currency spread along the Silk Road due to its two main advantages over money made of gold, iron, silver and copper; it was easy to carry and the other materials could be saved to make everyday objects. This modern set of Chinese paper money is from 1949. http://www.silk-road.com/artl/papermoney.shtml

Porcelain – It is believed that porcelain was first created by the Chinese during the Han Dynasty (approximately 200 C.E.) and then spread west along the Silk Road. Porcelain is made by mixing clay and stone and heating the mixture to over 1300 Degrees. The blue color commonly seen on porcelain is derived from cobalt oxide. http://gallery.sjsu.edu/silkroad/culture.htm

Silk – Chinese legend credits Lady Xi Ling, wife of the Yellow Emperor (ca. 3000 BCE) with the discovery of silk thread after she accidentally dropped a silkworm cocoon into her tea. As silk fabric began to travel along the trade routes, the demand for the product grew until it became one of the most frequently traded goods. The term "Silk Road" was not coined until the 18th century, but it is an accurate title for these trade routes given the amount of silk that came out of china and spread westward. http://www.silk-road.com/artl/silkhistory.shtml

Silver Dreidel – Silver objects and Judaism both traveled along the Silk Road from the west to the east. http://www.nmhschool.org/tthornton/mehistorydatabase/persian.php

Umbrella – The collapsible umbrella was invented in China in the 3rd Century and was probably originally constructed of large leaves attached to a tree branch. http://en.wikipedia.org/wiki/Umbrella

Materials that traveled on the silk road:

Amber - Originated in the west, traveled east

Amethyst – Originated in the west, traveled east

African Jade – Originated in Africa, traveled east

Bamboo - Originated in China, traveled west

Blue and White porcelain - Originated in China, traveled west

Bronze - Originated in the east, traveled west

Camel Bone (instead of Ivory) – Ivory originated in the west, traveled east

Cedar – Originated in the Middle East, traveled east

Cloisonné - Originated in the west, traveled east

Glass – Originated in the west, traveled east

Gold - Originated in the west, traveled east

Jade – Originated in western Asia/India, traveled east and west

Lacquered Cinnabar - Originated in China, traveled west

Lapis Lazuli – Originated in Afghanistan, traveled east and west

Paper – Originated in China, traveled west

Pearl – Originated in the east, traveled west

Porcelain - Originated in China, traveled west

Red Jade - Originated in western Asia/India, traveled east and west

Silver - Originated in the west, traveled east

Turquoise - Originated in the west, traveled east

Wool – Originated in the west, traveled east










Pre-visit and Museum Visit Silk Road Lesson

written by Jennifer Jensen

Objectives:
1. Students will be able to identify ways in which the Silk Road aided in the spreading of new materials and ideas by examining and investigating various objects traded along the Silk Road.

2. Students will gain a greater understanding of the Silk Road by taking a field trip to the Utah Museum of Fine Arts and learning through original objects.

State core links:
World Civilizations
Standard 3: Objective 1: Describe the impact the Silk Road had on trade across Europe and Asia.

Grade Level: 3-12

Materials:
- This lesson plan is meant to be used with the *Trade and Travel Along the Silk Road* box from the UMFA Teacher Resource Center - Call 801-581-8336 to reserve.
- Post it notes
- Large piece of butcher paper
- Copies of the Passport for each student (lesson on how to make the passport follows)
- Copies of the scavenger hunt for each student
- "East" and "West" stamps

Background:
The Silk Road refers to a series of routes that crossed through Europe, the Middle East, and Asia from the first millennium B.C.E. through the middle of the second millennium C.E. The best known segment of the Silk Road began in China, wandered into northern and southern routes that entered parts of Central Asia, crossed the Iranian plateau, and ended on the eastern shores of the Mediterranean. Important periods for the Silk Road were the Chinese Han dynasty (206 B.C.E.-C.E. 220), the Chinese Tang dynasty (C.E. 618-907), and the Mongol Khanate (13th and 14th centuries).

Many important scientific and technological innovations traveled along the Silk Road to the West. Transfer of these innovations, including gunpowder, the magnetic compass, the printing press, silk, mathematics, ceramic and lacquer crafts, was gradual, so that the West had no clear idea as to their origins. Musical instruments traveled the Silk Road. String, wind, and percussion instruments from both East and West influenced each other. Cymbals were introduced into China from India and Chinese gongs traveled to Europe. Spices traveled widely on the Silk Road. Spices from India and lands farther east, changed the course of world history. It was in part the preciousness of these spices that led to the European efforts to find a sea route to India and consequently to the European colonial occupation of countries in the East, as well as the European discovery and colonization of the Americas. (see the list of spices at the end of the lesson).

Preparation:

The first activity involves doing a KWL chart. If you are not familiar with this activity, the K stands for what you already know, the W stands for what you want to know, and the L represents what you learned. You will need to get a large sheet of butcher paper or three large pieces of paper. Write the letters K W L at the top with enough space under each letter to have students respond with questions or comments.

You will also need to designate two spaces in the room for the objects in the Silk Road box; one for the items that traveled East and one for the items that traveled West. Be sure to place gloves by both stations and have signs with the words "Traveled East" or "Traveled West" displayed near the objects.

Museum Pre-visit Activity:

1. In order to activate students' background knowledge, hand them a post it note and tell them to write something they know about the Silk Road. Depending on the age group, some may not know anything and some may know a lot about it. Explain that if they do not know anything they may write a question mark.
2. Have the students read what they wrote and place them underneath the K on your KWL one by one.
3. Next, break the class into two groups sending half to the "Traveled East" objects and half to the "Traveled West" objects. Give each group about 5 minutes to explore and investigate the items from the box, then have the groups switch to look at the other objects. Encourage students to take notes on what stands out to them in the objects.
4. Tell the groups they should ask questions about the items such as, "where could this object have originated?" or "why was this object important to people back then?" and "could this object have influenced later inventions?"
5. Depending on the age group of students, they may need a little help getting started so you should float between groups to help them start asking questions about the items. They may not even know what some of the objects are, so this is a great time to get them questioning.
6. After both groups have examined and investigated the objects, give them a few more post it notes to write down some of the questions they have or what they want to know about the Silk Road.
7. Explain that they will be making a passport and journal to record things they learn about the Silk Road. Hand out the 11x17 copies of the passport. There are instructions following the lesson plan on how to make these passports. (Again, depending on the age group you could demonstrate how to make the passport with them or you could copy the instructions on an overhead and have students do it by reading the instructions.) As students fold their paper into a book, make sure the PASSPORT page is on the front cover and the UMFA and Middle East Center logos are on the back cover. You may want to practice making one before having your students create them.
8. Divide the groups back into groups of East and West. Hand them the student handout of East or West items depending on which group they are in. Have them work as a group to answer questions in their passport about their section after reading through the handout.
9. Have each group present what they learned about the Silk Road after reading about the objects and have each student write one thing they learned on another post it note to place under the L on the chart. Have the group that is not presenting take notes in the section of the passport they did not fill out.
10. Once students have the two sections on east and west items in their passport, give them a stamp from the east and west (found in the silk road box) in the boxes at the end of the passport.

Museum Visit Activity

Welcome to the Utah Museum of Fine Arts. As you know from learning about the Silk Road in your classroom, trade along the route affected many areas and influenced many future inventions. Today we are going to go on a scavenger hunt to find pieces of art influenced by trade along the Silk Road. Some pieces may not be up at the museum at the moment so be sure not to spend too much time looking for one object. Have fun!

1. Porcelain was first created in China then spread west along the route. How many pieces of porcelain can you find? What country/countries are they from?

2. Horses traveled along the Silk Road. Can you see any pieces that show horses in them?

3. Beautiful carpets and rugs traveled from the Middle East to the east. Can you find any rugs in the museum? (take a closer look: there may be some incorporated into paintings throughout the museum)

4. The earliest compass was invented in China. After being traded along the route, various types of compasses were developed. Can you find a compass in one of the paintings in the European gallery?

5. Jade traveled both east and west from western Asia. Can you find any artwork made from jade?

6. Many religions expanded along the Silk Road including Christianity and Buddhism. How many items in the museum can you see that show influences of these two religions? (hint: look for statues of Buddha, paintings of Christ, crosses, etc.)

7. Chairs were brought along the Silk Road from Turkish and Persian cultures. How many chairs can you see in the museum? Where were they made?

8. Silk is an obvious good traded along the route, hence the name Silk Road. Silk is a soft, smooth fabric often worn by wealthy people. Can you find any paintings where the people appear to be wearing silk clothing?

Once you have found all of the objects, be sure to write down the titles and artists of your three favorite pieces of art that you found on the scavenger hunt today in order to receive your last passport stamp.

Evaluation:

Students' understanding can be evaluated by looking through their passport and scavenger hunt checklist.

Adaptations:

For students who are more advanced and often finish early, have a section of the room titled Headed in Both Directions. You could have them observe the items and guess reasons why these items would have traveled in both directions after they read about the objects on the sheet provided.

Teacher Information

Items to Place in the "Headed East Section"

1. Amber Cross
2. Carpet (Prayer Rug)
3. Horse
4. Silver Dreidel

Items to Place in the "Headed West Section"

1. Bamboo Instrument
2. Abacus
3. Decorative Firecracker
4. Porcelain
5. Umbrella
6. Silk

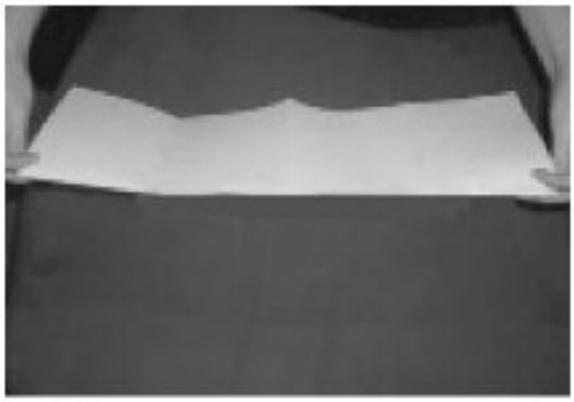
Items to Place in the "Headed Both Directions Section"

1. Camera Obscura
2. Chair
3. Chess Set
4. Jade Buddha

Make a Passport

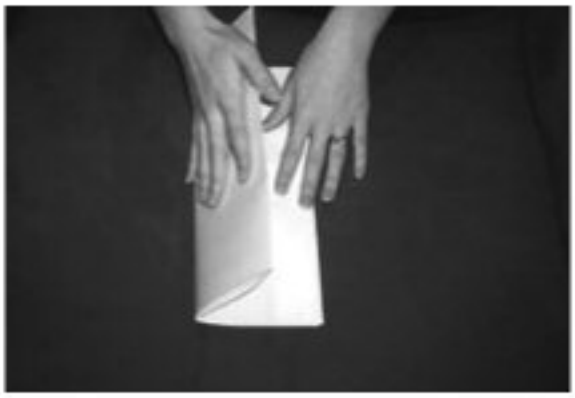
The first thing you must do is learn how to create your book in order to make your passport. Pull out a 11" x 17" piece of paper. Now follow these directions to create your book.

1. Take the piece of paper and lay it flat on the table



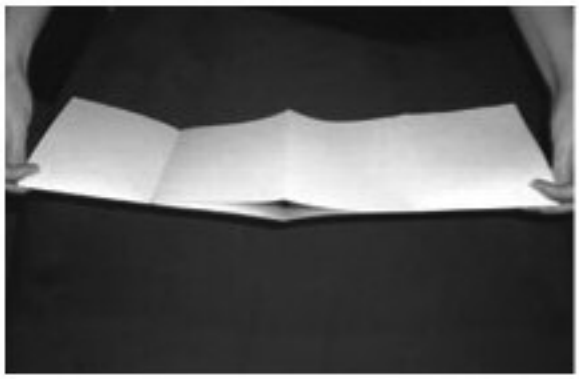
2. Fold the paper in half the long way and crease it on both sides of the paper.

3. Unfold the paper and fold it in half the short way and crease it on both sides of the paper.

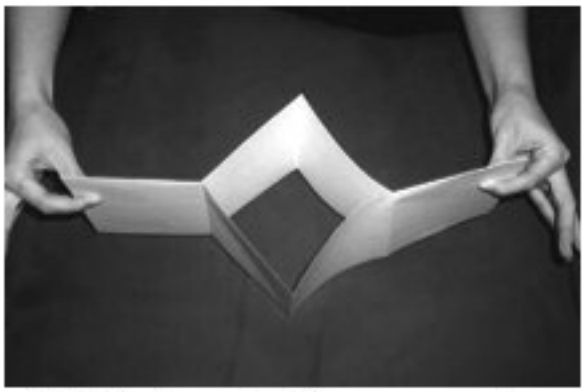


4. Next take the folded side of the paper and fold it down to the open side of the paper.

5. Unfold the last fold and cut along the crease from the folded side down to the crease you just made from your last fold.



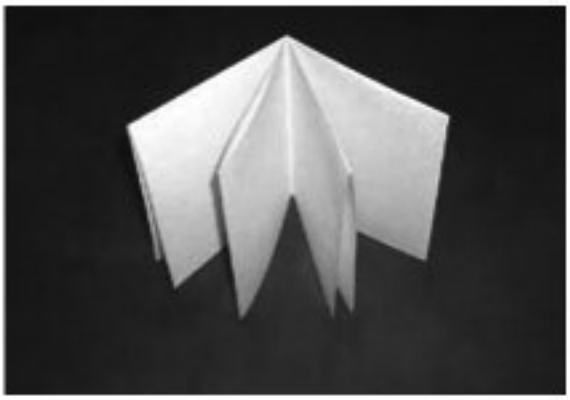
6. Unfold the paper and fold it in half the long way again.



7. Hold both ends of the paper and pinch the ends together like the picture above.

8. As you keep pinching the ends together, it will start to form the pages of the book.

9. Fold the pages all together like the picture above to form it into the shape of a book.



10. The final product should look like this. You now have your passport.

Spices from the Silk Road

The spices found in the east were arguably the items in the highest demand for merchants buying exotic goods along the Silk Road. Spices were used as preservatives before refrigeration was available and also served as valuable flavor enhancements and medicines. Spices from India and lands farther east, changed the course of world history. It was in part the preciousness of these spices that led to the European efforts to find a sea route to India and consequently to the European colonial occupation of countries in the East, as well as the European discovery and colonization of the Americas. Below is a description of five popular spices traded along the Silk Road.

Black Pepper commonly referred to as "peppercorn" is native to South India. It has been used as a spice in India since prehistoric times. Peppercorns were a prized trade good along the Silk Road, often referred to as "black gold" and used as a form of money. The 5th century *Syriac Book of Medicines,* prescribes pepper for such illnesses as heart disease, insect bites, joint pain, lung disease, sunburn, and toothaches. Even today, peppercorns are the most widely traded spice in the world accounting for 20 percent of all spice imports. Vietnam has recently become the world's largest producer and exporter of peppercorns farming approximately 85,000 tons of peppercorns a year.

Cinnamon was so highly prized among ancient nations that it was regarded as a gift fit only for monarchs. Cinnamon is a small evergreen tree that grows to be about 30 - 50 feet tall and is native to Sri Lanka and South India. The spice is from the thin inner bark of the tree. Cinnamon bark is one of the few spices which can be consumed directly. All of the powdered cinnamon sold in United States is actually Cassia, a closely related species to cinnamon. "True cinnamon" is available commercially only in stick form. Cinnamon traded along the Silk Road had a reputation as a cure for the common cold and was also used to fight bad breath.

Ginger has a long history of cultivation known to originate in China and then spread to India, Southeast Asia, West Africa, and the Caribbean. Besides being used throughout the world for cooking, ginger is also well known for being used to disguise the taste of medicines. Ginger may also decrease joint pain from arthritis and treat nausea caused by seasickness, morning sickness and chemotherapy

Nutmeg is a seed from an evergreen tree that grows throughout the tropical regions of southeast Asia. The first harvest of the nutmeg trees takes 7–9 years after planting and the trees reach its full potential after 20 years. It is known to have been a prized and costly spice in medieval cuisine. In Elizabethan times, it was believed that nutmeg could ward off the plague and was very popular. At one time, nutmeg was one of the most valuable spices in the world. In England, several hundred years ago, a few nutmeg nuts could be sold for enough money to enable financial independence for life.

Six Panel Screen — *Japanese*

The technological influences of the Silk Road are displayed in the materials this screen is made from and the scene that is depicted. Paper and lacquered wood were both invented by the Chinese and spread along the Silk Road. Many styles of instruments were traded between cultures and the strings on the zither instrument portrayed here would have been made from silk. Two of the figures are playing a board game, possibly chess or go. This screen also shows several people sitting on chairs, which were an import from the Middle East.

These Japanese screens, called *byobus*, were invented in China and then eventually adopted by Japan in the 8th century. *Byobu* literally means "protection from the wind." Because they helped divide rooms, the screens were considered functional art.

At different crucial periods in Japanese history, *byobus* gained certain popularity and acceptance. During the Nara period (646-794 C.E.) the original *byobu* was invented. This kind of *byobu* was a single standing, legged panel. In Heian period (794-1185 C.E.) *byobus* were indispensable furniture in Buddhist temples, shrines and houses. During the Muromachi period (1392-1568 C.E.) folding screens became very popular and were found almost everywhere. Most common places were residences, *dojos* (gathering place for students) and shops. *Byobus* were also used to convey rank, wealth and power, typically with the Samurais.

- http://en.wikipedia.org/wiki/Byobu
- http://www.absoluteastronomy.com/topics/Byobu

Japanese (Late 19th Century)
Six-Panel Screen Depicting a Musician and Go Players
Paper and lacquered wood
Bequest of Mrs. Dolores Doré (Mrs. George S.) Eccles
Museum # 1999.38.6

Saffron is a spice derived from the flower of the saffron crocus and is native to Southwest Asia. It was first cultivated in the vicinity of Greece. Most saffron is grown in a region from the Mediterranean in the west to Kashmir in the east. Today, Iran is the leading producer of the spice cultivating around 300 tons a year. Saffron, which comes from the stigma or stamen or the crocus flower, is the world's most expensive spice by weight. A pound of dry saffron requires 50,000–75,000 flowers, the equivalent of a football field's area of cultivation. Saffron is used in multiple ways. Threads are woven into textiles, it is ritually offered to divinities, and used in dyes, perfumes, medicines, and body washes. Saffron threads would be scattered across beds and mixed into hot teas as a cure for depression in ancient Rome. Persians' were known to use the spice as a drugging agent and aphrodisiac. During his Asian campaigns, Alexander the Great used saffron in his infusions, rice, and baths as a curative for battle wounds.

Now, discuss how these spices are used today. Can you think of any recipes that these spices are commonly used in? What else might they be used for?

Another activity could focus on bringing these spices into the classroom and having a smelling and tasting of each unique spice.

Sources:
http://en.wikipedia.org
http://www.mnsu.edu/emuseum/history/trade/Silk.htm
http://www2.una.edu/geography/institute-2000/

Six Panel Screen
The Paper Road Lesson

written by Annie Burbidge Ream

Objective:
1. This lesson is designed to teach students about the importance of paper along the Silk Road routes and how the many cross cultural influences significantly influenced the spread and dissemination of knowledge and information both secular, religious and political.

Intended Outcomes:
1. Students will analyze the impact of paper on the different regions along the Silk Road.
2. Students will analyze the different uses of paper in relation to its cultural significance.
3. Students will connect and contrast the current trends in the movement and spread of information in relation to historical ones.

State Core Links:
7-12th Grade Visual Arts
Standard 1: Students will examine how works were created by manipulating media and by organizing images with art elements and principles.
Standard 2: Students will find meaning by analyzing, criticizing, and evaluating works of art.

7-12th Grade Library Media/ Information Literacy
Standard 1: Students will define a task and identify information needed.
Standard 2: Students will identify, evaluate, and select resources.
Standard 3: Students will locate resources and access information within resources.
Standard 4: Students will engage and extract information
Standard 5: Students will organize, synthesize, and present information
Standard 6: Students will evaluate the process and the product.

7-12th Grade Social Studies
Standard 1: Students will gain an understanding of early civilizations and their contributions to the foundations of human culture.
Standard 2: Students will comprehend the contributions of classical civilizations.
Standard 3: Students will investigate the diffusion and interaction of cultures from the Classical Period through the Age of Discovery.

7-12th Grade World Language
Standard 2:
Students understand and interpret written and spoken language on a variety of topics.
Standard 3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.
Standard 4: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture.
Standard 5: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

Standard 8: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
Standard 9: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

Grade Level: 7th-12th

Materials Needed:
1. Internet Access
2. Library Access

Background:
The Silk Road (or Route) refers to the network of land routes that linked China and Europe from the 3rd century BCE to the 15th century C.E.. Silk, which was traded with the West from the later part of the Zhou period (ca. 1050-256 BCE) was only one of the many commodities traded along these routes. Jade had been brought to China from Central Asia as early as the Shang period (ca. 1600 to ca. 1050 BCE), and Mediterranean glassware reached China during the Qin period (221-206 BCE). Traders brought Chinese ceramics to Iraq in the ninth century, and Islamic glaze-painted wares as well as Iranian cobalt blue were taken to China, where they inspired the development of the now characteristically Chinese ceramic technique of blue-and-white porcelain. However, perhaps the most important product carried along this trade network was paper which has had a far greater impact on the course of human civilization than silk, jade or glass ever had.

Paper, which is a mat of fibers that have been beaten in water and collected on a screen and dried, was invented in southeastern China in the centuries before the Common Era. Originally used as a wrapping material, paper began to be used as a writing material around the 1st century C.E. when it was discovered that this relatively inexpensive, strong and flexible material provided an ideal replacement for the narrow bamboo strips or tablets that had been used for writing in the past. It also served as a cost effective alternative to the expensive silk textiles that had been used for larger images, such as maps and drawings. Although the Chinese initially made paper from reused textile fibers, they found that they could also make it from the bark of woody shrubs, such as bamboo, mulberry, and rattan (a type of palm tree) that grew well in moist and humid southeastern China.

Buddhist monks and missionaries, who began to use this medium for copying sutras and other Buddhist writings, carried paper and papermaking techniques from the land of its origin to Korea, Japan and Central Asia, where they stopped on the way to India, the land of Buddhism's birth. The dry and arid Central Asian climate was quite different from that of subtropical southeastern China, and papermakers were forced to find different materials with which to make their product. It seems likely that Central Asian papermakers were the first to discover (or rediscover) the use of waste from textiles (that were themselves made from plant fibers, including linen and cotton) as a good papermaking alternative to woody fibers. Indeed, it was often easier to make paper from previously processed fibers because they required less beating.

Paper was unknown in Western Asia and the Mediterranean before the inception of Islam, when the media traditionally used for writing were papyrus and parchment. Papyrus, which had been used in Egypt from 3000 BCE, is made from the papyrus plant that flourishes along the banks of the Nile. The stalks of the plant were cut into lengths, the lengths were cut into strips, and the strips laid side-by-side in two perpendicular layers, held together by the gummy sap exuded by the plant. Individual sheets were joined together in rolls, which the Egyptians used right to left and the Greeks, who imported the material, used from left to right. The Greeks called papyrus *khartes*, a word that has been transformed to paper-related terms in many modern languages, including *carta* (Italian for paper) and our own 'card' and 'chart.' The Romans called the plant by the

Latin term *papyrus*, which has also been transformed into many other paper-related terms, such as 'paper,' *papier* (French and German), and *papel* (Spanish). The Greek word for a papyrus roll, *biblios*, has given rise to words from 'Bible' to 'bibliography,' while the Latin term for this same thing, *volumen*, has evolved into words such as 'volume' and 'volute' (on account of its shape). *Pagina*, the Latin term for a column of text on a papyrus roll, has evolved into our word 'page,' and *liber*, originally the Latin word for bark, became the generic Latin word for book. In Spanish the word *libro* means book. Although the most common form of the book was the papyrus roll, sometime in the first and second centuries a new form of book, with separate folded leaves sewn together on one side, emerged. This was known as a 'codex,' from the Latin term for a block of wood.

Parchment, which takes its name from the city of Pergamon (in modern day Turkey), was the other writing mechanism used widely in Antiquity [Fig. 1]. Made from the skin of an animal which had been soaked in lime, scraped of its flesh and hair, stretched on a frame and dried, parchment had long been used by ancient Hebrews for copying their scriptures, the Torah. The sheets, made from ritually slaughtered animals, were sewn together to form long rolls on which the text was written. Since an animal had to be killed to make a sheet of parchment, it was much more expensive than papyrus, but it could be made anywhere (papyrus could only be produced in Egypt). Furthermore, parchment was more durable than papyrus in a wider variety of environments; it was especially strong when used in the codex format, for the repeated folding and exposed edges it demanded.

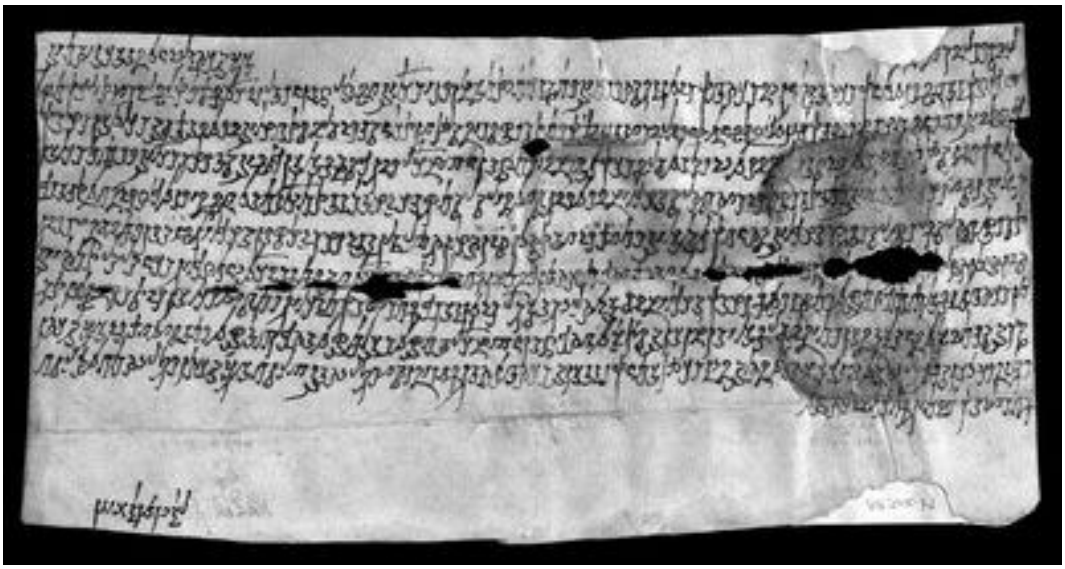


Fig. 1. Letter on parchment from king of Kroraina to local governor in Niya, 3-4 century
The British Library

The origins of the codex are much debated, and it remains unclear whether the triumph of the codex format in the Mediterranean world was directly related to the spread of Christianity. For about a thousand years, writing-tablets of wood with a thin overlay of wax had been used for note-taking, composition, and temporary writings. These tablets were often made in hinged pairs or sets, basically precursors to the parchment codex. Parchment codices allowed both sides of the writing surface to be used (impossible on a scroll) and made it much easier to refer to a particular passage in the text, because the reader did not have to "scroll through" the entire work to find what he or she was looking for. The codex format was firmly established in western Asia and the Mediterranean world as the preferred format for books, particularly the Christian Bible, with the notable exception of the Hebrew Scriptures, which continued to be copied on parchment rolls, and diplomatic documents, which continued to be copied on vertical-format papyrus scrolls.

The first copies of the entire text of the Quran were transcribed on parchment codices, although papyrus, which was still being produced in Egypt, continued to be used for bills, letters and records. Muslims visually differentiated copies of their scriptures from the Christian Bible by generally using a horizontal ("landscape") format. When Muslim armies conquered Central Asia in the late seventh and early eighth centuries, they encountered paper for the first time. It is often said that Muslim armies captured Chinese papermakers following the battle of Talas in 751, but this anecdote is without factual basis and paper had been known—and made—in Central Asia for centuries [Fig.2].

Fig. 2. Sogdian Ancient Letter No. 2, ca. 313 C.E.
The British Library

In 762 the new Abbasid dynasty transferred the capital of the Islamic empire from Damascus in Syria to Baghdad in Iraq; this new eastern focus, combined with the government bureaucracy's soaring demand for records, led to the introduction and quick diffusion of paper in the Islamic lands.

Papermaking was begun in Baghdad itself by the late 8th century. The city boasted a *Suq al-warraqin* (Stationers' Market), a street whose two sides were lined with more than one hundred shops for paper- and booksellers. From Iraq, papermaking was carried to Syria, then Egypt, across North Africa to Morocco and eventually to Spain, where its use there is first recorded by a tenth-century traveler. The first sheets of paper appear in Spanish Christian manuscripts of the late tenth century, where the sheets were substituted for the typical, but more expensive, parchment. Eventually other Europeans learned of papermaking from the Muslims of Spain, particularly as Christians began to occupy larger portions of the Iberian Peninsula and needed materials on which to record deeds and titles. Similarly in Sicily and Italy, merchants and notaries began to use paper from the late eleventh and twelfth centuries, although papermaking was not introduced, perhaps from Spain or from somewhere in the Arab world, until the thirteenth century. Once the Italians learned the art of papermaking, they quickly superseded their masters, producing large quantities of fine paper more cheaply than anyone else, and they began exporting it to North African and West Asian markets.

Few, if any, early Islamic writings on paper survive in their original format, although many of the texts written on them were recopied and preserved over the centuries. Excavations in Egypt show that paper increasingly replaced papyrus over the course of the ninth and tenth centuries; by the middle of the tenth century papyrus was hardly used at all. Meanwhile, paper spurred a burst of extraordinary literary creativity throughout the Muslim lands. The increased numbers of texts known from the late eighth and ninth centuries in Iraq testifies to a vibrant literary culture in the major cities of the Abbasid realm. Most of the preserved writings from this period concern the religious sciences and disciplines such as the history of the Prophet and early Islam, the grammar and vocabulary of the Arabic language, and pre-Islamic Arabic poetry, which helped scholars understand the context for the revelation of the Quran. But new secular subjects increasingly find there way into Arabic literature of the ninth century, including works on geography, astronomy, medicine, mathematics, and literature. Indeed, the earliest known manuscript version of the popular tales we now know as the *Arabian Nights* was copied in ninth-century Egypt or Syria, a time when other, new types of popular literature were also inexpensively copied on paper. Such texts indicate how widespread paper became in this period. It was used not only by Muslims but also by Christians and Jews. For example, the oldest manuscript on paper is believed to be a copy of the *Doctrina Patrum*, produced at Damascus ca. 800. Hundreds of thousands of documents dating from the ninth to the thirteenth century were discovered in the nineteenth century in the *geniza* or storeroom of the Ben Ezra synagogue in Cairo. These findings document the growing use of paper among the merchant communities of the Mediterranean for letters, contracts, inventories, and deeds.

The oldest known complete Arabic book copied on paper, dating from 848, was recently discovered in a library in Alexandria, Egypt; the second oldest fragment is a well-known manuscript dating from 866 in Leiden University Library about the Prophet Muhammad. These two manuscripts are valued for their precise dates, but thousands of similar manuscripts must have been produced. Nevertheless Muslims must have initially viewed paper with some suspicion, because manuscripts of the Quran continued to be copied on parchment well into the tenth century. The oldest dated copy of the Quran transcribed on paper was produced, presumably in Iran, in 971-72 by the calligrapher Ali ibn Shadhan al-Razi. These first Quran manuscripts on paper were copied in scripts unlike the stately "kufic" scripts traditionally used for copying the Quran on parchment and more like the cursive scripts used by contemporary scribes for copying literary works on paper. In time it became common to copy the Quran on paper, except in Morocco and Spain, where parchment continued to be used for several more centuries. Over the following centuries, calligraphers continued to develop new and more fluid scripts to copy the Quran and other texts on paper, thereby transforming the art of writing in the Islamic lands [Fig. 3].

Fig. 3. Manuscript of the Quran on paper, Iran, Shiraz ca. 1560-1575
Museum of Islamic Art, Berlin

When Europeans eventually began to investigate the history of paper, they were initially confused because all the words dealing with paper came from Greek and Latin words for papyrus, and they thought that paper must have somehow been derived from papyrus. The first Europeans to encounter Chinese and Japanese papers in the sixteenth century imagined that East Asians had somehow learned to make paper from the ancient Egyptians. Eventually the matter was cleared up, but the pivotal role of the Islamic lands in the transmission of papermaking from Asia to Europe was forgotten. This brief investigation into the history of one of the most important, but least appreciated, materials carried across Eurasia suggests that it might be time to modify the original idea of the "Silk Road" to reflect the incredible importance of the goods and ideas exchanged along these routes. The network should seem to be more accurately referred to as the "Paper Road."

Activity:

1. After discussing the history of paper along the Silk Road, assign each student (or if there is a large class, a small groups of students) a research topic. (See research topics listed below for ideas.)
2. Go over successful research techniques including web searches, library databases and access to online archives.
3. Have the students spend some time at the library learning about the many ways to search for information on a particular subject.
4. The students will research their different topics and write a comprehensive research paper on that topic.
5. Have the students also prepare a 10 minute presentation to present their findings to the class. This could be formally created in a Power Point or the simple use of visual materials and pictures along with the information.
6. Engage the class with the inclusion of meaningful questions and connections to the wide range of topics.

Research topic ideas:

1. A broad research topic could focus on the history of paper by region. Including China, Korea, Japan, Central Asia, Western Asia, Mediterranean, Africa, The Middle East, and Western Europe. How did the onset of paper influence these cultures? How was paper adopted into everyday use? In what ways? Etc.
2. A student interested in art practices could make different types of paper and report on their findings as well as research the various papermaking techniques both historically and in the present day.
3. How did paper influence the spread of religious ideology?
4. How did the use of paper influence the spread of power and information?
5. Why was paper rejected in certain places?
6. Map the Silk Road. What products and cultural influences went to other places? Where? How did these outside ideas and materials affect the various cultures? How do we know? Was it written on paper?
7. The history of papyrus in Egypt and abroad.
8. How was trading practices changed by paper in the merchant world?
9. Folk tales: from an oral tradition to a written one. How paper influenced the telling of cultural stories. How those stories were told in other regions and morphed into new tales. What are some folk tales from the different regions?
10. Western European Medieval illuminated manuscripts.
11. The history of Japanese screens.
12. Arabic text and calligraphy
13. Suq al-warraqin (Stationers' Market) in Baghdad, Iraq.
14. Artists past and present working within a paper medium. (For example Chinese modern artist Tseng Yu Ho works exclusively in papermaking for her giant canvases.)
15. The theory of a Palimpsest. A palimpsest is a manuscript page from a scroll or book that has been scraped off and used again. The word "palimpsest" comes through Latin from Greek to mean "scraped (clean and

used) again." Romans wrote on wax-coated tablets that could be smoothed and reused. The term has come to be used in similar context in a variety of disciplines, notably architectural archaeology, art history, geography and cultural studies.

Assessment:

Assess students based on their participation in the activities and their comprehension of the material.

Sources:

Bloom, Jonathan M. *Paper Before Print: The History and Impact of Paper in the Islamic World.* New Haven: Yale University Press, 2001.

Hunter, Dard. *Papermaking: The History and Technique of an Ancient Craft.* New York: Dover, 1974.

Llewellyn, Claire. *Paper*. Franklin Watts, 2001.

Philippoff, Jennifer. *Paper Art.* Watson-Guptill Publications New York, 1997.

Tsien Tsuen-hsuin. "Paper and Printing: Science and Civilization in China." Edited by. Joseph Needham. Vol. 5, pt. 1. Cambridge: Cambridge University Press, 1985.

http://bcsd.k12.ny.us/middle/hokanson/JFMFArtTeachersLessons.pdf

http://sftrc.cas.psu.edu/FromWoods/PDFs/PaperLesson.pdf

Child's Chinese New Year Tiger Hat — *Chinese*

Silk was widely traded on the Silk Road. Silk fabric was first developed in China, around 3000 B.C.E. The Chinese kept the process of creating silk cloth secret for many years, but by 300 C.E., silk was being produced in India. Silk was a luxury item, but its expense did not limit the demand for it on the Silk Road. Silk was traded throughout Asia, the Middle East, North Africa and Europe.

Children's New Year hats like these were commonly made of embroidered silk during the first half of the 20th century. The hats were meant to provide protection against evil spirits to favor the wearer with desirable characteristics like health, wealth, courage, happiness, long life, grace and beauty.

This silk hat with exaggerated eyes and very stylized characteristics is a depiction of a tiger. Tigers were meant to protect children from evil. When creating these hats and other folk art, Chinese typically use five colors of embroidery thread that symbolize different elements:

- Yellow represents earth
- White represents metal
- Red represents fire
- Blue represents water
- Black represents wood

Chinese
Child's Chinese New Year Hat, Tiger
Silk
Gift of Owen D. Mort, Jr.
Museum # 2009.3.4

• http://www.textiletreasures.info/Chinese_Childrens_Hats.html
• Lan Lin, Phylis and Lan Lin, Christi. *Stories of Chinese Children's Hats: Symbolism and Folklore*. Lan Lin, Phylis and Lan Lin, Christi, 1996

Child's Chinese New Year Tiger Hat Chinese New Year Lesson

written by Annie Burbidge Ream

Objective:
1. This lesson is designed to introduce students to Chinese culture by learning about the customs and traditions of Chinese New Year both past and present.

State Core Links:
1st Grade Visual Arts
Standard 2: Students will develop a sense of self in relation to families and community.

2nd Grade Visual Arts
Standard 2: Describe important aspects of the community and culture that strengthen relationships.

2nd Grade Social Studies
Standard 2: Students will develop a sense of self in relation to families and community.

3rd Grade Social Studies
Standard 2: Students will understand cultural factors that shape a community.

3-6th Grades Visual Arts-3-6th
Standard 4: The student will interpret and apply visual arts in relation to cultures, history and learning
Objective 2:Connect various kinds of art with particular cultures, times, or places.

Grade Level:
1st- 6th grade

Materials Needed:
see each individual activity

Useful Terms:
Sun Nien Fai Lok! or *Xin Nian Kuai Le!* - Chinese for "Happy New Year!"
Gung Hay Fat Choy - A Chinese New Year greeting. It translates to: "wishing you happiness and wealth." Can also be spelled *Gong Xi Fa Cai*.
Nian - The name of the legendary dragon of Chinese New Year. It is also the Chinese word for "year."
hongbao or *lai shi* - The name for the red envelopes commonly given as gifts with money inside for the new year.
Nian Gao- A special New Year's cake.
Yuanxiao- Chinese for "first full moon." Also the name for sweet rice balls served during the Lantern Festival.

Background:
Bright red banners hang in every doorway. A giant dragon snakes through the streets. Firecrackers sparkle, crack and pop. It's Chinese New Year!

Chinese New Year lasts for fifteen days and takes place on a different date every year. This is because the Chinese follow a combined lunar and solar calendar. A lunar calendar is based on the cycles of the moon. A solar calendar is based on cycles of the sun. Although the dates change each year, Chinese New Year always begins in either January or February. The Chinese calendar assigns every year to one of twelve signs. It is believed that a person's personality is determined by the sign of the year in which they were born. The twelve signs include Rat, Ox, Tiger, Rabbit, Dragon, Snake, Horse, Ram, Monkey, Rooster, Dog and Pig.

How Chinese New Year began:

The Chinese word *Nian* means "year." Legend has it that Nian was the name of a dragon that terrified the people of a small Chinese village every year on New Year's Eve. In order to scare away Nian, people began shooting firecrackers, pounding on drums and gongs and waiving red banners. Nian was afraid of the noise, light and red color that the people were able to chase the dragon away. Today, similar customs are part of the New Year celebrations. The dragon appears in every Chinese New Year parade while people shoot off fireworks, make loud noises and wave red banners.

Chinese New Year is a happy and festive time that celebrates the end of winter and the beginning of spring. Chinese New Year is often called the Spring Festival. It also celebrates the promise of hope and joy in the coming year. It's time to welcome the new and lay aside the old. Before the New Year arrives, families shop for presents, food, clothing and decorations. Chinese families clean their homes in order to get rid of any bad luck the family may have had over the year. They get haircuts and buy new clothes.

On New Year's Eve, Chinese families have a special feast usually of a whole fish and dumplings. The whole fish is symbolic for togetherness and plenitude. Long uncut noodles are also served to symbolize a long life. The New Year's dessert is *Nian Gao*, a special sticky cake with dates and sesame seeds only served on New Year's. All the lights in the house are traditionally kept on that night. At midnight, fireworks light up the sky and explode to celebrate the New Year and scare away any bad luck. The loud noises and light remind the families of the Nian dragon legend and their Chinese cultural heritage.

New Year's Day brings families together. On this day, it's important to avoid bad luck; bad luck on New Year's Day could mean bad luck all year. Children receive *hongbao* or *lai shi,* a red envelope with money.

A Tray of Togetherness is placed on tables in the homes filled with sweet snacks. Each one has a special meaning for the New Year. Candied melon symbolizes good health. Red melon seeds are for joy, happiness and truth. Lychee nuts for close family ties. Peanuts for a long life and Kumquats for wealth.

Folk beliefs for New Year's Day:

- Don't sweep the house or else good luck could be swept away.
- Don't use a knife or scissors or you could cut off your good luck.
- Don't cry or you will cry all year long.
- Don't fight or argue with others or it will bring you bad luck.
- Blooming flowers on New Year's Day is a sign of good luck and long life.

On the last day of Chinese New Year (the fifteenth day) the full moon rises. That's the day of the Lantern Festival. The tradition of the Lantern Festival dates back to when people believed that spirits flew through the night sky. At night people parade through the streets carrying lanterns. There are dragon dances and firecrackers. Another year comes to an end as a new one full of hope begins.

Activities:

Celebrate Chinese New Year in your classroom! The activities below could be combined for a complete classroom celebration or simply taken on their own for shorter exercises. Chinese New Year celebration additions could include food such a Ham Fried Rice or *Nian Gao* (recipe below), music, videos, and a discussion of Chinese art past and present.

Banners around the Classroom:

Create a festive classroom with these colorful red banners!

Materials:

1. Red butcher paper cut into long strips, 12"x30"
2. Black butcher paper cut into 12" strips
3. Black markers or paint
4. Yarn
5. Stapler
6. Image of Chinese characters. (attached)

Directions:

1. Teach the students New Year's phrases in Chinese.
   - Sun Nien Fai Lok! or Xin Nian Kuai Le! - Chinese for "Happy New Year!"
   - Gung Hay Fat Choy: a Chinese New Year greeting that translates to: "wishing you happiness and wealth." Can also be spelled Gong Xi Fa Cai.

2. After they have worked on their verbal greetings, teach them the Chinese characters to write the greeting: "Gung Hay Fat Choy." (You can pass out copies of the attached image at the end of the lesson). Gung Hay Fat Choy "wishing you happiness and wealth."

3. Hand out the long stripes of red butcher paper. Have the students write the characters down the center of their banner with black markers or paint.

4. After the banners have dried, fold the 12" black stripes of paper over long pieces of yarn and staple to the top of the banner.

5. Hang the banners in the classroom throughout your New Year celebrations.

Zodiac Animal Masks:

Create animal masks based on the twelve zodiac signs. Students will make their masks based on their zodiac sign or to correspond with the specific year and its animal.

Materials:

1. Large brown paper bags (one per child)
2. Scissors
3. Markers
4. Construction paper in multiple colors
5. Glue
6. Crepe paper in multiple colors
7. Image of UMFA object, Child's Chinese New Year Hat, Tiger. (attached)

Directions:

1. Discuss the animals of the Chinese Zodiac. Talk about which year the Chinese are celebrating and which animal is representing it. For example, 2010 is the year 4708 in China and is the year of the tiger (this information can be found online). Talk about the different traits of the twelve animals, how each of them act, talk, play and eat. How are they all different? How are they similar?
2. Show the class the image of the Child's Chinese New Year Hat from the UMFA's permanent collection. Have the students describe the object. What is it made out of? What would it feel like if they could touch it? What colors are found on it? What does it represent? Is the hat old or new? How do we know? Who do we think created the object? Can the students think of any other holidays where people might wear masks or hats?
3. Hand out the paper bags and ask the students to open it and cut two holes for eyes.
4. Have the students use the markers, construction paper, glue and crepe paper to decorate their masks including a face, complete with teeth and a tongue.
5. The crepe paper is for hair or a beard.
6. Divide the students into small groups with their completed masks and have them create a short 10 minute play about their animal characters. Have each group perform it for the class.

Make a Circle Dragon:

Nian is the mythological dragon that scared the villagers in a small Chinese village on New Year's eve. In order to scare the monster away, people shot off firecrackers, pounded on drums and waived red banners so that the creature would flee. Today, similar customs are part of the New Year celebrations. Make your own dragon!

Materials:
1. Multi-color construction paper
2. Scissors
3. Glue
4. Markers
5. Feathers, sequins, buttons, beads

Directions:
1. Cut twelve 1" strips from multi-colored sheets of construction paper.
2. Take one strip of paper and glue the ends so it forms a ring.
3. Put another strip of paper through the ring and glue the ends together. Continue doing this until there is a long circle chain.
4. Draw a dragon's head on another sheet of construction paper, decorate it with the feathers, sequins, buttons and beads.
5. Cut out the head and glue it onto the end of the chain.

Red Envelopes:

It's a tradition for children to receive red envelopes, in Chinese called *hongbao* or *lai shi,* with money from their parents or grandparents.

Materials:
1. 'Red Envelope Activity' sheet (attached at the end of the lesson)
2. Markers and crayons
3. Scrap paper
4. Glue

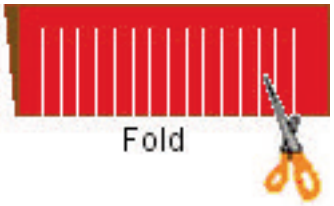
Directions:
Using the attached sheet have your students color the envelopes and write notes with Happy New Year messages inside to exchange with one another.

Paper Lanterns:

On the third day of the New Year, a Festival of Lanterns is held throughout China. Lanterns of all shapes, colors and sizes are hung along the streets and in homes. That evening, a parade led by the New Year's Dragon, Nian, takes place down the festive streets. Make your own paper lanterns to decorate your classroom!

Materials:
1. Colored paper (construction paper or gift wrapping)
2. Scissors
3. Glue, tape or a stapler

Directions:



1. Fold a rectangular piece of paper in half, making a long, thin rectangle.

2. Make a series of cuts (about a dozen or more) along the fold line. Don't cut all the way to the edge of the paper.

3. Unfold the paper. Glue or staple the short edges of the paper together

4. Cut a strip of paper 6 inches long and 1/2 inch wide. Glue or staple this strip of paper across one end of the lantern - this will be the handle of the lantern.

5. Make a lot of lanterns and string them along a length of yarn. Decorate your room!

New Year's Dragon:

Although the dragon has a bad reputation of being a scary monster, many people in China now believe that the dragon is a defender against evil spirits. He is the symbol of goodness and strength. The dragon leading the New Year's parade is the highlight of the entire New Year's celebration. The great dragon dances, twists and turns throughout the streets protecting the people and ensuring their good luck in the upcoming year. The dragon is usually made of silk and brightly painted paper. The head is a large mask, made of papier-mâché and bamboo. The men of the town wear the dragon costume and weave up and down the street as spectators light firecrackers. Make your own dragon and have a parade at your school or in your classroom!

Materials:

1. Large cardboard box
2. Two box lids
3. Roll of white paper
4. Glue
5. Colored paper
6. Paint, markers, crayons
7. Glitter, feathers, sequins etc. for decorations

Directions:
It is easiest if the teacher or a classroom volunteer can create the basic shape of the dragon first and then have the students decorate the dragon and participate in the parade.

1. Cover a large cardboard box with bright colored paper.
2. Using the two box lids, cover them with paper and insert them into the open end of the box and glue in place as shown in the illustration.
3. Using two very long sections of white paper, draw an outline of a dragon's tail in black marker or paint. (The dragon's tail can be made as long as you would like, depending on how many children will be inside the dragon costume.)
4. Divide the students and have them decorate the tail and head of the dragon with paint, markers, crayons, glitter and feathers.
5. Staple the top edge of the long white paper after decoration and add colorful construction paper to create a spiny paper ridge or fringe.
6. After they have decorated the dragon, glue the tail to the back of the dragon's head. Let dry overnight.
7. Have a Parade! The students can play tambourines or bells and carry their paper lanterns while other students dance in the giant dragon to welcome the New Year!

Lesson Extension:
1. Encourage your students to attend a Chinese New Year celebration in your community and report to the class their experiences.
2. Have your students go to the Chinese market and buy sweet treats for a Tray of Togetherness to share with their family.
3. Make *Nian Gao* (Chinese New Year Cake) for the Kitchen God *an adult must assist with this activity.

Background:
Many Chinese families have a picture of the Kitchen God in their home. According to custom, the Kitchen God, Tsao Chuen, watches over the family all year. He takes notes about the family and reports his findings to

the Jade Emperor. A week before the New Year the family honors the Kitchen God with a farewell dinner. The meal usually consists of sweet and sticky foods in hopes of encouraging him to report only good, sweet things (or to stick his lips together so he can't speak of the bad things) to the Emperor. A negative report by the Kitchen God means a family will suffer from bad luck during the year to come. After the meal, the picture of the Kitchen God is burned symbolizing the God going to heaven to report to the Emperor. On New Year's Day, the family hangs a new picture of the Kitchen God to welcome him back for another year.

The Kitchen God

Nian Gao is a steamed sticky sweet cake served for New Year's.

Ingredients:
3 eggs
2 cups brown sugar
3 cups glutinous rice flour (found at most Asian Markets)
2 ½ cups milk
1 tablespoon vanilla
½ cup chopped dates
2 teaspoons baking soda
1/3 cup vegetable oil
Cooking spray or a stick of butter
Sesame seeds

Directions:
Preheat the oven to 350 degrees F. Lightly grease a bundt pan with cooking spray or butter. In a large mixing bowl, beat together the eggs and sugar. Slowly stir in the rice flour and milk. Mix the ingredients until they are completely blended. Next, slowly add the vanilla, dates, baking soda, and vegetable oil. Pour the mixture into the greased pan and bake for about 50 minutes. Allow the cake to cool for fifteen minutes before removing it from the pan. Finally, sprinkle the top with sesame seeds. *be sure to stir in the ingredients slowly! Nian Gao is a very dense cake, and this will keep extra air from getting into the mixture.

Assessment:
Assess students based on their participation in the activities and their comprehension of the material. Discuss the celebration of Chinese New Year. How is it similar and/or different to how other cultures celebrate New Year's? What customs do each of us celebrate for special holidays and celebrations? What is their cultural and historical significance? This could be expanded into a creative writing exercise.

Sources:
Gleason, Carrie. *Celebrations in My World: Chinese New Year*. Crabtree Publishing Company, 2009.
Heinrichs, Ann. *Holidays, Festivals and Celebrations: Chinese New Year*. The Child's World Publishing, 2006.
Sievert, Terri. *Chinese New Year, Festival of New Beginnings*. Capstone Press, 2006.
Steakman, Elizabeth. *Silk Peony, Parade Dragon*. Boyd Mills Press, Inc. 1997.
Vaughan, Marica. *The Dancing Dragon*. Mondo Publishing, 1996.
Walsh, Kieran. *Chinese New Year, Holiday Celebrations*. Rourke Publishing LLC, 2003.
http://www.uen.org/utahlink/activities/view_activity.cgi?activity_id=5279
http://www2.scholastic.com/browse/lessonplan.jsp?id=44
http://www.enchantedlearning.com/crafts/chinesenewyear/lantern/

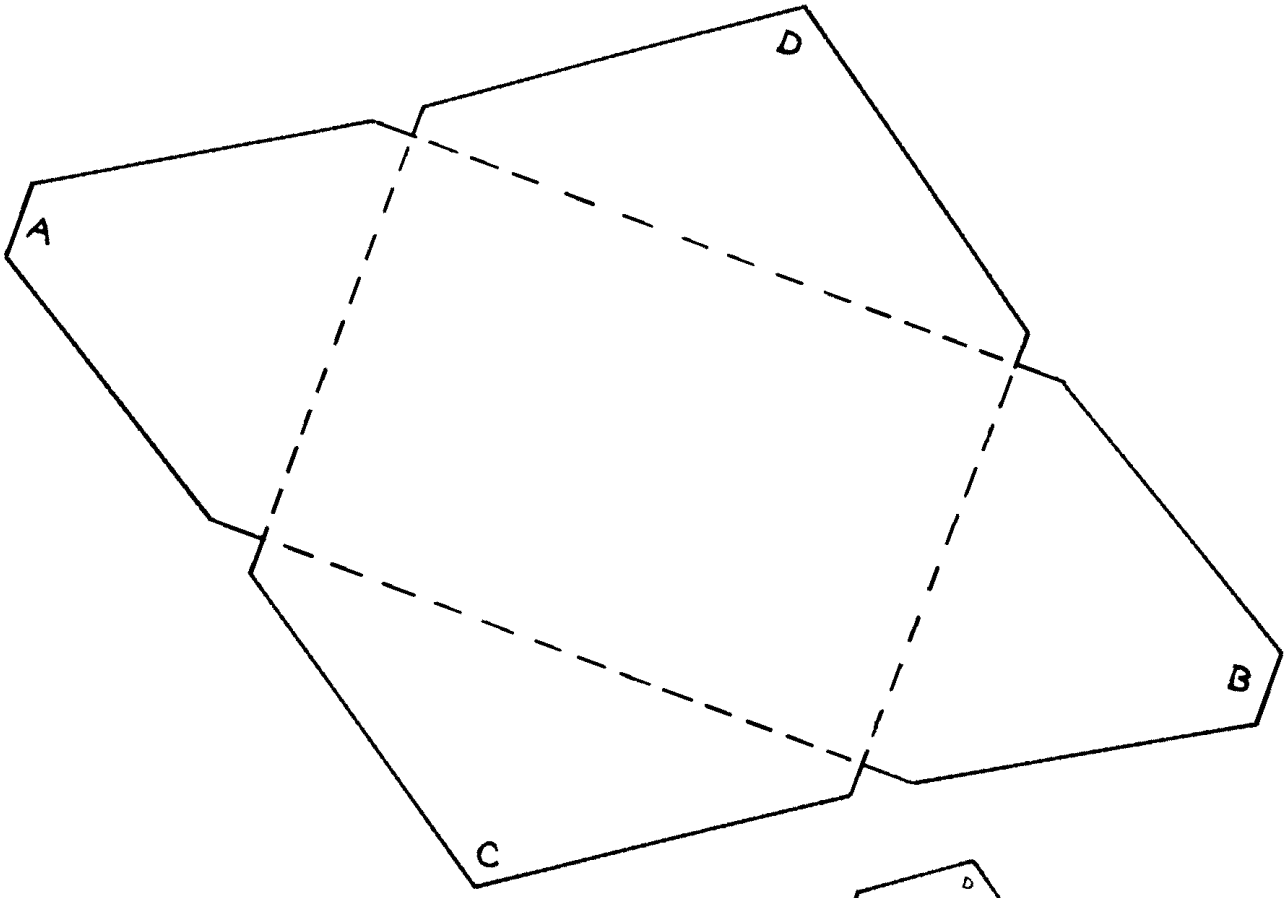
Gung Hay Fat Choy

Lucky Money Envelopes

Follow the directions to make your own Lucky Money envelope.

1. Cut out the envelope pattern.

2. Color the envelope red.



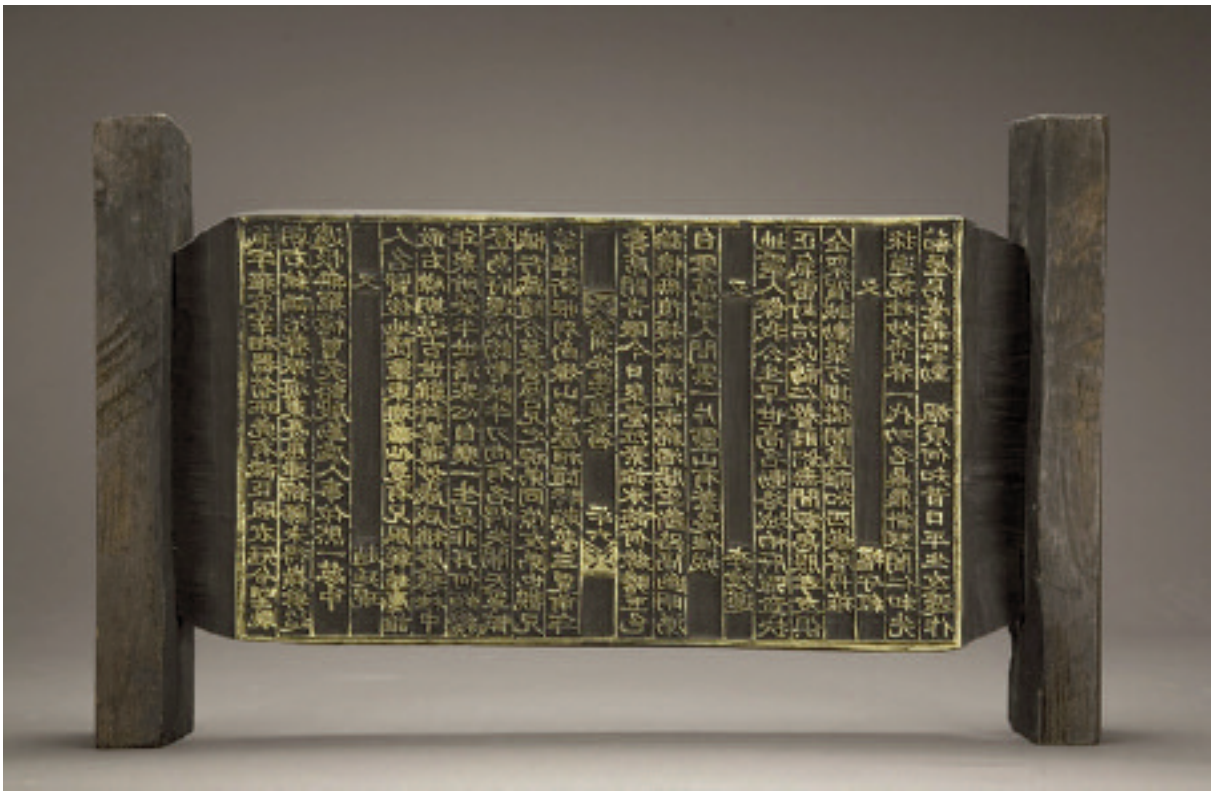
3. Fold A, B, and C along the dotted lines.

4. Glue A to B. Then glue C to A and B.

5. Write "Happy New Year" on the front of the envelope.

6. Write a special New Year's wish on a note and place it in the envelope. Fold the flap and give your envelope to a friend.

Printing Block — *Korean*



Many cultures carved images into wood and then stamped the design onto fabric, papyrus and paper; however the Chinese and the Koreans were the first to print large blocks of text. The Chinese eventually used this technique to print paper money.

Wood block printing began in the 8th century. The worlds first printing block with movable type face was invented in Korea. To print with printing blocks, ink was applied to letters carved into a wooden board and then pressed onto paper. The blocks were covered with natural lacquer to ward off insects. The script on the printing block is always reversed so it can appear right when printed.

- http://www.rightreading.com/printing/gutenberg.asia/gutenberg-asia-9-korea.htm
- http://en.wikipedia.org/wiki/Woodblock_printing
- http://www.michaelbackmanltd.com/451.html
- http://en.wikipedia.org/wiki/History_of_typography_in_East_Asia

Korean
Printing Block (reproduction)
Wood and gilt
Gift of Major General and Mrs. George P. Holm
Museum # 1978.196

Printing Block Technologies along the Silk Road Lesson

written by Virginia Catherall

Objectives:

1. Students will be able to identify technologies that were traded and transferred along the ancient Silk Road route.
2. Students will be able to compare these ancient technologies to today's versions.
3. Students will be able to recreate some of the technologies that helped build the modern world.

State core links:

7-12th Grade World Civilizations
7-12th Grade Geography for Life
Standard 3: Students will investigate the diffusion and interaction of cultures from the Classical Period through the Age of Discovery.

Objective 1: Appraise the major characteristics of interregional contact that linked the people of Africa, Asia and Europe.
a. Describe the impact the Silk Road had on trade across Europe and Asia.

Objective 2: Assess the influence of advancing technologies on the development of societies.
a. Identify the significant technological developments in Tang China.
b. Investigate key technologies that diffused to Europe from Asia; e.g., gunpowder, printing.

Grade Level: 7-12

Materials:

Technological objects or pictures of objects that could have been traded and used on the Silk Road such as a camera obscura, a printing block, a compass, a chess set, an abacus, an umbrella, etc. These objects can be found in the *Trade and Travel Along the Silk Road* box from the UMFA Teacher Resource Center - Call 801-581-8336 to reserve.
Other materials depending on activity (see attached lessons)
Access to the internet

Activity #1:

Review the introduction to the Silk Road included in this packet. Discuss with the students the ancient technological inventions from China, India, and the Middle East including the compass, block printing, chess, paper-making, porcelain, the abacus, the camera obscura, gunpowder, the umbrella, cobalt oxide, and silk production (see below). Leading questions include:

- What technologies were invented in which regions of the Silk Road?
- When were these technologies invented?
- How were these technologies used in the countries they were invented in? i.e. the compass was only a water compass in China and had limited usage, paper was used not only for writing but for money in China, Cobalt Oxide from the Middle East was used as a glaze for porcelain, etc.

Compass

An early form of the compass called a water and needle compass was invented in China in the 11th century. By rubbing a needle on silk, the needle becomes magnetized and if it is suspended in water, will point north. The more complex mariner's compass, based on this basic technology, was invented in Europe around 1300.

Block Printing

Printing was invented during the Tang dynasty, sometime between the 4th and 7th century A.D. It began as blocks cut from wood used to print textiles and then used to reproduce short Buddhist religious texts that were carried as charms by believers. Later long scrolls and books were produced, first by wood-block printing and then, beginning in the 11th century, by using movable type. The earliest printed book found so far is a Buddhist scripture, printed in 868, hidden at Dunhuang cave, along the Silk Road.

Chess

Chess is an ancient board game based on armies and warfare. Different variations of chess were played in Ancient China, India and Persia. No one knows which culture invented the game. The similarities between the games indicate that it spread along the Silk Road, but it is unclear which direction it traveled. Chess eventually spread westward to Europe and eastward as far as Japan, spawning variants as it went. In modern times, chess has become the means for developing Artificial Intelligence in computers. The reason is that chess is a game of perfect information. This means that unlike poker or backgammon, all information specific to the game is known to both players, and there is neither secrecy nor chance.

Porcelain

Porcelain was invented in China almost 2,000 years ago. By developing many different kinds of glazes and built kilns that could reach the high temperatures, a new pottery called porcelain was created. The earliest type of porcelain was produced during the Han (206 BC - 220 AD) dynasty. By the Song (960 - 1279) dynasty, pure white porcelain was perfected and became one of the most admired Chinese inventions. Porcelain was introduced to Central Asia via the Silk Road during the 9th century. The fine 9th century porcelain imported into the Arab world from China encouraged the development there of earthenware made in imitation of porcelain as well as instigating research into the manufacture of porcelain. European didn't start to make porcelain until the 15th century.

Papermaking

The Chinese were the first to make paper There were 3 different important kinds of paper, the very first being silk rags. The least expensive type of paper was wooden strips, and the most expensive was silk cloth. Although many types of paper were made from over 50% bamboo, paper could also be made from silk, cloth, hemp, mulberry bark, and plant fibers. The Chinese were also the first to use paper as currency. For a long time the Chinese closely guarded the secret of paper manufacture and tried to eliminate other centers of production to ensure a monopoly. However in 751 A.D. the T'ang army was defeated by the Ottoman Turks. Some Chinese soldiers and paper makers were captured and brought to Samarkand. The Arabs learned the paper making process from the Chinese prisoners and built the first paper industry in Baghdad in 793 A.D. They, too, kept it a secret, and Europeans did not learn how to make paper until several centuries later.

Abacus

Although counting boards had been invented by the Babylonians sometime between 1,000 BC and 500 BC, the abacus as we know it today appeared around 1200 A.D. in China. It is thought that early Christians brought the idea of the counting board to the East along the Silk Road. Both the abacus and the counting board are mechanical aids used for counting; they are not calculators in the sense we use the word today. The

person operating the abacus performs calculations in their head and uses the abacus as a physical aid to keep track of the sums, the carries, etc. http://www.ee.ryerson.ca/~elf/abacus/history.html

Camera Obscura

The camera obscura (Latin for dark chamber) was an optical device used in drawing, and one of the precursors to the invention of photography. An Iraqi Muslim scientist named Abu Ali Al-Hasan Ibn al-Haitham (965-1039 A.D.) is credited with the discovery of the camera obscura. The camera obscura is just a box with a hole in one side. Light from only one part of a scene will pass through the hole and strike a specific part of the back wall. The projection is made on paper on which an artist can then copy the image. The advantage of this technique is that the perspective is right, thus greatly increasing the realism of the image. http://en.wikipedia.org/wiki/Camera_obscura

Gunpowder

Along with the silk and paper, gunpowder is another invention by Chinese and the Silk Road helped it spread to the west. The dating of gunpowder is as early as 850 A.D. This invention seems to have been discovered in China by accident - by alchemists seeking the elixir of immortality. The Chinese invention of gunpowder never went much beyond its crudest form, and it was abandoned as a military weapon shortly afterwards. It reached Japan, Islam and then Europe in the 13th century and the Arabs improved gunpowder for military use. Later, the Chinese adapted their primitive catapults to eventually develop a true gun with a metal barrel, gunpowder and a projectile by the 12th century.

Umbrella

The collapsible umbrella was invented in ancient China, roughly 1,700 years ago. The Chinese design was later introduced to Persia and the West via the Silk Road. The Chinese were probably the first to waterproof the umbrella for use in the rain; they used wax and lacquer (a type of paint) to repel the rain. Samuel Fox (1815 - 1887), an English inventor and manufacturer, invented the steel ribbed umbrella in 1852 (wood or whale bone had been used previously).

Cobalt Oxide

The use of the blue color, derived from cobalt oxide, can be traced to pottery decoration by Iraq in the 10th century. The technology then spread to China, where blue-and-white porcelain decoration was refined during the Ming dynasty.

Silk Production

The silk industry originated in China. Empress His-Ling-Shih, wife of a famous emperor Huang-Ti (2640 BC), encouraged the cultivation of the mulberry tree (the only source of food for silk worms), the rearing of the worms, and the reeling of the silk. Empress His-Ling-Shih is credited by the Chinese with the invention of the weaving loom on which the silk was woven into fabric. Silk was highly valued in Asia Minor and the trade road to China became known as the Silk Road. Literally, silk became worth its weight in gold.

Activity #2:

Discuss with your students how technologies were passed along the Silk Road and changed over time to become better or different. Have each student choose a technology to research. Have them compare inventions that were passed along the Silk Road to today's versions. How did the technologies evolve? What cultures added ideas to make the technology better or different? Stress the idea of evolution of technology and the importance of sharing ideas across cultures to germinate ideas. Some topics for research include:

Silk road technology	Modern technology
Water and needle compass	GPS system
Abacus	Calculator
Paper money	Modern high tech currency
Porcelain	Contemporary ceramic materials
Block printing	Modern publishing
Chess	Computer artificial intelligence
Bamboo paper	Mass-produced paper
Silk spinning and weaving	Modern weaving looms
Firecrackers	Firearms and cannons
Cobalt oxide	Modern chemistry
Paper umbrella	Steel-ribbed collapsible umbrella
Camera obscura	Film and digital camera

Students will then create a short presentation or research paper describing the evolution of their chosen technology.

Activity #3:

Have students recreate some of the technologies of the Silk Road. See the attached mini lessons on creating a water compass, block printing, playing chess, paper making, using an abacus, creating a camera obscura, and spinning silk. Each technology can seem easy or primitive but stress how important initial ideas are to more complex technologies later on.

Assessment:
The students should be able to explain to another student what the Silk Road was, about their researched technological invention that were transferred along the Silk Road and the impact of that technology on today's world. This could be accomplished in a verbal report, a written report, or a Silk Road "fair" where students set up displays about their research and other students browse the displays.

Extension:
The lesson could be expanded into a full research paper assignment and/or presentation. To research each technology in-depth would require more time and effort.

Sources:
Boulnois, Luce, *Silk Road: Monks, Warriors & Merchants*, Odyssey Publications, 2005.

Wood, Frances, *The Silk Road: Two Thousand Years in the Heart of Asia*, University of California Press, 2004.

Chinese Inventions from AskAsia http://www.askasia.org/teachers/lessons/plan.php?no=64&era=&grade=&geo=

Silk Road Seattle: http://depts.washington.edu/silkroad/index.html

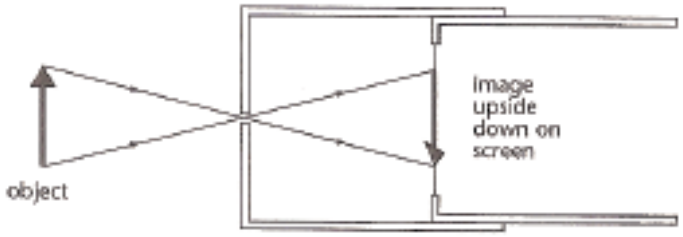
Modern music and culture along the silk road: http://www.silkroadproject.org/

Silk Road Foundation: http://www.silkroadfoundation.org/toc/index.html

The Association for Asian Studies: http://www.aasianst.org/

Use and Make your own Camera Obscura

Picture this! You walk into a dark room and the shade is pulled down over the window. As your eyes adjust to the darkness you realize that there is a small hole in the shade. When you turn around and look at the opposite wall, you see the image of the world outside the window. Everything in the image is normal except it is all upside down. How is this possible? What is so special about this room?



When light rays reflect off objects and pass through the small hole in the shade, the image flips and is projected upside-down on the wall opposite the window. This is an example of a "camera obscura." The literal translation of camera obscura from Latin is "room dark" (camera = room; obscura = dark). Used as both a drawing aid for artists and as a device for solar observation, the camera obscura is one of the earliest forms of a camera. Many of the first camera obscuras were large rooms.

Creating your own Camera Obscura

You can create your own camera obscura room!

Materials:

Large cardboard box, big enough for one person to sit in, a refrigerator or appliance box works well
Packing tape
Scissors or x-acto knife
Metal washer with a small hole (about 1/8")
Large piece of white paper.
Black spray paint

Activity:

First tape closed all seams, except one side, of the cardboard box so no light can come in. Then you need to make an aperture. Apertures let the light into the box. We will be using a metal washer as an aperture.

Cut a one inch round pilot hole in center of one of the sides. Do not use the side of the box that you have just taped. Place the washer aperture over the pilot hole on the window. Completely cover the pilot hole so that light only comes in through the aperture itself. Tape the washer in but make sure the hole in the center is still clear.

Next we will need to make a viewing screen. Get a large piece of white paper and tape it on the inside of the box on the side that is opposite of the hole. You may need to tape a couple sheets to cover the side of the box. Paint the outside of the box black. This will help make the picture sharper.

Go inside the box and close the side up so you are in as much dark as possible. You should be able to see a projection of what is on the outside of the box through the washer and onto the viewing screen. But it is upside down!

You can easily go from a camera obscura to a pinhole camera and take your own pictures. To see how, visit: http://users.rcn.com/stewoody/makecam.htm

Make your own Needle and Cork Water Compass

An early form of the compass called a water and needle compass was invented in China in the 11th century. You can make your own compass with a few simple materials.

Materials
Needle (a small sewing needle works well)
Non-metallic bowl of water
Piece of silk or magnet
Red permanent marker
Cork (a bottle cork works well)

Directions
Rub the needle with a piece of silk for several minutes. This is how the ancient Chinese first magnetized the needle. If you are having trouble getting the needle magnetized, you can rub it in one direction with a magnet. What you are doing is aligning all the atoms in one direction with the positive ends pointing in one direction.

Gently place the needle on the surface of water. Allow the needle enough time to align along the magnetic fields of the earth so that it points north. If you blow the needle out of alignment, it should always return pointing north. Paint the end of the needle red that is pointing north so you can distinguish the north-pointing from the south-pointing end.

If you are having trouble floating the needle you can try driving the needle through a piece of cork. Cut off a small circle from one end of the cork, and drive the needle through it, from one end of the circle to the other, instead of through the exact middle - be careful not to stick yourself! Float the cork and needle in your cup of water so the floating needle lies roughly parallel to the surface of the water.

Spin your own silk

About silk production:
Chinese legend credits Lady Xi Ling, wife of the Yellow Emperor (ca. 3000 BCE) with the discovery of silk thread after she accidentally dropped a silkworm cocoon into her tea. As silk fabric began to travel along the trade routes, the demand for the product grew until it became one of the most frequently traded goods. The term "silk road" was not coined until the 18th century, but it is an accurate title for these trade routes given the amount of silk that came out of china and spread westward.

The Mulberry-feeding moth Bombyz Mori, which is the principal source of silk, is one of the largest moths. When the larva is fully mature, it proceeds to spin its cocoon, in which it ejects from both glands a continuous and reelable thread of 800 to 1,200 yards in length, moving its head around in regular order continuously for about three days. The filament produced averages 1/1,200 of an inch in thickness. The cocoons average one inch to 1 1/2 inches in length.

With the exception of those selected for reproduction of eggs, the cocoons are treated to preserve them with the caterpillar intact. The chrysalis must be killed without damage to the cocoon. The worm spins the cocoon with one continuous thread forming a figure eight. Cutting the cocoon at one end to allow the moth to escape will cut the continuous thread into thousands of short ones.

The cocoon is then either processed and stretched for hand spinning into a mass of fibers, or the cocoons are unwound into one long thread for commercial weaving and spinning. The one long thread is combined with 74 other threads to make a very strong yarn for rug weaving.

You can see the different stages of silk production in the *Trade and Travel Along the Silk Road* box from the UMFA teacher resource center, call 801.581.8336 to check out. The small plastic box contains boiled cocoons, silk fibers for hand spinning, silk thread and silk fabric.

How to make your own Akha Spindle
From: http://www.spindling.com/AkhaMake.html

You can make your own traditional Asian spindle and try spinning silk! The small spindle is typical of a traditional Akha spindle used to spin fine threads like cotton and silk. The Akha people were from the Hill Tribes of northern Thailand.

Specs: An Akha type spindle should be under 1/2 an ounce to it does not break the fine yarn. The whorl needs to be made of a dense wood to retain the spin. Akha tribesmen bury wood in the ground for several months to make it dense enough for the whorls. The shaft should be a thin dowel because fingers can twist a thin dowel faster, also a thin dowel weighs less than a thick dowel. Following are instructions for making Akha spindles with easily found items and tools.

Materials:

- 2" oak drawer knob
- One 3/16" dowel
- Electric drill with a 3/16" drill bit, wood saw, coping saw, wood rasp, sandpaper, pencil sharpener.
- Perhaps a drop of glue.

Step 1: With 3/16" bit, drill the hole in the drawer knob all the way through. It is very important that the hole be perfectly straight, so work slowly and let the hole, which is already drilled half way through, guide the bit.

Step 2: Cut the small back end off the drawer knob; rasp and sand flat. Getting the cut straight is a bit tricky, but the rasp and sandpaper can help cure any imperfections. Try to make it so the curve on the cut part of the knob is the same as the curve on the factory finished side of the knob.

Step 3: Cut a 9" length of 3/16" dowel. Sharpen one end in a pencil sharpener (don't get it too sharp), and sand smooth. On the other end of each dowel cut an upward notch (angle about 45°) with the coping saw. Use an edge of the sandpaper to sand inside the notch, and sand the top of the dowel smooth and round.

Step 4: Insert the dowel into the knob 4 1/4" from the bottom (pointed) end of the dowel. Secure with a drop of wood glue if needed. You are ready to spin!

SPINNING TIPS:

To spin, you will need to get some unspun silk. Sources: http://www.theyarntree.com/store/silk/

No leader yarn is needed to start. Simply catch the top notch in your loose fiber, turn the spindle in your hand and pull until you have some yarn. Slip the loop which is caught in the notch down the dowel and you are ready to go. To secure the yarn for spinning wrap the yarn several times around the dowel and give it one or two tucks into the notch.

Traditional Akha style spindling is done in two steps. First, hold the spindle horizontally, spin it with your right hand while drafting (horizontally) with your left hand. Then, once there is enough twist in the length of new yarn to hold it together, rotate the spindle to the vertical and give it a twist with your right hand to set it spinning and add the final twist to your yarn, before winding it on. Wind on above the whorl, so that the length below the whorl is free to be twirled and spun.

How to Use an Abacus

An abacus, also called a counting frame, is a calculating tool for mathematical and counting processes that have been used for centuries throughout Asia and the Middle East. Let's explore how the abacus works!

Directions:

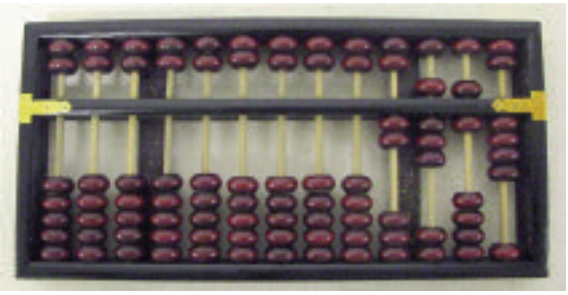
A typical Chinese abacus consists of columns of beads. A crossbar separates the beads. Each column has two beads, known as "Heaven Beads," above the crossbar and five beads, known as "Earth Beads," below it. Each heaven (upper) bead represents five units and each earth (lower) bead represents one unit.

The first column on the right is the one's column; the second is the ten's column; the third column is the hundreds'; the fourth column is the thousands'; and so on.

Use the thumb and the forefinger (pointer finger) to slide the beads back and forth. The thumb is used to move the earth beads. The forefinger is used to move the heaven beads. To place a number on the abacus, move beads to the crossbar.

Using the abacus from the *Trade and Travel Along the Silk Road* Box from the UMFA Teacher Resource Center, place the number 2, 864 on the abacus, raise 2 of the lower beads in the thousands' (fourth) column to show 2 thousands. Lower one upper bead and raise three lower beads in the hundreds' (third) column to represent 8 hundreds. Next, lower one upper bead and one lower bead in the ten's column to show 6 tens. Finally, in the ones' column, raise four lower beads for the 4 ones. The abacus now shows 2, 864.

The abacus should look like this:



Now, test your classmates! Place a number on the abacus and see if they can guess what it is!

Source: http://www.iit.edu/~smile/ma9007.html

How to Make Homemade Paper

The process for making paper was invented in China in the second century A.D. Until 1798, all paper was tediously made one sheet at a time. Paper is a simple material. It is essentially a mat held together by the fiber's roughness, and can be made from almost any fibrous material from wood to recycled paper. In China throughout the Silk Road times, many different types of paper were being produced, the most expensive papers were made from silk. The cheaper and more commonly used papers were made from bamboo. Below you will find a simple papermaking recipe.

Materials:

- Scrap paper (newspaper, magazines, computer paper, tissue paper, paper towels, construction paper)
- Apron
- Wood Frame (An old picture frame works well)
- Wire mesh screen
- Stapler or tacks
- Plastic Basin/Tub (Large enough to totally immerse frame)
- Dish towels (felt, fabric, or newspaper also works) and Towels for cleaning up water
- Blender/Food Processor
- Sponge
- Liquid starch (optional)
- Rolling pin
- Iron

Directions:

1. Rip the paper into small pieces (about 1" squares) and place into the blender (about half full). Fill the blender with warm water. Run the blender slowly at first then increase the speed until the pulp looks smooth and well blended (30 - 40 seconds). Check that no flakes of paper remain.
2. Next, make the mold (called a deckle frame). The mold is made simply by stretching a wire mesh screen over a wooden frame and stapling it or tacking it. The screen should be as tight as possible.
3. Fill the basin about half way with water. Add 3 blender loads of pulp (the more pulp you add the thicker the finished paper will be) and stir the mixture together.
4. Add 2 teaspoons of liquid starch into the pulp. (*This step is not necessary, but if the paper is going to be used for writing, the starch helps to prevent inks from soaking into the paper fibers.)
5. Place the mold into the pulp and then level it out while it is submerged. Gently wiggle it side-to-side until the pulp on top of the screen looks even.
6. Slowly lift the frame out of the mixture, keeping it flat. Allow it to drip over the tub until most of the water has drained through. You should have an even layer of the pulp mixture on the screen. Press the pulp gently with your hand to squeeze out excess moisture. Soak up excess water from the bottom of the screen with a sponge.
7. Place clean dish towel, felt or fabric on a flat surface and flip the screen paper-side-down on the cloth. Lift the screen gently, leaving the paper behind.
8. Cover the paper with another cloth or piece of felt, and squeeze out the moisture using a rolling pin. Place the sheets out of the way to dry. You may want to let the paper dry overnight. When the paper is mostly dry you may want to use an iron at a medium dry setting.
9. When the paper is completely dry, pull the cloth gently from both ends, stretching it to loosen the paper from the cloth. Gently peel off the paper.
10. Use your paper to draw on, write on, fold or send to a friend!

Sources: http://www.wipapercouncil.org/makepaper.htm,
http://www.pioneerthinking.com/makingpaper.html

Make your own Chinese Chop

The chop acts as a seal or stamp for a personal signature. Made of stone or wood, Chinese characters are carved into the chop and then pressed into red ink and stamped onto important documents, contracts and even art. Today in China, Japan and Korea, seals and stamps made from chops are still commonly used. You can design your own chop with a few materials.

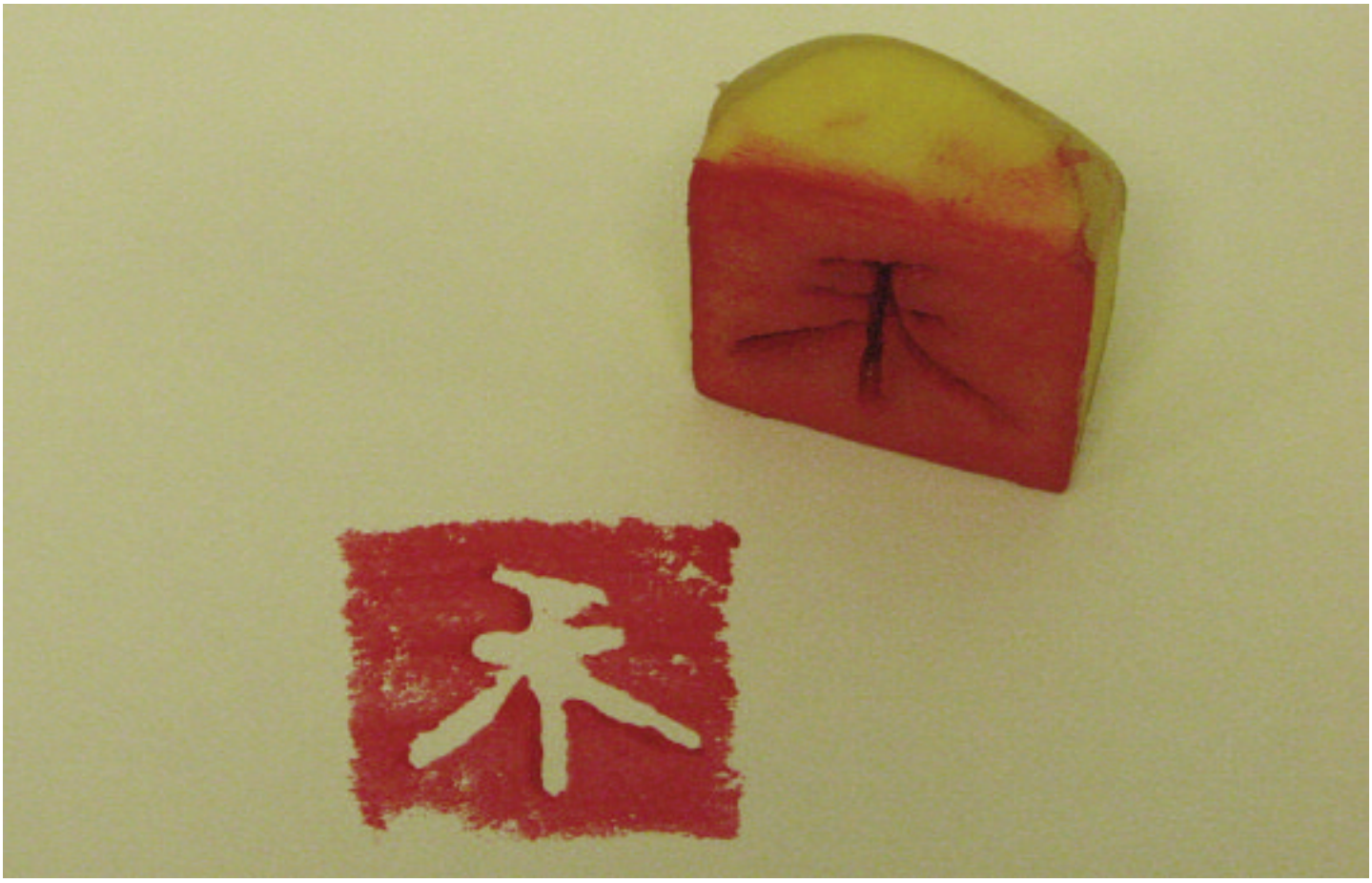
Materials:

- Potato
- Knife
- Marker
- List of Chinese characters
- X-Acto knife
- Paint (and paint brush) or ink pad, preferably red
- Paper

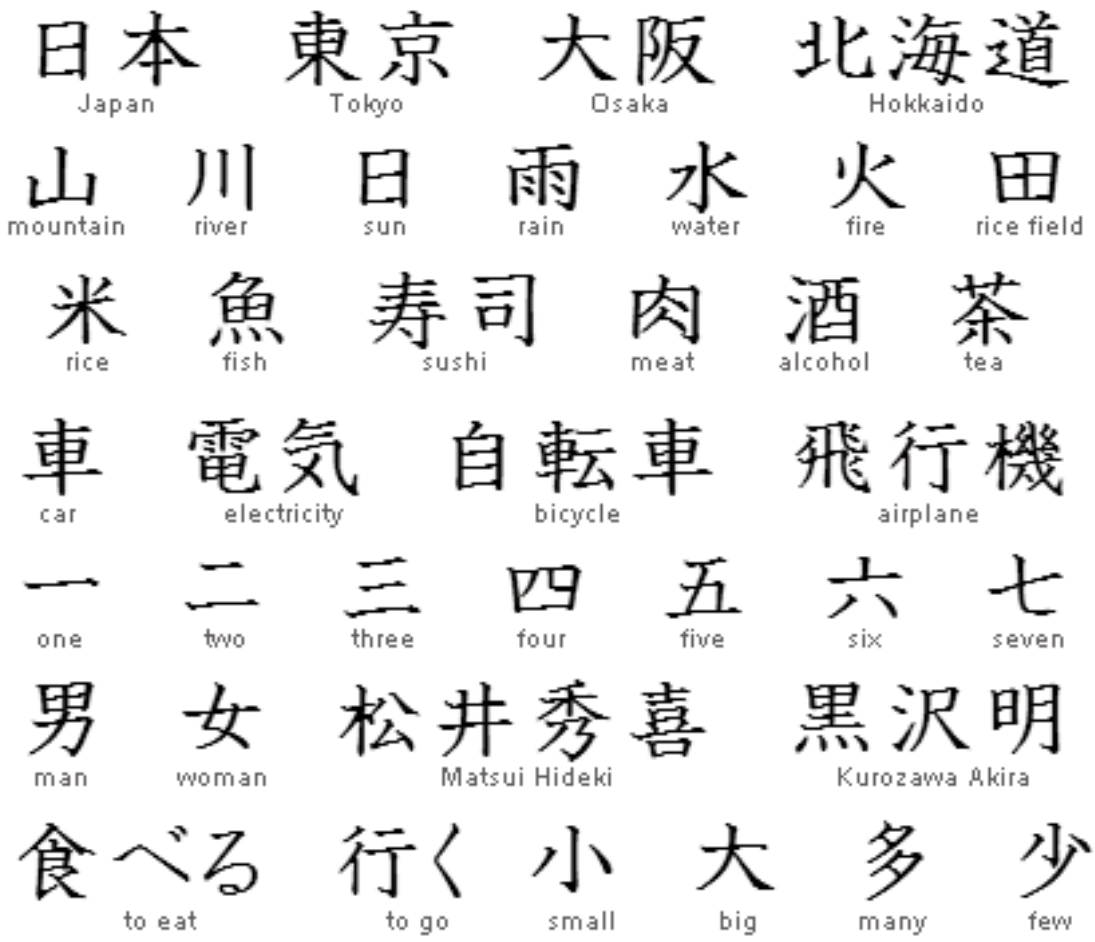
*Please be aware that this project requires the use of an x-acto knife. Adult supervision required for young children.

Directions:

Cut potato into approximately 2" square pieces. Draw Chinese character design on the surface of the potato. Cut out the design with an X-Acto knife. Clean out the cuts and pat the surface of the potato dry. Apply paint with brush or press design into ink pad. Stamp onto paper.



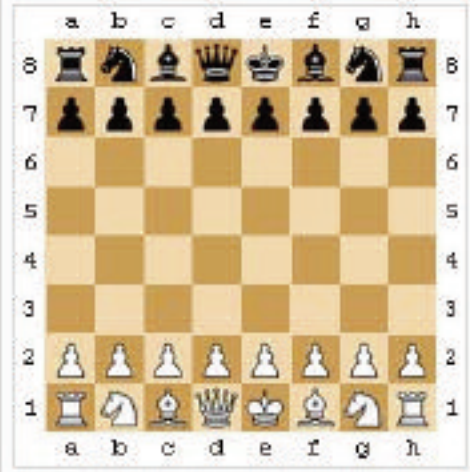
Basic Chinese Characters



Play Chess

Setup

Chess is played on a square board of eight rows and eight columns of squares. The colors of the sixty-four squares alternate and are referred to as "light squares" and "dark squares." The chessboard is placed with a light square at the right hand end of the row nearest to each player, and the pieces are set out as shown in the diagram, with each queen on its own color.



Pieces at the start of a game

The pieces are divided into white and black sets of sixteen pieces each. These consist of one king, one queen, two rooks, two bishops, two knights and eight pawns.

Play

White always moves first. The players alternate moving one piece at a time. Pieces are moved to either an unoccupied square, or one occupied by an opponent's piece, capturing it and removing it from play.

When a king is under immediate attack by one or two of the opponent's pieces, it is said to be in check. The only permissible responses to a check are to capture the checking piece, place a piece between the checking piece and the king, or move the king to a square where it is not under attack. A move that would place the moving player's king in check is illegal. The object of the game is to checkmate the opponent; this occurs when the opponent's king is in check, and there is no way to remove it from attack.

Moves

Moves of a King

Moves of a Rook

Moves of a bishop

Moves of a Queen

Moves of a Knight

Moves of a Pawn

Each chess piece has its own style of moving. The Xs mark the squares where the piece can move if no other pieces (including one's own piece) are on the Xs between the piece's initial position and its destination. If there is an opponent's piece at the destination square, then the moving piece can capture the opponent's piece. The only exception is the pawn which can only capture pieces diagonally forward.

* pawns can only move to the white circles to capture, and cannot capture with their normal move

Source: http://en.wikipedia.org/wiki/Chess

Additional Resources:

The Walking Drum
by Louis L'Amour
Bantam Books
Exciting fictional account of a young man caravanning on the Silk Road
Lesson plans for teaching the book:
http://www.centerforlearning.org/p-353-the-walking-drum-summary.aspx

When China Ruled the Seas: The Treasure Fleet of the Dragon Throne 1405-1433
by Louis Levathes
Oxford University Press
Non-fiction look at the Ming dynasty and China's rise as a naval power
1994 New York Times Notable Book of the Year

Suleiman the Magnificent and the Story of Istanbul
by Julia Marshall
Hood Hood Books, London
Non-fiction account of the greatest Ottoman Sultan

The Silk Road: 7,000 Miles of History
by John S. Major
Harper Collins Publishers
For younger readers (discussion of each city along the Silk Road)
Great guide if mapping the route of the Silk Road

Paper and Printing: Science and Civilization in China
by Tsien Tsuen-hsuin, Edited by Joseph Needham
Cambridge: Cambridge University Press, 1985

Silk Road: Monks, Warriors & Merchants
by Luce Boulnois
Odyssey Publications, 2005

The Silk Road: Two Thousand Years in the Heart of Asia
by Frances Wood
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Silk Road Seattle
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