



4 Maya Codices from the FAMSI site.

Mayan Art & Architecture

Pearl Lau
 art educator
 New York City
**Visual Arts-Language Arts-
 Math-Social Studies
 Multi Cultural, Multiple
 Intelligences**

This unit is a total of
 4 lessons.

You can choose to do one of
 them or all of them to create a
 unit on the art and style of the
 tombs found in the Yucatan.

Art Lesson I: “Mural; Popol Vuh”

Learning about the Mayan myth of creation. Creating a wall mural based on the Bonampak Art Style.

Art Lesson 2: “Writing our names using Mayan glyphs”

Understanding that Mayan writing is phonetic, and can be written several ways.

Art Lesson 3: “Writing Mayan numbers ”

Learning how other cultures base numbers on 20, (not 10 like ours),
 and how they write numbers, (not like ours!)

Art Lesson 4: “Creating a Mayan Tomb ”

Learning the Mayan Corbel arch, creating a tomb.

Objective: Students begin to learn about how the Mayans thought. Begin with the Mayan Story of Creation. Very age appropriate, as the Hero Twins play ball, and that’s all they want to do! Students watch the Mayan Quiche myth of creation. Discuss with students the Hero Twins, the ball game, the lords of the underworld and how the twins tricked the lords. (I would edit the narration depending on age of students, religious make-up of the class etc.)

Question: How can we retell the story of creation (in sketches) by listening to the story read aloud?

Create a wall chart with students noting; characters, locations (Xibalba) clothing design of main characters animals listed actions of characters. In the second session, students take the items from the chart, break into groups and start sketching one of the scenes from the story. Complete the sketches on small 8.5x11 paper to be worked up in session two as wall murals.

Web sites for this lesson:

video animated.

http://www.youtube.com/watch?v=1kAE_TW24a4&feature=related

This is in Spanish, you can turn off the sound and narrate it yourself.

http://en-wikipedia.org/wiki/Popul_Vuh Photos available on pearlinpalenque.blogspot.com

The New York City 5 Art Strands for all 4 lessons;

1. **ARTS MAKING**-Students will use paper, markers, paint, foam, plaster of paris, collage, painting, writing, planning, topography and geography. They will learn to use primary sources, books, and photos. They will learn about Mayan art motifs, designs, architecture, language and music.

2. **Literacy:**

Vocabulary:

Stele – stone bas-relief carving, usually vertical.

Epigraph, Epigrapher - an inscription on a building, the person who studies them.

Maize - ancient corn that was cultivated over time.

Codex – the hand made bound books written in glyphs, usually on “paper” made from pounding tree bark.

Hieroglyph - literally “sacred writing”. Today used to describe any kind of picture writing for Egyptians and Mayans.

3. **Making Connections**

This links to Social Studies, History, Geography, terrain, music, foreign language (Spanish and indigenous)

4. **Community and Cultural Resources:**

Metropolitan Museum of Art has Mayan Art in the Michael C. Rockefeller wing.

Smithsonian Museum of the American Indian in Battery Park

American Museum of Natural History

Non-permanent exhibits on in winter 2012-13; Princeton University Museum, Mayan pottery, University of Penn State Museum of Archeology, the Mayan Calendar, and Yale University Art Gallery.

My school has a very large Mexican population. Learning about the great cultures of the past is

very empowering for them.

5. Careers and lifelong learning: How can people’s intellectual curiosity solve riddles of the ancient past?

Museum curator, archeologist, artist, photographer, writer (books, magazines, travel) epigrapher, linguist, textiles, linguist



Art Lesson I: “Mural; Popol Vuh”

Learning about the Mayan myth of creation.

Creating a wall mural based on the Bonampak Art Style.

Essential Question:

What Mayan art styles and motifs are used in tombs from the 800’s in Chiapas, Mexico?

Sources:

Famsi web site --<http://www.famsi.org>

(Foundation for the Advancement of Mesoamerican Studies)

Arqueologia, Mexicana (in Spanish)Edicion Especial www.arqueomex.com

“Codices prehispanicos y colonials tempranos Catalogo. Mayas, Mexicas, Mixtecos y Grupo Borgia

I have several PowerPoints depicting Palenque, Tonina, Chichen Itza, Yaxchilan and Bonampak. All are Mayan Ruins in Mexico. email: PLau2@schools.nyc.gov to receive it.

ARTS MAKING SUPPLIES;

8.5 x 11 beige paper, markers, pencils, sheets of design motifs and pages from the Dresden Codex for students to see examples of headdresses, profiles of Mayans, colors used etc.

Tell students: The Mayan civilization lasted from about 500 BCE to the 1500’s CE, with a classical period from 250-925 CE. This cultural era is referred to as Mesoamerica or Meso-America. It extends from Central Mexico to Belize, Guatemala, El Salvador, Honduras and Nicaragua. Other groups that inhabited the areas are the Olmecs, Toltecs, Aztecs, Zapotecs and the Mixtecs.



You will hear the edited story of the Popol Vuh (you could hold up the Tedlock book for them to see how long it is). After you hear the story, you will select your favorite part and illustrate it. Hold your paper vertically, we need to be able to line them up on the wall. Be sure to include any details you hear in the story. Use the sheets from the Codex to style your lords and brothers.

(If you build the tomb, you can mount them on the walls, if you can't build the tomb, a bulletin board or wall will do. Place them in order of the story. Have the students help with organization).

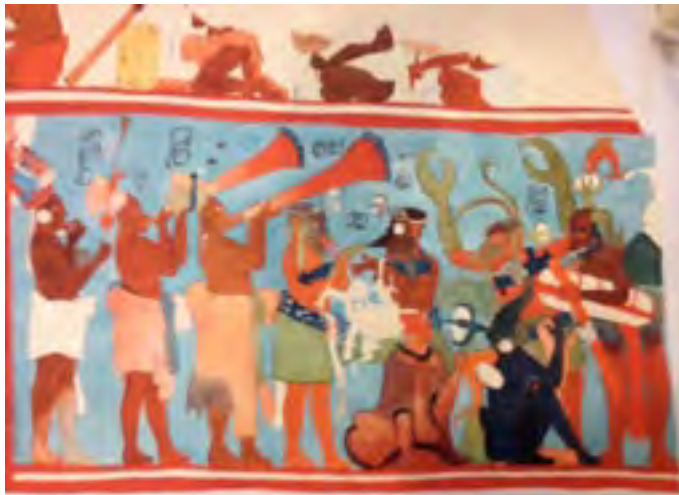
For the teacher: German ethnologist, Paul Kirchoff used the term “MesoAmerica” which literally means “middle America” in Greek.

He based this term on the intercultural similarities. The agriculture, specifically the cultivation of maize (corn), the use of two different calendars, (a ritual 260 day calendar and a 365 day calendar based on the solar year and a base 20 (vigesimal) number system, pictographic and hieroglyphic writing, practice of various forms of sacrifice and shared ideological concepts. Mesoamerica is recognized as a near-prototypical cultural area and the term is now part of the pre-Colombian (before Christopher Columbus or before the Spanish) terminology.

Michael D. Coe breaks this area into two broad categories: the lowlands and the altiplanos or highlands.

Linguists say there are 4 times where writing appeared in an original form throughout history; cuneiform, Egyptian, Chinese and Mayan.

In addition, the culture is broken up into the Paleo-Indian, Archaic, Pre-Classic, Classic, Post-Classic.



mural at Bonampak, showing Mayan Blue background and style of displaying people.

About the classic Mayan Ball-Game;

The Mesoamerican ball game was a sport with ritual associations played for over 3,000 years. The sport had different versions over the millennia. Some Mayan courts have rings and some don't, some are longer than others. The balls were heavy, 8 to 10 lbs. and made of rubber, a Mesoamerican invention.

The rules of the game are not exactly known, it was similar to volleyball or soccer. You used your hips and your head, never your hands. The game sometimes featured human sacrifice.

Design Motifs: Mayan art is mostly of people, who are rendered in profile. Two feet showing, one foot placed in front of the

other. The headdresses are incredibly important as they depict the wearer. It's as if they wrote his name on top of his head. When showing a humiliated captive, they will depict him without all his jewelry but he will still have on his headdress so all will know whom they captured.

The Popol Vuh

The Definitive Edition of the Mayan Book of the Dawn of Life and the Glories of Gods and Kings
Translated, Revised and Expanded by Dennis Tedlock
Touchstone, 1985

Depending on the age and ethnic diversity of your students you may want to edit your own version.

The Popol Vuh Story

story edited for the classroom by Pearl Lau



In the beginning, there was

nothing but sky and water.

The gods decided to make animals, then humans. The first humans were made from mud but when it rained they melted.

The gods then decided to make people from wood (they had already made trees). But the wood people were stiff, they had no soul or brains. They walked into the walls. They couldn't speak which was terrible because the lords wanted the people to say "oh gods you're so great!"



Finally the gods took white and yellow maize (corn, which has sacred significance. Maize was developed from a grass with very few kernels, into the corn we have today. This past summer because of the drought out west, our corn grew only a few inches long. It looked almost like the original maize).

They mashed it up and created arms and legs for their third version of people. These people could walk, talk and most importantly they could say "oh gods you're so great!"

One day, many years later, 2 boys named Hun Hunahpu and Vucub Hunahpu were playing ball. The lords of Xibalba (sha-bal-ba) the Underworld were very annoyed at all the noise being made. They invited the boys down and eliminated them!

Luckily the two boys left their ball game equipment up on the earth that was found years later by the sons of the original two boys.

The sons names were Hunahpu and Xbalanque (sha-ba-lan-kay).

They started splaying ball making all kinds of noise.

“AH!” The lords yelled, “we have to get those boys down here, we’ll give them tests and they’ll surely fail it! Then we can eliminate them like we did their fathers!”

The two boys came and were told to go into the cave of darkness. They were given a cigar and a torch. They were told to keep both lit all night!

The two boys were smart and clever. They pulled out of their pockets a brightly colored feather and a pocket full of fireflies!

Each time a lord passed by to see if the things were still lit, they looked like it was! The next morning the boys came out with the cigar and torch and they were like brand-new!

“Rats!” Said the lords; “they passed the test, now we have to make up another one!”

The lords said, “if you can name all of the lords then we’ll let you go, you’ll have passed all the tests.”

One of the boys pulled a hair out of his leg and it turned into a mosquito!

The mosquito flew over and bit the first lord named One Death, “OUCH!” He yelled. The second lord, Seven Death said, “Lord One Death what’s the matter?”
“That mosquito bit me!” Said Lord One Death.

Two seconds later Seven Death said “OUCH!”
“Lord Seven Death, what’s the matter?” Asked Scab Scraper.
“That mosquito bit me!” Said Lord Seven Death.

Two seconds later Scab Scraper said “OUCH!”
“Lord Scab Scraper, what’s the matter?” Asked Blood Gatherer.
“That mosquito bit me!” Said Lord Scab Scraper.

Two seconds later Demon of Pus said “OUCH!”
“Lord Demon of Pus, what’s the matter?” Asked Demon of Jaundice.
“That mosquito bit me!” Said Lord Demon of Pus.

Two seconds later Demon of Jaundice said “OUCH!”
“Lord Demon of Jaundice, what’s the matter?” Asked Bone Scepter.
“That mosquito bit me!” Said Lord Demon of Jaundice.

Two seconds later Bone Scepter said “OUCH!”
“Lord Bone Scepter, what’s the matter?” Asked Skull Scepter.
“That mosquito bit me!” Said Bone Scepter.

Two seconds later Skull Scepter said “OUCH!”
“Lord Skull Scepter, what’s the matter?” Asked Wing.
“That mosquito bit me!” Said Skull Scepter.

Two seconds later Wing said “OUCH!”
“Lord Wing, what’s the matter?” Asked Packstrap.
“That mosquito bit me!” Said Wing.

Two seconds later Packstrap said “OUCH!”
“Lord Packstrap, what’s the matter?” Asked Bloody Teeth.
“That mosquito bit me!” Said Packstrap.

Two seconds later Bloody Teeth said “OUCH!”
“Lord Bloody Teeth, what’s the matter?” Asked Bloody Claws.
“That mosquito bit me!” Said Bloody Teeth.

Two seconds later Bloody Claws said “OUCH!”
“Lord Bloody Claws, what’s the matter?” Asked One Death.
“That mosquito bit me!” Said Bloody Claws.

Not a single name was missed, and the boys remembered them all.

“Rats!” Said the lords; “they passed the test, now we have to make up another one!”

One of the lords said, “wait for me and sit on the chair”.

One of the boys said, “NO, that’s a stove and you’ll cook me for dinner if I sit there!”

The lords went off to think about another test while the boys decided to play a trick on the lords.

One brother said, “let’s do that trick where you cut me up and put me back together again”.



So they did, and when the lords came back they found the one brother all cut up laying around. “What did you do?” Said the lords.

“Oh my brother and I love to play this game, watch this!” Then all of a sudden the cut up brother got put back together again and said “Oh I love it when he does that! I get all chopped up then go back together again, so much fun!”

“Do me too” said Lord One Death, “No do me first said Lord



Bloody Teeth!” And all the lords fought over who would go first.

The brothers said, “OK, don’t worry you’ll all get chopped up”. So the brothers chopped up all the lords...and walked away!”

They returned to the land above the Underworld and continued to play ball and make lots of noise to this day!

(This is a heavily edited version that I did for my elementary school-age children)

Art Activity:

•After the students have heard the story, ask them to do a drawing retelling one scene they liked. Use a beige tinted paper or create your own. We want it to look like stone. All art should be horizontal to stack and put in order of the story. Use watercolor markers, after drawing with them, apply plain water with a brush to create a more painterly effect. Remind them about the “Mayan Blue” background to add.

These will be the drawings you can use to put on the inside walls of the temple, if you can build one from foam insulation. If you can’t, you can arrange them on a bulletin board to retell the story of the Popol Vuh.



Art Lesson 2: “Writing our names using Mayan glyphs”

Essential Question:

How did the Mayans write their names if they didn’t have the alphabet we use?

Introduction: The Mayan civilization lasted from about 500 BCE to the 1500’s CE. The earliest known writing in the Mayan script dates from about 250 BCE, but is thought to have developed at an earlier date. Recent archeological finds indi-

cate that the Mayan civilization started much earlier: around 3,000 BCE.

In about 1566, the first bishop of Yucatan, Diego de Landa, compiled a key to the Mayan syllabary consisting of 27 Spanish letters and the Mayan glyphs with similar sounds. This became known as the Landa Alphabet and helped with the decipherment of the script, even though it was based on the false premise that the script was alphabetic.

For a long time many scholars believed that the script did not represent a language at all, or that it

wasn't a complete writing system. The first major breakthrough in decipherment came during the 1950s when a Russian ethnologist, Yuri Valentinovich Knorosov, proposed that the Mayan script was at least partly phonetic and represented the Yucatec Mayan language. His ideas were not welcomed by other Mayanists, but he was eventually proved correct.

Further progress in the decipherment was made during the 1970s and 1980s when more linguistics began to take an interest in the script. Today most Mayan texts can be read, though there are still some unknown glyphs.

A gripping account of the decipherment of the Mayan script can be found in *Breaking the Maya Code*, by Michael D. Coe.

The Yucatec Maya continued to use the Mayan script until at least the 16th century. Recently, their descendants have started to learn the script once again from the scholars who have deciphered it.

Notable features

- The Mayan script is logo syllabic combining about 550 logograms (which represent whole words) and 150 syllabograms (which represent syllables). There were also about 100 glyphs representing place names and the names of gods. About 300 glyphs were commonly used.
- Examples of the script have been found carved in stone and written on bark, wood, jade, ceramics, and a few manuscripts in Mexico, Guatemala and northern Belize.
- Many syllables can be represented by more than one glyph
- The script was usually written in paired vertical columns reading from left to right and top to bottom in a zigzag pattern.

You can find examples of the glyphs at;

<http://www.omniglot.com/writing/mayan.htm> and on the FAMSI site.

ARTS MAKING SUPPLIES;

5 x 5 inch white paper, markers, pencils, sheets of Mayan glyphs.

Students will learn;

- How to write their names using the Mayan syllabary (Mayan syllables). The language is phonetic but does not have all the sounds in the English language. Students will learn how to compensate. Their names end in the syllable "na" so everyone gets to add that at the end. (see my "name" at the end of this lesson.)

- Students will be able to find Mexico and in particular Chiapas and the Yucatan on a world map. Students will be able to learn Mayan architecture through primary sources of photos taken on my trips to Mexico. We also have posters, postcards and books all around the room for more research.

- Design motifs and attributes of Mayan art are also displayed for use on the robes of visiting dignitaries at Bonampak. They will also see how the Mayans used their numbers within their glyph writing system.

- The importance of Mayan Blue in the murals. The Maya associated the color blue with their rain

deities. When they offered sacrifices to the god Chaak, they would paint them blue in hopes he would send rain to make corn grow. The blue paint has been found on objects for a long time, but scientists have debated how the Maya created the pigment.

(Secret to Mayan Blue Paint found) <http://www.livescience.com/2322-secret-mayan-blue-paint.html>

•Linda Schele and Tatiana Proskoriakoff were two women artists who were hired to copy the glyphs they saw in Mexico, Guatemala and Honduras. After many years both women saw relationships in the combinations of the characters. It was Tatiana who discovered that the stele at Piedras Negras was a history record of the dynasties of rulers.

National and NYS Indicators:

Art Room: Students demonstrate how history, culture (drama and theatre design) and the visual arts can influence each other in making and studying works of art.

Students obtain information from oral (music), visual and print sources.

Show students some other written languages such as Egyptian Hieroglyphs. You can explain how this is a misnomer. Hieroglyphs literally translate as “sacred writing”. This name was given when the original archeologists saw the writing as purely religious.

Students like to hear how adults don't always get it right! Tell them how for the longest time, they thought the pictures stood for something. It took several people to crack the code and understand that these pictures are phonetic and are akin to making “letter sounds” something they will know from learning how to read.



Using a square format. Students will sketch out their name using as many of the letter sounds on their sheets that they can find.



Not all English sounds can be translated into Mayan. For instance;

PEARL is “pi” + “l” + “na”.

The “na” is a sound added at the end.

(in Mayan over my head)



Art Lesson 3: “Writing Mayan numbers ”



Learning how other cultures base numbers on 20, (not 10 like ours), and how they write numbers, (not like ours!)

(If you have an iPhone, you can download for free, “MAYACALC” you’ll have a calculator with Mayan numbers. You can change the setting to Arabic numbers too.)

Students will learn:

- How to write Mayan numbers
- how they think in numbers
- how to use the Mayan system of counting

One bar=5

One dot=1

Example for the number 13= $_ _ \bullet \bullet$ (5+5+3=13)

Mesoamerican numbers are literal and symbolic. It is VIGESIMAL (based on 20).

In representing numbers a series of bars and dots are used.

2 is related to origins as all origins can be a combination of two.

3 related to household fire.

4 represents the four corners of the Universe.

5 represents instability. (You can ask why “3” was not labeled “stability” as in all cultures, the tripod is one of the first footed design for a vase as the triangle is the most stable of geometric numbers.)

9 relates to the underworld and night.

13 is the number for light.

20 for abundance.

400 is for infinity.

They had the concept of “0” also. In the late Pre-Classic period it is considered one of the earliest uses of zero in human history.

Activity: In a style of illustrative whimsy tell students they can write the bars and dots any way they want to. Mayans often changed things, it depended on the calligrapher. Use colors, patterns, outlines etc.

Write your birthday. Today’s date. Play a game calling out numbers and they write them down.



Art Lesson 4: “Creating a Mayan Tomb ”

Learning the Mayan Corbel arch, creating a tomb.

Students will learn how math and art are connected through architecture.

Show examples of Gothic arches (Europe 12th century) and post and lintels (Stonehenge example) to display how people tried to “hold things up”.

Engineering and human nature can open a diverse dialogue with the different disciplines in society. Was it for religious reasons to raise the ceiling? Was it built to honor a fabulous person, what culture did they base their architecture on? And why?

The Mayan arch was not stable, and Mexico had many earthquakes. Ask what could this have done to the belief in the gods? The ruler? Could he have (as in China) lost the right to rule?

Activity: The above tomb is designed to be created from foam insulation. A saw or long utility knife is what cuts up the blocks. You only need to cut up the opening pieces. The rest can be just painted to look like stones,

Use wooden barbecue skewers to hold the foam pieces together. Cut approximately 30 blocks to create the area around the arch and up. This arch is designed for the top rows to cantilever. You could build this in miniature, use blocks borrowed from other classes, or cut up the foam pieces with a saw. If you make it large enough for a student to go into, you can line the walls with the illustrations from the Popol Vuh.

It will be a magical transformation in the classroom.

Added activity:

1. Create the tomb like brand new. Paint it, the art work inside is fresh.
2. Based on primary sources of descriptions, how did it look when the Spaniards came? When the other Europeans came to sketch and explore? Age it to that appropriate time to give a sense of what it was like for people to stumble across these places centuries later.
3. Discuss the modern idea of not excavating and reconstructing everything. Many pyramids in Mexico are only reconstructed on 2 sides, the other 2 left as they found it. Why is this done? Do you think is valuable evidence?

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Mayan Cultures Across Time
Yale-Peabody
2013

INDIGENOUS PEOPLES OF THE AMERICAS: MAYA CULTURES ACROSS TIME



Yale Peabody Museum-PIER-CLAIS 2012 Summer Institute for High School Teachers,
Yale University, New Haven, CT, July 9-13, 2012

Curricular Unit

Introduction

Title of the curricular unit: Ancient American Pottery and Techniques – Maya Pottery

Name: Marie Monks

School: Branford High School

Subject Area: Art

Grade Level(s): 9-12

Number of Lessons in the Unit: 4

Time Frame Allow for Unit: 3-4 weeks

Brief Narrative Describing the Unit:

In this unit, student will gain knowledge and experience in preparing their own ceramic clay and the process clay undergoes when it is dug from the ground. Once the clay has been prepared, students will create a Maya-inspired clay vessel using similar hand-building techniques as the Maya and a clay ocarina where they incorporate the Maya's playful notion of design and function. To conclude the unit, student will research and study the colors used by the Maya to decorate their pottery. Students will then create the colored slip and complete their clay vessel and ocarina using the colors black, red, and white.

Unit Teaching Objectives

By researching and observing a variety of techniques and works of art originating from the Maya culture, students will know how to prepare their own clay, design and create a ceramic vessel and/or a ceramic ocarina in the style of the Maya. To conclude the lesson unit, students will decorate their pieces using colored slip that they prepared themselves, using the same techniques the Mayas used to decorate their ceramic pieces.

Students will have an understanding of the techniques and the process used by the Maya and other indigenous societies, starting from when the clay was dug from the earth (cleaned, shaped, painted) to the finished product - being fired in a kiln/pit.

Unit Essential Questions

What process does clay go through in order to be used to create pottery?

What are the styles and techniques seen and used in Maya pottery?

What is the role of the artist/pottery in societies past and present?

What is the role of the ceramic material itself? How has it changed/stayed the same in the past and present?

Vocabulary:

Lesson 1:

Primary Kaolin
Secondary Kaolin
Ball Clay
Stoneware Clay
Fire Clay
Talc
Common Surface Clay
Earthenware
Silica
Porcelain
Raw Clay
Plasticity
Shrinkage
Absorption
Feldspar

Lesson 3:

Ocarina
Animal Effigy

Lesson 2:

Quadrupod
Animal Effigy
Puki
Coil Technique
Cache
Cylindrical tripod
Basal Flange bowls
Tiquisate pottery
Hemispherical bowls

Lesson 4:

Slip
Incised Design
Iron Oxide

The Origin of Clay Pottery: Collecting and Preparing Clay

Lesson 1: The Origin of Clay Pottery

Lesson Specific Objectives:

Students will:

- Read articles and watch videos that discuss and demonstrate the different types of clay, their uses and how clay is dug from the ground and cleaned to make it suitable to create pottery.
- Study and discuss the historical evolution of ceramics from the most primitive through early advancements.
- Experience the process of collecting clay from the ground to filtering/screening the clay in preparation of forming ceramic vessels.

Lesson Specific Essential Questions:

What is clay? What are the different types of clay that you may find in the ground?

What type of clay was most often used in Ancient America?

What process does raw clay go through in order to be used to create pottery?

Lesson 1: The Origin of Clay Pottery

Activity 1: What is Clay?

In this lesson, we will begin with offering the question of “What, exactly, is clay? Where do we find it? We will discuss if it is possible to find clay in our own back yard and where indigenous cultures found clay. Looking at a map, we will discuss the different types of clay that exist and where those types of clay can be found. We will briefly discuss the type of pottery found in different areas of the world and discuss how the type of clay that was available affected the pottery of that area. We will then focus on the Americas, specifically the Maya region, and discuss the kind of clay that was available to the Mayas. (Handout #1)

As a class, we will watch the video, *Classic Martina Martinez: Native American Pottery Maker of San Ildefonso* in order to give students a review and a demonstration of what this lesson unit includes and what they are generally going to be learning how to do.

Key Points to Cover:

- Ceramics have a longevity and performance like no other material – this is why we can study ancient civilizations by their ceramic artifacts and why ceramics is such a prized material for space exploration and other advancements in modern technology. At the same time, it functions in much the same way as it did 35,000 years ago.
- Three Basic Questions to ask yourself when you are creating something – How is the piece to be used? How do you want the work to look? **What materials are available?**

- Discuss the characteristics of Kaolin, Ball clay, Stoneware clay, Fire clay and common surface clay. How do they differ from each other? Where are they found? Who used these different types of clay and why?
- Discuss what causes different colors of clay.
- Common surface clay was the clay type most often used by indigenous cultures. **Why was that the case?**
- Discuss the differences between Porcelain, Stoneware and Earthenware – Pros and Cons and how you can tell the difference.

For Homework:

- Read Handout #2 “The Pots of Jatumpamba” and discuss in class.
- Watch the on-line videos that demonstrate the process of collecting, cleaning, screening and mixing raw clay in preparation for creating a ceramic vessel. Answer the questions on Handout #3.
- Write 3 questions you may have regarding clay, collecting/cleaning raw clay and the effects of different clay types in different cultures.
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Lesson 1: The Origin of Clay Pottery

Activity 2: Collecting, Screening and Cleaning Raw Clay

Materials Needed:

Raw Clay (dug from Sheffield, MA)

Ball Clay

Dust Masks

Canvas

Water

Large bowls or buckets (for holding water and allowing clay to soak)

Clamps (to hold canvas down on table)

Optional:

Screens

Mallets (to help break up dried clay)

Note to Teachers

Field Trip possibility – Sheffield Pottery Ceramic Supply in Sheffield, Mass. allows you to dig your own raw clay from their clay mines. If it is not possible to bring students to the mines, clay should be dug in advance with a photo documentation of the process.

- If a field trip can be arranged, students will take a trip up to Sheffield, MA to dig out their own clay from the clay pits. If a field trip cannot be arranged, students will be shown a video documenting the process of the clay being dug.
- Once the raw clay has been obtained, students will begin the process of cleaning and preparing the clay to work with:
 1. First the debris will be removed (leaves, twigs, stones).
 2. The clay will then be dried and crushed into smaller pieces to further remove any visible debris.

3. **OPTIONAL:** Depending on how much debris is in the clay and the availability of good ventilation and safety equipment such as dust masks, the clay can be screened to remove further debris.
4. Once the debris has been removed from the dried clay, water will be added back into the clay to soften the clay.
5. Students will be given a canvas mat to work with the softened clay, mixing and wedging it into a workable state.
6. Ball Clay will be mixed into the raw clay to give the clay more plasticity (recommendation of Sheffield Pottery). Discuss the importance of this step with students.
7. Clay will be wrapped in damp cloths and plastic until students are ready to begin creating their ceramic vessels.

Lesson 1 Assessments:

Class Participation
Reaction to Videos
Comprehension Questions
Homework Worksheet
Final outcome or prepared clay

Lesson 1 Handouts:

#1 What is Clay?
#2 “The Pots of Jatumpamba”
#3 Homework Questions based on videos

Lesson 1 Resources:

Location:

Sheffield Pottery Ceramic Supply
995 North Main Street
Sheffield, MA 01257
www.sheffield-pottery.com
Phone: 1-888-774-2529

Books:

Peterson, Susan and Jan Peterson. *The Craft and Art of Clay: A Complete Potter's Handbook*. London: Laurence King Publishing Ltd, 2003.

Riegger, Hal. *Primitive Pottery*. Oviedo: Gentle Breeze Publishing, 2001.

Magazine:

Molinaro, Joe and Nancy Bronner. “The Pots of Jatumpampa.” *Ceramics Monthly*, October 2001: 53-57.

Video:

Classic Martina Martinez: Native American Pottery Maker of San Ildefonso
National Park Service Film, DVD Release Date: January 26, 1999

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Cottrell, Michael. Testing Clay. eHow Hobbies. 23, August 2012.
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Maya Pottery Designs and Their Uses: Create a Maya-Inspired Ceramic Vessel

Lesson 2: Maya Pottery Designs and Their Uses

Lesson Specific Objectives:

Students will:

- Research and study the different styles and designs of Maya pottery
- Discuss the use of pottery in the past and present.
- Create a Maya-inspired clay vessel out of their cleaned and prepared clay.

Lesson Specific Essential Questions:

What are the styles, designs and techniques seen and used in Maya pottery?

What is the role of the artist/pottery in societies past and present?

How was pottery created by the Maya and by other cultures in the Americas?

Lesson 2: Maya Pottery Designs and Their Uses

Activity 1: Research and Study the Designs Used In Maya Pottery

In this lesson we will look at a variety of different Maya pottery, noting the similarities and differences we see in each piece as well as the shape, design and color. We will discuss the role of pottery for the ancient Maya and the role of pottery today. After looking at example of Maya pottery and the materials and tools that were available to the Maya, we will discuss the designs and techniques used to form the vessels. (Handout #1a and #1b)

Students will watch the videos of Dona Rosa and Nicole Caracciolo demonstrate hand-building techniques commonly used in the Maya region. As a class, we will discuss theories as to why certain hand-building methods were chosen for some vessels and how different approaches may work better than others based upon the shape and purpose of the piece that is being made.

Note to Teachers

Field Trip Possibility – Yale New Haven Art Gallery and/or Yale Peabody Museum in New Haven, CT to give students the opportunity to view pottery from the Maya region and other ceramic artifacts from the Americas.

Key Points to Cover:

- When looking at artifacts, why do we mostly see bowls, vases and vessels? Why do we not see a lot of plates or slab construction?
- Hand-building should be thought of in terms of how the hand manipulates the clay naturally, and with consideration for its consistency. What is the easiest/most effective way to create a specific style/shape out of? There can be different methods for different shaped vessels. Also, one must consider the materials and tools that are available.
- Think about what natural motions are made by a person the first time clay is in their hands – squeeze, pat, bang, pinch, twist, poke, roll, etc.

- A method often used is the manipulation of taking clay away from clay, also known as carving or scraping.
- Review the three basic questions from Lesson 1 - How is the piece to be used? How do you want the work to look? **What materials are available?**
- Consideration of the climate/location and the clay characteristics itself should always be considered as it can greatly impact the outcome of a clay piece and play a role in determining the best building technique. We have a classroom setting of 45 minutes a day to work on our pieces. Therefore, we need to consider drying time and how to keep the clay soft and workable until we are finished forming the shape.

Homework:

- Handout #2 – Design a Maya-inspired vessel based upon the examples that were viewed and discussed in class. Consider the hand-building technique that will be used and how that technique will aid in achieving the desired vessel shape. Also, include how the pottery piece will be used – what will its function be?
- Write 3 questions regarding Maya pottery and the hand-building techniques used.

Lesson 2: Maya Pottery Designs and Their Uses

Activity 2: Create a Maya-Inspired Clay Vessel

Materials Needed:

Previously prepared clay

Puki (or small bowls or cloths for students to ‘spin’ their pieces on)

Water

Plastic Bags or sheets or plastic

Various clay tools:

(You can use modern day tools or try the traditional tools used by indigenous cultures)

Metal or Wooden Scraper / Shells or broken pottery shards

Sponges/Pieces of leather or cloth

1. Students will uncover and knead the clay that they had previously prepared.
2. Demonstrate in class other coil methods used to create pottery in the Ancient Americas
3. Based on the size and shape of the vessel design, students will use the appropriate hand building techniques demonstrated in the videos and in the classroom and begin forming their clay vessel.
4. Clay vessels will be allowed to set to allow a little drying.
5. Students will continue the technique of scraping and smoothing the surface of the clay to prepare it for slip decorations or incising.
6. Once the vessel is complete, students will cover the piece with plastic in order to hold the moisture in so the vessel stays in the leather hard stage.
7. Give students Handout #3 to answer questions and reflect on their approach to using indigenous hand building methods to create their vessel.

Lesson 2 Assessment

Class Participation
Reaction to Videos
Comprehension Questions
Homework Worksheet
Project Outcome
Reflection

Lesson 2 Handouts

Handout #1a – What Can We Learn From a Maya Vase?
Handout #1b– Observation Worksheet
Handout #2 – Project Proposal - Design and Technique
Handout #3 – Reflection and Questions

Lesson 2 Resources

Location:

The Yale University Art Gallery
1111 Chapel Street, New Haven, CT
(203) 432-0600

<http://artgallery.yale.edu/>

Ancient Americas Collection

- Clay Ocarinas/Whistles
- Cylinder vessel for cacao
- Vessel in the shape of a conch shell
- Quadrupod vessel

Peabody Museum of Natural History
170 Whitney Avenue, New Haven, CT
peabody.yale.edu

Books:

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The Voice of Clay: Creating a Maya-Inspired Ocarina

Lesson 3

Lesson Specific Objectives:

Students will:

- Research and study the different styles and designs of Maya ocarinas.
- Discuss the use of the ocarina and the role of music in the past and present.
- Create a Maya-inspired clay ocarina out of the cleaned and prepared clay.

Lesson Specific Essential Questions:

What are the styles, designs and techniques seen and used in Maya musical instruments?

What is the role of the musician/music in societies past and present?

Lesson 3: The Voice of Clay

Activity 1: Research and Study the Designs Used In Maya Clay Ocarina

In this lesson we will look at a variety of different Maya instruments, noting the similarities and differences we see in each piece as well as the shape, design and color. We will take a specific look at the playful designs the Mayas incorporated into their ocarina designs, specifically the role of form vs. function. We will also discuss the role of music for the ancient Maya and the role of music today. After looking at how the ocarina was to be used and the materials and tools that were available to the Maya, we will discuss the techniques they used to build these ocarinas.

Students will watch the videos and view websites of ocarinas to see the different styles and sounds. In class we will listen to and discuss the style of music in the Maya culture and how the ocarina was incorporated into Maya music.

Note to Teachers

If students already completed Lesson #2 - *Maya Pottery Designs and Their Uses: Create a Maya-Inspired Ceramic Vessel*, Lesson #3 Activity 1 will have a lot of the same information. Teachers can use this as a review or skip the parts that had been previously covered.

Field Trip Possibility – Yale New Haven Art Gallery and/or Yale Peabody Museum in New Haven, CT to give students the opportunity to view clay instruments from the Maya region and other ceramic artifacts from the Americas. (Handout #1)

Key Points to Cover:

- Hand-building should be thought of in terms of how the hand manipulates the clay naturally, and with consideration for its consistency. What is the easiest/most effective way to create a

specific style/shape out of? There can be different methods for different shaped vessels. Also, one must consider the materials and tools that are available.

- Think about what natural motions are made by a person the first time clay is in their hands – squeeze, pat, bang, pinch, twist, poke, roll, etc.
- A method often used is the manipulation of taking clay away from clay, also known as carving or scraping.
- Review the three basic questions from Lesson 1 - How is the piece to be used? How do you want the work to look? **What materials are available?**
- Consideration of the climate/location and the clay characteristics itself should always be considered as it can greatly impact the outcome of a clay piece and play a role in determining the best building technique. We have a classroom setting of 45 minutes a day to work on our pieces. Therefore, we need to consider drying time and how to keep the clay soft and workable until we are finished forming the shape.
- Place a lot of emphasis on the playful designs the Maya incorporated in their ceramic pieces, especially the ocarina (ex. An ocarina was built in the shape of a bird and sound comes from the bird's mouth).
- Ask students to think about how the first musical instruments may have been discovered and how amazing the sensation of hearing music must have been when you only heard it played live (before the days of the radio, iPods/iPhones, sound recorders and electricity)

Homework:

- Handout #2 – Design a Maya-inspired ocarina based upon the examples that were viewed and discussed in class. Consider the creative designs viewed in the examples and try to incorporate a creative form vs. function design.
- Write 3 questions that you have regarding Maya ocarinas and the hand-building techniques that were used.

Lesson 3: The Voice of Clay

Activity 2: Creating a Maya-Inspired Ocarina

Materials Needed:

Previously prepared clay

Water

Plastic bags or sheets of plastic

Various clay tools

Wooden coffee stirrers

Sponges

1. Students will uncover and knead the clay that they had previously prepared.
2. Demonstrate in class several methods of creating a whistle out of clay (Handout #3)
3. Based on the size and shape of the vessel design, students will use the appropriate hand building techniques demonstrated in the classroom and begin forming their clay ocarina.
4. Clay ocarinas will be allowed to set to allow drying time.
5. Students will continue the technique of scraping and smoothing the surface of the clay to prepare it for slip decorations or incising.
6. Once the ocarina is complete, students will cover the piece with plastic in order to hold the moisture in so the vessel stays in the leather hard stage.

7. Give students Handout #4 to answer questions and reflect on their approach to using indigenous hand building methods to create their ocarina.

Lesson 3 Assessment

Class Participation
Reaction to Videos
Comprehension Questions
Homework Worksheet
Project Outcome
Reflection

Lesson 3 Handouts

Handout #1 – Observation Worksheet
Handout #2 – Project Proposal - Design and Technique
Handout #3 - Step by step clay ocarina technique
Handout #4 – Reflection Questions

Lesson 3 Resources

Location:

The Yale University Art Gallery
1111 Chapel Street, New Haven, CT
(203) 432-0600

<http://artgallery.yale.edu/>

Ancient Americas Collection

- Clay Ocarinas/Whistles
- Vessel in the shape of a conch shell

Books:

Hall, Barry. *From Mud to Music*. Ohio: The American Ceramic Society, 2006.

Moniot, Janet. *Clay Whistles: The Voice of Clay*. Minnesota: The Whistle Press, 1989.

Docter, Catherine with Dorie Reents. *Casa K'inich – A Teacher's Guidebook*. California: Copan Maya Foundation, 2005.

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Sorcerers of the Fifth Heaven: Nahua Art and Ritual of Ancient Southern Mexico. 2007.
Princeton University Art Museum. 23, August 2012.
<<http://mcis2.princeton.edu/sorcerers/index.html>>

Weisenbach, Elise. Pasatono Plays for NEH Spotlight on Oaxaca. July 2012. YouTube. 23, August 2012. <<http://www.youtube.com/watch?v=snlUDGqBWb0&feature=plcp>>

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http://www.youtube.com/watch?v=YkWT95N9TQ&playnext=1&list=PLD8F999B9011E3843&feature=results_main

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Music:

Mundo Maya – Max Flores Ak’Bal – Traditional Mayan Music

Finishing Techniques: Using Colored Slip and Incision to Decorate Pottery

Lesson 4

Lesson Specific Objectives:

Students will:

Research and study the different styles, colors and surface designs of Maya pottery.

Decorate their clay vessel and/or whistle with colored slip, the same technique used by the Maya.

Lesson Specific Essential Questions:

What are the styles, designs and techniques seen and used in Maya pottery?

What is the role of art in societies past and present?

What methods were used to decorate pottery in the past? How are they similar and different from the methods used today?

Lesson 4: Finishing Techniques

Activity 1: Research and Study the Decorative Designs and Techniques Used to Finish Pottery

In this lesson, refer back to the class discussions and previous research done in Lesson #2 and/or Lesson #3. This time, focus more so on the surface design of the works of art. As a class, discuss the colors and designs that are observed and discuss the materials that were available and how these designs/colors were made (Handout #1)

Have students watch the video of Gabriela Martinez: Pottery of San Bartoto Coyotopec and Del Proyecto Trilingue-El Barro Negro to show them a demonstration of decorative techniques. Also, refer back to the video of Martina Martinez: Native American Pottery Maker of San Ildefonso.

Key Points to Cover:

- View Heather Hurst's mural painting replicas and Justin Kerr's Maya Vase Database in order to give student the opportunity to notice the very fine detail incorporated in Mayan Art. Discuss what these images show and portray. Why were these images painted? What was their significance in Maya life? Have students discuss what is significant in their life? If these designs were painted today, what would they include?
- Bring up the three basic questions - How is the piece to be used? How do you want the work to look? **What materials are available?**
- Show students examples of Modern Day Maya artwork that blends traditional designs with modern designs.
- Demonstrate how to create the different colored slips – Black, red, and white.
- Teach students how to write their names in Maya Hieroglyphs and have them 'sign' their clay pieces using their Mayan name (Handout #2).

Homework:

- Handout #3 – Create a surface design for the Maya-inspired vessel and/or ocarina based upon the examples that were viewed and discussed in class. Consider the colors that are available – red, black and white. Consider how the pottery piece will be used – what will be the function

of the vessel? Try to give the design a ‘modern twist’ by basing designs off Maya artwork but making it your own design at the same time.

- Write 3 questions that you have regarding finishing techniques and designs in Maya pottery.

Lesson 4: Finishing Techniques

Activity 2: Using Colored Slip and Incision to Decorate Pottery

Materials Needed:

Previously prepared clay

Paint brushes (variety of sizes)

Colored Slip – Red, Black and White

Red and Black Iron Oxide

1. Demonstrate to students how to create basic clay slip
2. Discuss/review how different colored clay came about and demonstrate to students how to mix oxides and minerals into clay to change the color.
3. Demonstrate incision designs.
4. Have students mix their own colored slip based on their designs. (75% clay, 25% iron oxide)
5. Painting with clay slip and creating incision designs, students are to create surface designs on their vessel and/or ocarina.

Lesson 4: Finishing Techniques

Activity 3: Kiln vs. Pit Firing

Discuss with the students the process of pit firing (Refer to video, Martina Martinez: Native American Pottery Maker of San Ildefonso and the article “The Pots of Jatumpampa” by Joe Molinaro and Nancy Bronner) versus Kiln firing – The Pros and Cons to both.

All Student work will be fired in a kiln. Students will have the option to ‘finish’ their pieces in a school-safe pit fire-like technique if they choose to give their pieces an earthy, pit-smoked look.

Give students Handout #4 to answer questions and reflect on their finished piece.

Note to Teacher:

If a field trip can be arranged, Canton Clay Works in Canton, CT has several different kilns that students can visit and learn about if a field trip can be arranged.

Lesson 4 Assessments:

Class Participation

Reaction to Videos

Comprehension Questions

Homework Worksheet

Project Outcome

Lesson 4 Handouts:

Handout #1 – Art of Classic Vase Painting

Handout #2 – How to Write Your Name in Maya Hieroglyphs

Handout #3 - Project Proposal and Review – Surface Design

Handout #4 - Reflection and Questions

Lesson 4 Resources**Location:**

Canton Clay Works

150 Cherry Brook Rd, Canton, CT 06019

(860) 693-1000

<http://www.cantonclayworks.com/>

Books:

Shafer, Thomas. *Pottery Decorations*. New York: Watson-Guption Publications, 1976.

Coe, Michael D. and Justin Kerr. *Art of the Maya Scribe*. 1998.

Cortez, Constance. *The Road to Aztlan – Art from a Mythic Homeland*.

Houston, Stephen. *Veiled Brightness: A History of Ancient Maya Color*. University of Texas Press. 2009.

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www.mesolore.org

www.famsi.org

www.maya-archaeology.org

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Guirola, Cristina. Natural Dyes: Used in Mesoamerica since prehispanic age. May 2010. 23, August 2012. http://www.maya-archaeology.org/FLAAR_Reports_on_Mayan_archaeology_Iconography_publications_books_articles/13_etnobotany_etnohistory_archaeology_precolumbian_mayan_civilization_natural_dye_fibers_textile_ink.pdf

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<http://www.youtube.com/watch?v=4tigmlNYaB8>

Trabajo del barro negro en Oaxaca. April 13, 2009. YouTube. 23, August 2012.

http://www.youtube.com/watch?v=9ZLQvhuK91Y&feature=player_embedded

Miscellaneous:

Heather Hurst's Maya Mural Painting Replicas

What new technology will you use in this unit as a result of attending the Yale Summer Institute? For creating the unit? For student use? For presentation? How are you going to incorporate museum artifacts, museum visits, virtual collections or primary sources in this curricular unit?

The Yale summer institute has really inspired me to look into a lesson that will really give my ceramic students a “raw” experience of the process of clay pottery and the work that it took indigenous cultures to collect, prepare, form, finish and fire their ceramic pieces. Clay does not always come out of a box ready to use. There is so much more involved and I am really excited to take students down that road to show them. I have contacted Sheffield Pottery regarding a possible field trip opportunity where students may be able to dig their own raw clay. Various websites have aided me with the information on how to do this. I also look forward to taking students to the Peabody Museum and the Yale Art Gallery to view original Mayan Pottery and other pottery from the Americas. The collections of online databases on Mayan artifacts and their use of materials will give students a rich source of information to research and study for their pottery designs and for examples to view and discuss in class. Meeting Heather Hurst brought to my attention that there are these beautiful, colorful mural replicas that will allow students to really focus on the details in Maya artwork. Constance Cortez helped me to formulate ideas in how to discuss with students the concept of taking inspiration from older artwork and making it your own. There is that importance of identity and making a connection to one’s culture and roots that I am looking forward to discussing in the classroom.

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Tourism vs Ecotourism: Which is More Sustainable in Developing Economies?

1. Introduction

- What Happened To The Maya? Are the Maya an extinct people or people living in present day communities?
- Marty Cruz-Bock. Palo Alto College. Geography. Community College Students.
- 6 (Six) Classes - Two Weeks
- 2 (Two) lessons
- This lesson plan begins with an examination of ancient Maya artifacts on display at the San Antonio Museum of Art. Among the artifacts the students will examine are two sculpted heads from Guatemala and one ceremonial chocolate jar. After viewing these artifacts, the students will see photographs from two Maya communities whose members live in the Lacandon jungle. Students will consider how the Maya survive and keep their culture intact.
- When the students complete the unit they should be able to:
 1. Locate on a map the areas where the ancient Maya lived.
 2. Locate on a map the area where the present-day Maya live.
 3. Appreciate the highly skilled craftsmen who created the sculpted the heads and created the ceremonial jars.
 4. Understand some ways that present-day Maya survive and keep their culture intact.
- How were Maya societies able to produce skilled craftsmen who created timeless works of art and architecture?
- Why did Maya societies collapse?
- Why do some Maya communities support ecotourism?
- Explain some of the cultural hazards of tourism.
- Explain the difference between traditional tourism and ecotourism

1. List of Key Terms

1. Mesoamerica
2. Olmec
3. Maya
4. Sculpted heads

5. Ceremonial jars
6. Lacandón Jungle
7. Lacandón Maya
8. Tourism
9. Ecotourism
10. Hospitality business

Lesson1:“Locating the Maya”.

Activity 1: Map Study and Completion.

1. How did physical landscapes shape the ancient Maya communities?
2. Why did the Maya locate themselves in particular environments?
3. Why do these places continue to be occupied?

Instructions

1. Distribute a blank map of present-day Mexico and Central America.
2. Have the students locate and mark the following places on the maps:
 - a. Mesoamerica.
 - b. Maya archeological sites
 - c. Political boundaries of Mexico, Guatemala, Belize, Honduras and El Salvador
 - d. Usumacinta River
 - e. Lacandón Jungle
 - f. Yucatan Peninsula

Activity 2: Examining Maya Art and Architecture

- a. Shows slides/pictures of select Maya archeological sites.
- b. Show details of Maya art and architecture.
- c. Have students record their observations on a slide/picture handout.

Activity 3: Field Study at the San Antonio Museum of Art.

- a. Distribute handouts adapted from the Yale Art Gallery and Yale Center for British Art.
- b. Instruct the students to complete the handouts after examining the two sculpted heads and the ceremonial vessels at the San Antonio Museum of Art.
- c. If time permits, students may examine other artifacts on display and describe their impressions for extra credit.

Activity 4: Class discussion following Museum Visit.

- a. Ask students to share their observations recorded during their visit to SAMA.
- b. What are their conclusions about Maya culture?
- c. Have students submit their typed “Guided Observation Worksheets”.

Lesson 2: Maya Communities Today

- a. Do Maya communities continue to exist?
- b. Are some Maya communities located in close proximity to ancient Maya sites?
- c. Why have some Maya communities embraced tourism and ecotourism to preserve their culture?
- d. What are some cultural hazards of tourism and ecotourism?

Activity 1. Map Study.

- a. Distribute a blank outline map of Mexico, and Central America.
- b. Have the students locate and label the countries of Mexico, Guatemala, Belize, Honduras, and El Salvador.
- c. Using information provided in the textbook and from the internet, have students locate and label the Maya communities of Lacanja Chansayab.

Activity 2. Textbook Reading.

- a. Assign the following pages from the textbook: *Geography: Realms, Regions and Concepts*, "The Role of the Tourist Industry in Middle American Economies".pp. 203-207.
- b. Have the students read and discuss in small groups the Regional Issue: The Role of the Tourist Industry in Middle American Economies.
- c. Ask groups to select a secretary to record the viewpoints and comments.
- d. Ask groups to select a spokesperson to report to the class.
- e. After discussing the pros and cons of tourism have groups to vote their opinions at www.wiley.com/college/deblj

Activity 3: DVD. “Costa Rica: Ecotourism and Economic Development”

- a. Show the film: “Costa Rica: Ecotourism and Economic Development”.
- b. Have students define tourism and ecotourism.
- c. Have students detail the differences between tourism and ecotourism.

Activity 4: Maya Communities engaged in ecotourism.

- a. Show slides/photographs of Maya people engaged in ecotourism.
- b. Show slides on the evolution of Maya camp facilities.
- c. Has ecotourism contributed to preservation of Maya culture? Has ecotourism contributed to the demise of Maya culture?
- d. In small groups, discuss how communities or local people can survive without a source of income. Consider the role of ecotourism and of tourism in providing that income.
- e. Write a one-page response on what dilemmas such as these may mean for the future of the Maya culture.

Resources

De Blij, Harm, Peter O. Muller, and Jan Nijman. *Geography: Realms, Regions and Concepts*. 15th ed. New York: John Wiley & Sons, 2012.

www.turismochiapas.gob.mx

“Communities Reject Ecotourism Plans in the Lacandon.”

www.indymedia.org.uk/en/2012

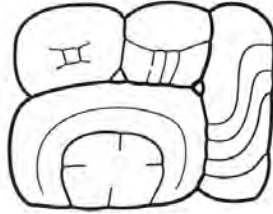
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**INDIGENOUS PEOPLES OF THE AMERICAS:
MAYA CULTURES ACROSS TIME**



**Yale Peabody Museum-PIER-CLAIS 2012 Summer Institute for High School Teachers,
Yale University, New Haven, CT, July 9-13, 2012**

Name: Anne Kinzie Culhane

Subject Area: Social Studies

Grade Level: 7th Grade

Unit Title: The Corn Identity: from Teosinte to Doritos to Ethanol

Number of Unit Lessons: Two

Time Frame to Allow for the Unit: One pre lesson activity and two 53-minute periods

Introduction (brief narrative description of the Unit):

A crippling drought threatened the United States corn harvest in 2012 with widespread economic repercussions for North and South America. How did this crop become so critical to the Americas? This unit will examine the “roots” of corn and its origins in Mesoamerica. We will begin with the Maya version of corn agribusiness and move to a brief discussion of the importance of corn in today’s world. Along the way we will examine the dominance of “king” corn as a Maya cultural touchstone and diet staple. Students will be shown the art, deities and literature of the Maya—with corn an integral part of all aspects of their daily life. We will conclude with a discussion of this theme: similarities and differences concerning corn among the ancient and modern Mayas and the importance in America today.

Unit Objectives: Using the pre-class activity (see attached document), students will identify where they find corn in their every day lives -- from lunch to sweetened beverages to ethanol. The results of the survey will then be used to link the present day importance of corn to the past. Students will examine works of art and be able to identify the symbolism in each work, identify the Maya corn god, and address the importance and history of corn for the Mayas. Unit concludes with linking the importance of corn in Maya life to American life.

Essential Questions:

How essential is corn to the ancient and present day Maya civilizations?

How did this importance manifest itself in Maya daily life, art and literature?

Does corn occupy the same central place in modern American life and agriculture?

Unit Lesson Outline

Corn Identity: From Teosinte to Doritos and Ethanol

Pre. I: Relying on previous knowledge: Students are given a copy of "Corn in My Community" and are asked to complete it before lesson. Begin class based on their findings. If not possible, give to students when class begins and then review it at the conclusion of the unit and begin discussion with guiding question: What and where do we find corn? Optional start (and highly recommended): Give each student Doritos and ask about its origin.

I. Brief History of Corn

- A. Teosinte
- B. Genetic engineering of corn
- C. Movement from Mexico to North and South America

II. Corn in the Maya Kingdoms

- A. Creation Myth (*Popol Vuh*) and gods
- B. Depiction in Art (Text of Mary Miller describing statue of Pakal of Palenque)
- C. Kingship

III. Corn in the New World

- A. Columbian Exchange (View clip: *When Worlds Collide*)
- B. Corn's Legacy in American Life
 - 1. Review opening exercise Corn in My Community
 - 2. Read news story about 2012 drought and corn crop and ethanol
- C. Discussion of poem by Gaspar Pedro Gonzalez
 - 1. Conclude with discussion connecting the corn of the Maya and the Americans

Teacher needs:

“Corn in My Community” handout

“Corn Identity” PowerPoint, teacher version – CONTACT YALE PEABODY MUSEUM FOR PRESENTATION

“Corn Identity” PowerPoint, student version – CONTACT YALE PEABODY MUSEUM FOR PRESENTATION

Copies of these news stories:

- <http://news.nationalgeographic.com/news/energy/2012/09/120906-drought-heats-ethanol-debate/>
- http://articles.washingtonpost.com/2012-08-02/national/35492063_1_moderate-drought-drought-assistance-national-drought-mitigation-center

Clip about the Columbian Exchange from *When Worlds Collide*

Doritos

Students will need:

Pens, Pencils

Copy of the student version of the PowerPoint “Corn Identity” (this is the original version of the PowerPoint but with blanks; teacher shows master copy on the white board) – CONTACT YALE PEABODY MUSEUM FOR PRESENTATION

Completed copy of “Corn in My Community” handout

Resources:

<http://www.pbs.org/kcet/when-worlds-collide/pdf/lesson5.pdf>

Food Lesson Plan from “When Worlds Collide”

http://agron-www.agron.iastate.edu/Courses/agron212/readings/corn_history.htm

History of Corn

<http://peabody.yale.edu/exhibits/big-food-health-culture-and-evolution-eating>

Corn in the American Diet

<http://www.jamesandthegiantcorn.com/2009/11/23/the-domestication-of-maize/>

Domestication of maize

<http://www.spiritofmaat.com/announce/gecornmex.htm>

Genetically modified corn in México

<http://learn.genetics.utah.edu/content/variation/corn/>

Evolution of corn – University of Utah Genetic Science Learning Center

<http://www.campsilos.org/mod3/students/index.shtml>

Corn in the US from Iowa Corn Growers Association

<http://maya.nmai.si.edu/corn-and-maya-time/corn-and-calendar-traditions>

Petition for rain

<http://www.yale.edu/ynhti/curriculum/units/1999/2/99.02.09.x.html>

Source of Popol Vuh

<http://www.mesoweb.com/lords/flash/index.html>

<http://news.nationalgeographic.com/news/energy/2012/09/120906-drought-heats-ethanol-debate/>

News story about 2012 drought and corn crop

<http://www.famsi.org/maps/>

When Worlds Collide-PBS video

<http://www.pbs.org/kcet/when-worlds-collide/education/lesson-5.html#video1>

Images from the Yale University Art Gallery

Primary Sources:

Images from the National Gallery of Art

Images from the Yale Art Gallery

A passage from the Popol Vuh

Portrait head of Pakal, Palenque, Mexico, c. 650-683, stucco, from Museo Nacional de Antropología-
INAH, México

Secondary Sources:

Newspaper reports about drought affecting corn crop (Washington Post January 2013)

- https://www.washingtonpost.com/politics/final-2012-drought-report-shows-corn-harvest-took-hardest-hit/2013/01/13/a66113d2-5c45-11e2-88d0-c4cf65c3ad15_story.html

Short power point on the history of corn, incorporating images from the recent trip to Chiapas and from the lectures at Yale.

Vocabulary:

Corn

Maize

Teosinte

Palenque

Popol Vuh

Selective Breeding

Mesoamerica

Yumil Kaxob

Nixtamalization

Pakal

Bonampak

The 2012 Summer Institute is sponsored by Programs in International Educational Resources (PIER) at the MacMillan Center, Council on Latin American and Iberian Studies (CLAIS), and Yale Peabody Museum of Natural History.

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TITLE OF UNIT: Peoples and Civilizations of the Americas, 600-1500

Author(s): Dawn Petry

School: Ballston Spa High School

Subject Area: AP World History

Grade Level(s): 9

Time Frame to Allow for Unit: two 60 minute blocks

Introduction: Brief Description of the Unit

This unit begins with the “Classic Era Culture and Society in Mesoamerica, 200-900”. This unit will be incorporated into their study of Chapter 11, “Peoples and Civilizations of the Americas, 600-1500”, from their text, *The Earth and Its Peoples*. This first lesson will have been outlined by the students in their notebooks and supplemented by video, and a secondary reading and discussion.

Geographic Connections:

This unit will introduce the geography of Mesoamerica and South America

Vocabulary: Terms, Concepts and Actors

Olmec, Teotihuacan, chinampas, Maya, logo-syllabic, Toltecs

Stage 1 – Desired Results
<p>Content Standard(s):</p> <p>Standard 2 -World History – use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments, and turning points in world history and examine the broad sweep of history from a variety of perspectives.</p> <p>Standard 3 – Geography – use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live – local, national, and global – including the distribution of people, places, and environments over the Earth’s surface.</p>

Understanding (s)/Goals:

Students will understand that:

- The Maya were an advanced civilization subject to an intense period of achievements and suffered a collapse.
- The Maya developed a written language that was a logo-syllabic system.
- The Maya developed a complex number system that was a base 20 system.
- The relocation of the Maya to the Yucatan continued to enhance their culture.

Essential Question(s) Related to Theme(s):

- What were the most important shared characteristics of Mesoamerican cultures in the class period?
- How were the writing and numeral systems used in Mayan society?
- What technology was used in the construction of the Mayan cities?
- What role did warfare play in the post-classic period of Mesoamerica?
- What factors led to the collapse of the Classic period of the Maya?

Student Objectives (Outcomes):

Students will be able to:

- Identify the geographic factors involved in building the Maya civilization
- Understand the significance of the culture of the Maya in relation to their environment and history
- Understand the complexity of Maya society.
- Discuss the contributing factors to the Maya collapse

Stage 2 – Assessment Evidence	
<p>Performance Task(s):</p> <ul style="list-style-type: none"> • Students will enhance their knowledge of the Maya through their text reading and “The Maya Collapses”, Jared Diamond’s <u>Collapse: How Societies Choose to Fail or Succeed</u> • Interpretation of Maya hieroglyphs and numbers • Students will view “Engineering an Empire- Death Empire” • View examples of Maya art and architecture 	<p>Other Evidence:</p> <ul style="list-style-type: none"> • <i>Background reading from their textbook, The Earth and Its Peoples, Chapter 11, “Peoples and Civilizations of the Americas, 200-1500</i> • <i>Paragraph writing supporting one of Diamond’s reasons for the Maya Collapse</i> • <i>A multiple choice/vocabulary quiz at the end of the chapter</i>
Stage 3 – Learning Plan	
<p>Learning Activities:</p> <ul style="list-style-type: none"> • Students will review their chapter outlines on both the Olmec and the Maya. • In class, students will examine multiple slides of Mayan sites and discuss the importance of Mayan architecture. • Students will examine the writing and number systems of the Maya and have an opportunity to write and interpret some examples of both systems. • Students will view and take notes on “Engineering an Empire: Maya Death Empire” for general discussion. • Students will read and outline “The Maya Collapses” chapter from Jared Diamond’s <u>Collapse: How Societies Choose to Fail or Succeed</u>”, then write a paragraph supporting one of the reasons given by Diamond for the collapse. 	

Resource List/Bibliography:

The Earth and Its Peoples, A Global History, 5th edition, Wadsworth, Cengage Learning, Bulliet, et.al., 2011.

Collapse: How Societies Choose to Fail or Succeed”, Diamond, Jared

Engineering an Empire: Maya Death Empire, The History Channel, DVD series

Handouts of Maya hieroglyphs, source Megan O’Neil, including “Ancient Maya Writing, Your Name in Maya Hieroglyphs and Syllabary

Indigenous People of the Americas: Maya Cultures across Time

Yale Peabody Museum-PIER-CLAIS 2012 Summer Institute for High School Teachers

Title: Regarding Maya Apocalypse 2012: The End of the World?

Name: Jeffrey C. Smith, Middlesex School, Concord, MA

Subject Area: Ancient World History

Grade Level: 9th Grade

Number of lessons: three

Time Frame for each unit: 40 minutes

Introduction:

This unit will examine the pop culture proposal that **2012** will mark the end of the world according to the Maya long count calendar, and will include the three following lessons:

1. Teach students Mayan math by utilizing Anna Blume's lesson on Maya counting and teach students to count to 2012 from 3114 B.C.
2. Show the connection between Mayan caves and apocalyptic notions imported from Spain in the 16th century.
3. Connect the first two lessons on 1. the calendar, and 2. Mayan caves and Medieval Apocalypse to contemporary images on the 2012 phenomenon.

Unit Objectives:

1. Students will learn to utilize the Mayan Math System to count from 3114 B.C. to 2012.
2. Students will also learn to distinguish between different cultural uses of cave images by using Heather Hurst's posters, Constance Cortez' PowerPoint slides, the book [2012 and the end of the world: the western roots of the Maya apocalypse](#) (a serious academic study) by Matthew Restall and Amara Solari, and websites: including Mexicolore, Famsi, Smithsonian, and Mesolore in order to create their own document based questions. My goal is for students to find caves in the images, compare the cultural context around the meaning of caves, and discover what they mean in that context. In Medieval Europe, caves could be thought of the "mouth of hell" vs. Mayan caves as places of both birth and death (not apocalypse). We can also refer to the Palenque sarcophagus lid, in which Lord Pakal is seated underneath a [World Tree](#).
3. Finally, Students will connect what they have learned from Medieval and Mayan sources to contemporary images of **2012**.

Essential Question: How did we get to Dec. 21 2012 (winter solstice) as the end of the world? It's a convoluted story involving Math, Mesoamerican and Church History as well as more contemporary mythologies.

Unit Lesson One: Mayan Math for the Mayan Calendar.

Objective: Introduce the concept of math in general, then Mayan math and Mayan notational system specifically. Apply counting in Mayan base 20 to get to 2012 or the 13th Baktun.

Essential Question: How can we understand 2012 as the end of the Mayan calendar? It is simply the 13th Baktun, an important milestone, as we shall see:

Incorporate **Anna Blume's worksheet (attached)** to introduce the Mayan numbering system to count from the beginning of the Mayan calendar (3,114 BC) to 2012.

Share class notes:

The American system of numbering is base 10; it's a positional system.

1 – 10 – 100 – 1000 = each power is x 10, a base 10 positional system. We have 10 numerals that are the building blocks. We call these Arabic numerals, but they were invented by the Indians or Hindus. In the Middle East, Hindus were called "Hind". This technology is a Hindu invention. They began to be used widely around 1500 when an increased capital economy needed "double book" entry.

Now the Maya system: The invention of writing is very different from speaking, but all cultures have ways of talking about quantity. One or Two are words written phonetically. Whereas writing 1, 2, 3, is an entirely different system from phonetics. We are talking here about the history of numerical notation amongst the Maya.

The Maya had only three numerals: * (a dot for one) ---- (a horizontal bar for five) , and a shell for a place holding zero for base 20. The Maya had a base 20 system (based on fingers and toes - ten fingers and ten toes - base 20 counts hands and feet. The Mayan word for 20 is the same as the word for a whole person). When they moved to a higher order it would be times 20 and they moved from bottom to top or vertically upward. The Maya were always recording calendrical phenomena. $20 \times 18 \text{ months} = 360 \text{ days}$ to give us one year **plus five unlucky days (or a special 5-day month called the Wayeb)**. Everything else is times 20. **The 365 day calendar was called the Hab.** The Mayans observed, recorded and understood solstices and equinoxes.

5 cycles of Venus = 8 cycles of the sun = 2,920 days. This is commensuration which the Maya recorded. The Maya had a fascination with abstract number. Number shows structure in nature, and they could understand this structure with their numerical system. That clearly gave them pleasure as shown in their monuments. Today we still observe and calculate in order to explain the unexplainable. For the Maya, time had no beginning or end. **This gives the lie to the 2012 phenomenon.**

3,114 BC is the Maya year zero – used to commemorate the domestication of corn.

The 260 day calendar = 20 name days x 13 numbers is a non astrological calendar. There were day keepers who kept the 260 calendar which possibly marked conception to birth = 260 days. They would know the specific day and associated astrological animal you were born with - this had an astrological component. Today web sites can correlate your birthday to the 260 calendar.

From [nasa.gov](http://www.nasa.gov/topics/earth/features/2012-guest.html): (<http://www.nasa.gov/topics/earth/features/2012-guest.html>) :

What exactly is the Maya calendar about to do? On Dec. 21, 2012, it will display the equivalent of a string of zeros, like the odometer turning over on your car, with the close of something like a millennium. In Maya calendrics, however, it's not the end of a thousand years. It's the end of bak'tun 13. The Maya calendar was based on multiple cycles of time, and the bak'tun was one of them. A bak'tun is 144,000 days: a little more than 394 years.

Scholars have deciphered how the Maya calendar worked from historical texts and ancient inscriptions, and they have accurately correlated so-called Maya Long Count dates with the equivalent dates in our calendar. Just as we number our years counting from a historically and culturally significant event (the presumed birth year of Christ), Maya times were numbered from a date endowed with religious and cosmic significance: the creation date of the present world order. A Long Count date is the tally of days from that mythic startup. Most experts think the start point corresponds to Aug. 11, 3114 B.C.

Most of the Maya calendar intervals accumulate as multiples of 20. An interval of 7,200 days (360×20) was known as a k'atun. It takes 20 k'atun to complete a baktun ($20 \times 7,200 = 144,000$ days). Although some ancient inscriptions turn 13 baktun into an important reset milestone, others imply that the calendar simply keeps running. For instance, it takes 20 bak'tun to make a pic'tun.-----

Blume, Anna. "Maya Hieroglyphics, Cosmology and Numerology: Basis and Meaning in Art." Unpublished manuscript, Yale University, New Haven, CT, July 2012.

Handout created for Yale Peabody Museum-PIER-CLAIS Summer Institute for High School Teachers. Used with permission

Krupp, E. C. "The Great 2012 Doomsday Scare." NASA - The Great 2012 Doomsday Scare. Last modified November 9, 2009. Accessed November 9, 2012.
<http://www.nasa.gov/topics/earth/features/2012-guest.html>.

Restall, Matthew, and Amara Solari. *2012 and the End of the World : the Western Roots of the Maya Apocalypse.* Lanham, MD: Rowman & Littlefield Publishers, 2011.

Unit Lesson Two: Caves as seen in Mayan and 16th Century Western Culture.

Objective: Compare images of caves (and serpents as caves) as presented in Mayan and Western Culture.

Essential Question: How did cave images found in Mayan culture help missionaries import ideas about the apocalypse or "the end of the world"?

Activity: Use guided observation and ask object based questions to analyze the images cited below:

Assessment: Have students write a three paragraph essay on the following topic:

Make the connection between insights gained in lesson 1 on the Mayan Calendar and Lesson 2 on how 16th century missionaries imported ideas about the apocalypse into Mayan culture to reach a 21st century pop culture embrace of a 2012 apocalypse.

Bibliography: all images (except "hell mouth" cited from Wikipedia) are copied with permission from Constance Cortez - Yale Summer Institute.

Heather Hurst's San Bartolo poster can be purchased from [Boundary End Archaeological Center](http://www.precolumbia.com/bearc/order.html) for \$15 (<http://www.precolumbia.com/bearc/order.html>)

Use the Guided Observation worksheet (attached), which asks:

- What do you see?
- What do you notice?
- What do you think about what you see? What are your interpretations of the evidence you observe?
- What makes you say that?

Use the scene from Lintel 25 at Yaxchilan (now at the British Museum) where Lady Xoc appears before the serpent. Repeat your object based questions. Then ask guided questions pointing out the human figures, their relationship, the vision serpent, noting how **the war deity** is coming out of the mouth of the serpent.



Guide students to see the mouth of the serpent, and the relationship between **the war deity** and Lady Xoc.

Repeat the activity with the following image:



http://www.famsi.org/spanish/research/pohl/pohl_aztec1.html

Compare the previous image to the following medieval image from an illuminated manuscript called the “Last Judgment” from the Psalter of Henry of Bloise or “Hellmouth”.

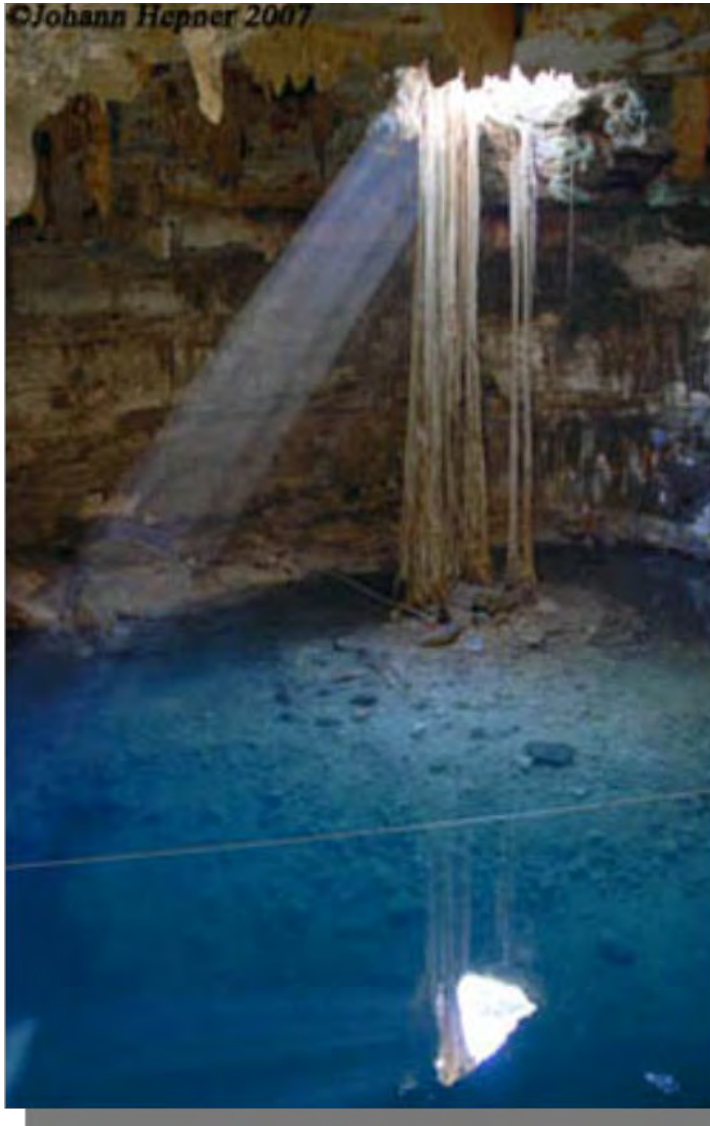
What conclusions can we draw about the similarity or differences between a sacred cave image found in 16th century Europe and cave images depicted in the Maya world? Show how when teaching about Christianity, Spanish missionaries incorporated an indigenous understanding of Mayan cave images into Christian images like this one:



<http://en.wikipedia.org/wiki/Hellmouth>

Notice that **the war deity** *proceeds* from the mouth of the vision serpent, whereas the angel is *locking up* souls within the mouth of the medieval serpent. Note the difference between birth and death. Note any student observations below:

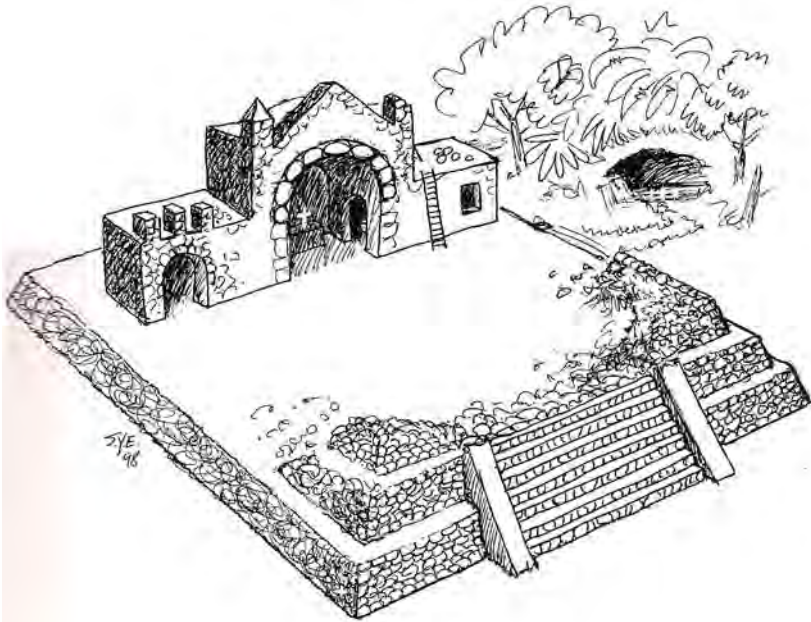
Notice also how caves (or sacred cenotes) are both a source of life and birth (water) and death (burial) for ancient Mayans.



Make the connection between how cave images were related to the idea of apocalypse in the Medieval Europe and how these ideas were disseminated in the Mayan world by the Catholic Church.



When the Spanish came to the New World, they brought ideas about the apocalypse or the end of the world with them. Note how their church is built to appear like a sacred



cave.



Note also how one enters the cave/church vs. the image of the first New World people coming out of a sacred cave above.

Chichen Itza (an important Maya site on the Yucatan) is near both a sacred cenote (underground water cave) and the open Catholic Church near Merida that is consciously built in the shape of an open cave (see Dzibilchaltun below). Can you find Cancun (a popular vacation destination), Chichen Itza (an important Maya city), Merida, and Dzibilchaltun on the map below?



Provide students with the opportunity to conduct their own research, and write a **one** paragraph essay on what they have learned.

Consider the following words and questions while researching: prophecy, destiny, catastrophe, apocalypse, extinction, secret, mystery.

- **Why are the Maya considered both mysterious and scientific?**
- **Why is the Mayan calendar and astronomy important for 2012 predictions?**
- **Why do post-modern people long for wisdom from lost civilizations?**

Students should know how to find and cite online resources and make connections between the articles cited.

All images besides "Hellmouth" were supplied by Constance Cortez at Yale PIER Summer Institute, July 12, 2012. Used with permission.

The following images could also be incorporated into their research:



<http://www.yucagaga.ifastnet.com/?p=26>



<http://www.reviewstl.com/movies-to-watch-honor-end-world-saturday-may21-0519/>

Bibliography

Aveni, Anthony. *The End of Time: The Maya Mystery of 2012*. Boulder, CO: University Press of Colorado, 2009.

Blume, Anna. "Maya Hieroglyphics, Cosmology and Numerology: Basis and Meaning in Art." Unpublished manuscript, Yale University, New Haven, CT, July 2012.

Handout created for Yale Peabody Museum-PIER-CLAIS Summer Institute for High School Teachers. Used with permission

Hoopes, John W. "A critical history of 2012 mythology." *International Symposium on Archaeoastronomy - Proceedings IAU Symposium 278* (2011): 241-48.

Krupp, E. C. "The Great 2012 Doomsday Scare." NASA - The Great 2012 Doomsday Scare. Last modified November 9, 2009. Accessed November 9, 2012.
<http://www.nasa.gov/topics/earth/features/2012-guest.html>.

Restall, Matthew, and Amara Solari. *2012 and the End of the World : the Western Roots of the Maya Apocalypse*. Lanham, MD: Rowman & Littlefield Publishers, 2011.

Maya Hieroglyphics, Cosmology and Numerology: basis and meaning in Art

Maya Hieroglyphic writing, including their written numbers, appear in three remaining ancient books, on vases, in mural paintings and on carved stone structures dating from circa 100 BC – AD 1250.

“Dresden Codex” bark paper screen fold book (codex), Classic Maya, provenience unknown

“Murals”, painted wall, Xultun, Guatemala

“Seven Gods of the Underworld” painted clay, Classic Maya, Naranjo, Guatemala [and K 8425]

“Stela F” sandstone carving, Classic Maya, Quirigua, Guatemala

Maya Uses of Numbers

History . Cosmology . Numerology . Abstraction

Counting System: dot for one, bar for five and stylized shell for zero. These three numerals are used in a positional base twenty counting system written vertically, beginning at the bottom of the column with the ones position.

Historical Time

Ex: “Seven Gods of the Underworld”, Naranjo [*4 Ajaw 8 Kumk'u*]

Long Count

Establishes a date in time at the beginning of the present *Great Cycle* that began on August 13th, 3,114 BC. December 21st, AD 2012 will be an important anniversary within this cycle, but according to the Maya it is simply be a mark in time similar to the end of a century, not an end of time.

Three Examples of Maya Cyclical Calendars Based on Astrological Phenomena

1] Ritual Calendar: 260 days 13 numbers 20 day names

Ex: Jaguar *Way* [animal spirit] of a lord from Seibal on K 771

2] Solar Calendar: 365 days 18 months 20 days

5 Uayeb unlucky days

[ritual 260 day calendar and the Solar Calendar line up every 52 years in a count of days known to Mayanists as the Calendar Round]

Ex. “Castillo” Chichén Itza, Mexico [fall equinox 21 September] snake shadow on the pyramid

3] Venus Calendar: This calendar of 584 day charts the movement of the planet Venus, a body in the sky the Maya believed could see with the naked eye. Many of their calculations in their books [especially the Dresden] and on their monuments correlate the movements of Venus with the movement of other bodies in the sky: eg. Commensuration of 5 Venus cycles $5 \times 584 = 2,920$ with 8 Solar cycles $8 \times 360 = 2,920$ [Dresden pg. 50 18 D]

Ex: “Yax Pasaj Standing on a Venus Glyph” carved deer tibia, carefully buried with other objects in a cache, Copan, Honduras





















Historical and Conceptual Time

“Stela F” carved sandstone, Quirigua, Guatemala 7.3 meters (dedicated March 17th, 761 [9.16.10.0.0]) linked to a date 24 trillion years into the past in a place called *ik najb nal* (black water place) Number and numerology as present in the calendrical calculations of the inscriptions

Aesthetics of Maya Numbers

Figuration and Abstraction: Quirigua *Stela D* and Copan *Stela D*

Mayan Number Chart

Number	Mayan Form	Number	Mayan Form
0		10	
1		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	

Activity 1: Using beans, peas or m&ms for dots, straws for bars and shells for zeros or just by using the blackboard, make sure students understand:

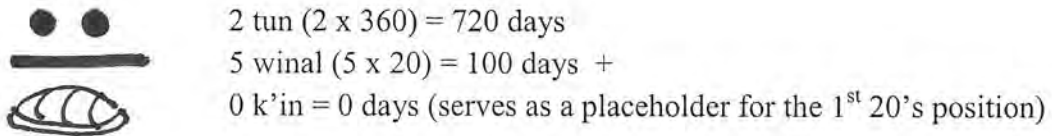
1 k'in = 1 day, so 19 days would look like this (see also attached Mayan number chart):



Activity 2: How would you write 820 in a Mayan notational system?

First, an explanation:

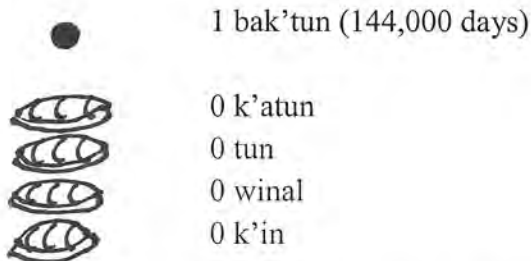
- 1 k'in = 1 day
- 20 k'in = 1 winal or a 20 day month
- 18 winal = 1 tun or 360 days or a year
- 20 tun = 1 k'atun or 7,200 days (20 years)
- 20 k'atun = 1 bak'tun or 144,000 days (about 394 years)



Activity 3: Show why 2012 is an important year on the Mayan calendar and what it would look like on a Mayan stele.

How do we get to the Winter Solstice of 2012 (December 21, 2012) as the completion of the 13th bak'tun?

Mayan numbers are stacked from bottom to top, so one bak'tun is one dot and four shells stacked up on top of each other like this:



The end of a bak'tun – and the end of the 13th bak'tun - is simply the end of a very long period of time.

Now, to demonstrate that this connects 3,114 BC (the Mayan beginning of time) to 2012 AD, divide the total number of days by the number of days in a solar year.

When dividing by 365, it doesn't add up correctly, so don't forget *leap years*!

Divide 1,872,000 by 365.19 (**which includes leap years**) = 5,126 years from the Mayan account of the beginning of time, as the Mayans calculated the beginning of the world at 3,114 BC.

Subtract 3,114 years (BC) from 5,126 (**total number of years for 13 bak'tun**) = 2012 – or the 13th bak'tun as the end of the long count calendar.

So for the 13th bak'tun, multiply 144,000 x 13 = 1,872,000 days. The 13th bak'tun = 1,872,000 days from 3,114 BC.

Here's how it **should** look:



13 bak'tun (13 x 144,000) or 1,872,000 days from 3,114 BC = 2012

0 k'atun (placeholder for 400 years) = a shell

0 tun (placeholder for 20 years) = a shell

0 winal (placeholder for 1 year) = a shell

0 k'in (placeholder for 1 month) = a shell

Lesson 1, Mayan Math Activity

Activity 1: Using beans, peas or m&ms for dots, straws for bars and shells for zeros or just by using the blackboard, make sure students understand:

1 k'in = 1 day, so 19 days would look like this (see also attached Mayan number chart):

$$\begin{array}{r} **** \\ \text{-----} \\ \text{-----} \\ \text{-----} \end{array} + 4 = 19$$
$$\begin{array}{r} 5+ \\ 5+ \\ 5+ \end{array}$$

Activity 2: How would you write 820 in a Mayan notational system?

First, an explanation:

After 19 k'in,

20 k'in = 1 winal or a 20 day month

18 winal = 1 tun or 360 days or a year

Mayan numbers are stacked from bottom to top:

$$\begin{array}{r} * * \\ \text{-----} \\ (-) \end{array} \begin{array}{l} 2 \text{ tun } (2 \times 360) = 720 \text{ days} \\ 5 \text{ winal } (5 \times 20) = 100 \text{ days } + \\ 0 \text{ k'in } = 0 \text{ days (serves as a placeholder for the 20's position)} \end{array}$$

Activity 3: Show why 2012 is an important year on the Mayan calendar and what it would look like on a Mayan stele.

How do we get to the Winter Solstice of 2012 (December 21, 2012) as the completion of the 13th bak'tun? To continue, 20 tun = 1 k'atun or 7,200 days (20 years), and 20 k'atun = 1 bak'tun or 144,000 days (about 394 years), so one bak'tun is one dot and four shells stacked up on top of each other like this:

- 1 bak'tun (144,000 days)
- (-) 0 k'atun
- (-) 0 tun
- (-) 0 winal
- (-) 0 k'in

The end of a bak'tun – and the end of the 13th bak'tun - is simply the end of a very long period of time.

Now, to demonstrate that this connects 3,114 BC (the Mayan beginning of time) to 2012 AD, divide the total number of days by the number of days in a solar year.

When dividing by 365, it doesn't add up correctly, so don't forget *leap years!*

Divide 1,872,000 by 365.19 (**which includes leap years**) = 5,126 years from the Mayan account of the beginning of time, as the Mayans calculated the beginning of the world at 3,114 BC.

Subtract 3,114 years (BC) from 5,126 (**total number of years for 13 bak'tun**) = 2012 – or the 13th bak'tun as the end of the long count calendar.

So for the 13th bak'tun, multiply 144,000 x 13 = 1,872,000 days. The 13th bak'tun = 1,872,000 days from 3,114 BC.

Here's how it **should** look:

** *

13 bak'tun (13 x 144,000) or 1,872,000 days from 3,114 BC = 2012

- (-) 0 k'atun (placeholder for 400 years) = a shell
- (-) 0 tun (placeholder for 20 years) = a shell
- (-) 0 winal (placeholder for 1 year) = a shell
- (-) 0 k'in (placeholder for 1 month) = a shell

Lesson 2

Guided Observation Worksheet

Adapted from materials from the Yale Art Gallery and the Yale Center for British Art

Find an object or work of art, and spend 2 – 5 minutes closely observing it. If you are in a museum, do not read the exhibit label that gives information about the object or work of art.

After your observation time, answer the following questions in the following order. For questions 1 and 2, lists are fine (complete sentences not necessary).

1. What do you see?

2. What do you notice?

3. How was it made and what does it appear to be made from?

SEE BACK

4. If you are looking at an artifact, why might it have been made? What might it have been used for? If you are looking at a work of art, why do you think the artist produced this work? What is going on in the piece?

5. Now read the exhibit label (if there is one) and record:

Name/Title of object or work of art: _____

If an artifact, where in the world it is from: _____

If a work of art, artist's name and year of completion: _____

Any other descriptive information from the exhibit label:

Lesson 2

Object-Based Learning Strategies

Adapted from materials by Jessica Sack, Yale Art Gallery, and Cyra Levenson, Yale Center for British Art

Begin by having students closely observe an object or work of art, 2 – 5 minutes depending on how much time you have and the complexity of the object or work of art. If you are using a museum exhibit, cover the label or encourage them not to look at it.

Proceed by asking questions about the object or work of art, in the following order:

1. What do you see?

With this purely objective question, they are generating a list of words or statements, using only their eyes. This can be an inventory-like list if they are looking at a painting or a diorama, and more of a list of adjectives if looking at a single object. You can encourage them to toss out words as they come to mind.

2. What do you notice?

This goes deeper, and is intended to walk the line between objective and subjective. You may remind them not to include their opinion if you want to keep this more objective. Here, they should begin to point out relationships. They may also discuss how it appears to have been made. If they have an object in front of them that they are allowed to touch, they can use other senses at this point to learn more about it.

3. What do you think about what you see? What are your interpretations of the evidence you observed?

Finally you are asking here for their interpretation and opinion – if a painting, what is going on in the piece, what is the narrative – if an artifact, why might it have been made, what might it have been used for?

4. Follow answers to steps 2 and 3 with: What do you see that makes you say that?

This makes students accountable for their observations/interpretations by citing visual evidence, and can also help keep students from heading off in the wrong direction or intentionally derailing the process.

5. Finally, ask more guided questions, especially if you have a specific area of focus you are trying to

bring to your students' attention. You can also ask: "What questions do you have about it?" and "How can you find answers to these questions?" If in a museum, let them read the exhibit label at this point and ask them if that changes anything about their interpretation. If an artifact, you can now give more detail and history, and begin a more productive discussion about its cultural and chronological context.

Variation: There is a good opportunity to have students DRAW the object between steps 2 and 3, and then write a story about/featuring their object, which gets at the same interpretive thinking as step 3 but gives an opportunity for creative writing.

Usually, before you even have students start observing you would give them some context (specific artists, time periods, cultures) or the focus/objectives of the session – this helps steer their observations into a more narrow and manageable subset.

Name: Susan Bennett

Subject Area: Spanish IV - Language and Civilization

Grade Level: 11-12

Number of lessons: 2

Time frame to allow for Unit: Lesson one "Mapping", one 55 minute period. Lesson two "Myths of Creation", two 55 minute periods.

Each includes 55 minutes homework before each lesson.

Introduction: Stemming from the charge that our students will become global citizens and world leaders, it is fundamental to establish and teach the value of respect for others. At the beginning of the year, we will determine that activities in each unit of the text that we use will be geared at nurturing and nourishing the development of students' opportunity to learn to communicate and empathize with persons of other ethnicities, cultures and nations. In order to empathize with others, you must be self-aware, and in order to bridge cultures, to learn about people different from ourselves, a path of discovery must be taken. To navigate the path, one must ask good questions. Over time and sewn into several units related to the Imagina text, focus will be placed on discovery and deciphering to acquire knowledge of and sensitivity to Maya culture.

While learning about geography, spiritual beliefs, social structures and practices, agriculture and history of the Maya to the present day, students will gain an understanding of Maya culture. By comparing and contrasting students' own lives with the Maya civilization, students can develop and demonstrate critical thinking while identifying connections between current and ancient cultures.

The overarching goal to achieve is:

~ to establish each student's cultural roots and bearings in order for them to successfully identify relevant connections between current and ancient Maya culture, expressing themselves appropriately in Spanish in so doing.

Specifically, in order to accomplish the goal, the lessons will:

- 1) create cultural and familiar self awareness.
- 2) reveal the existence and development of Maya culture over time.
- 3) draw attention to the contributions of the Maya to math and means of written and artistic expression.
- 4) increase awareness of the archeological and artistic remains of ancient Maya civilization.
- 4) consider the impact of the Conquest on Maya culture.
- 5) evaluate the present day state of Maya culture.
- 6) establish critical connections of the Maya within the present day world.

Lesson 1: Mapping.

Preparation (HW) for this class is 55 minutes of research and notes that answer the following: Where am I? Who is my family? Where is my family from? What symbols help show who we are?

Necessary vocabulary (mapas, arboles genealogicos, familia) on board -> note taking. (El mapa. Ask for similar transgender words they know.) Use meaningfully.

Discussion 1: Students will explain what a map is and does. Also, how is “to map” different from what they believe “a map” is. Handout of border outlines North and Central America.

<http://www.worldatlas.com/webimage/countrys/namerica/naoutl.htm>

Activity 1: In pairs – what countries on the handout are you aware of? Collect when done.

Project <http://www.worldatlas.com/webimage/countrys/namerica/namera.htm> to discuss the geography with names.

Discussion 2: Family map. Ask for options to express (flowchart, tree etc.) On the board, Why do you think it is a tree? What elements are essential and which are helpful to tell a bigger story? Use of Ser (description), Estar (changing states, alive, dead), Preterite (finite in past). Discussion in pairs, presentation to class.

For discussion.

1) Show <https://bubbl.us/>

2) Project Frida Kahlo Family Tree. <http://2.bp.blogspot.com/42drhiu5nNU/R-6EgkEPoSI/AAAAAAAAE9Q/VCYMbFlBAlM/s1600-h/Abuelos+y+padres.jpg>

Activity 2: Regarding Frida’s family tress, in pairs, dissect and list all orientation, elements, shapes, colors located. (Use object based learning guidelines ~Heiser~) What medium is used?

Discussion 3:

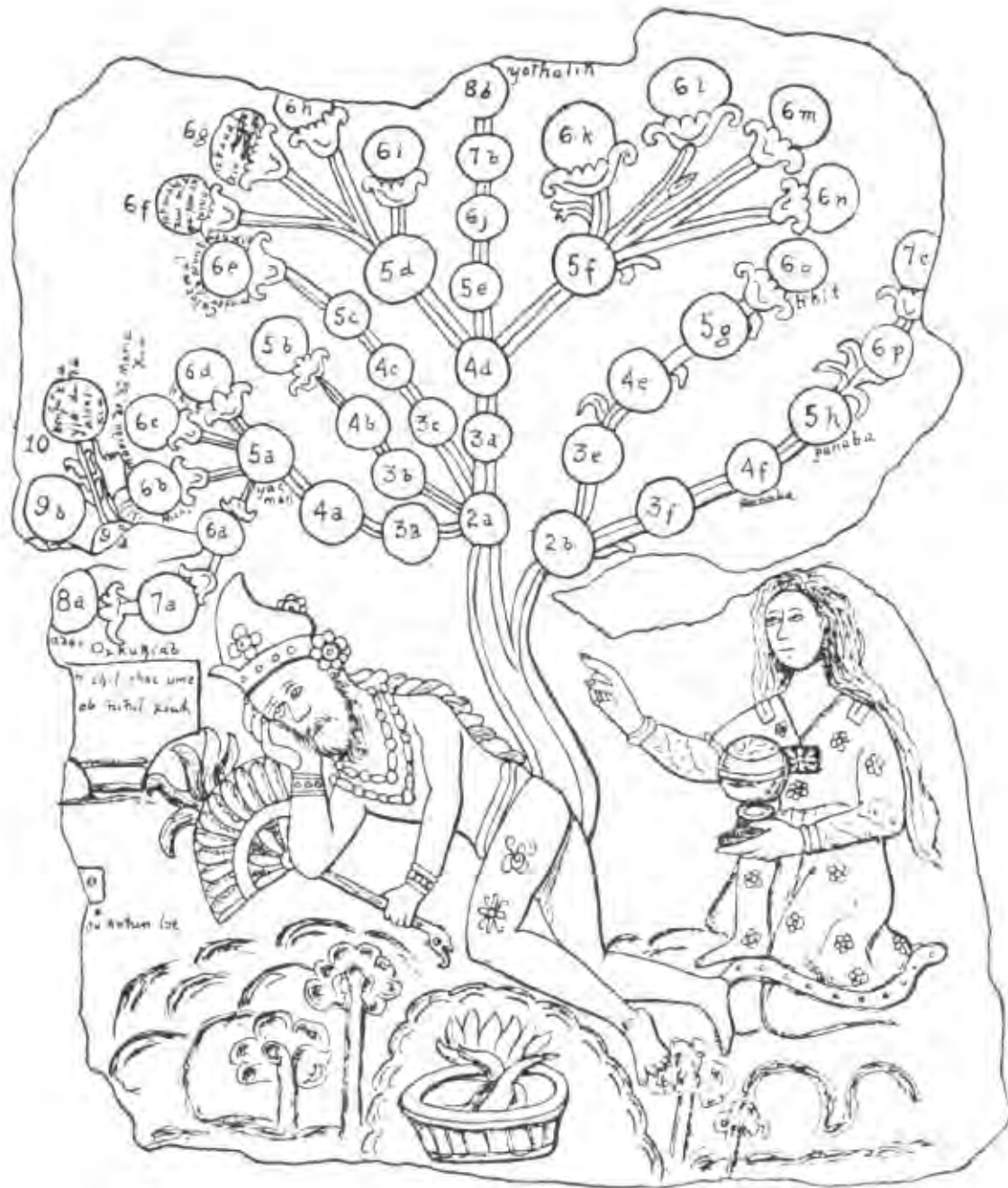
Project Xiu Family Tree. Field input from students on iconography and numbers. What medium will students use for their own family tree? What medium would have been used by their grandfathers? His grandfather? And his? What symbols or icons can you use/associate for better identification?

HW:

- a) Handout Central American border map without names -> students will try again from memory.
- b) Creation of personal family tree.

(At the end of the cycle we will visit the Oaxaca Deer Hide at Yale).





(From <http://www.sacred-texts.com/nam/maya/ybac/ybac60.htm>)

Lesson 2 (over two 55 minute classes): Myths of creation – Popol Vuh Reveals (2-3) Existence of and contributions of the Maya to culture.

Preparation for this class (HW 1) Watch Popol Vuh:

<http://www.youtube.com/watch?v=bhG3DfqP3RA>

<http://www.youtube.com/watch?v=BP4WiTcNfIA&feature=relmfu>

and fill out Popol Vuh Note Guide (included at end of lesson.)

Preparation for the second class (HW 2), necessary research to complete questions included at end of lesson.

Each day, warm up with

a) 5 minutes, vocabulary review on Quizlet, matching or space shuttle games.

<http://quizlet.com/10371848/popol-vuhchac-mool-vocab-sheets-flash-cards/>

b) A reminder of the brief introduction, according to Eliade:

“El mito cuenta una **historia sagrada**; relata un acontecimiento que ha tenido lugar en el tiempo primordial, el tiempo fabuloso de los «comienzos», o sea, el mito cuenta como, gracias a las hazañas de los Seres Sobrenaturales, **una realidad ha venido a la existencia**, sea ésta la realidad total, el Cosmos, o solamente un fragmento: una isla, una especie vegetal, un comportamiento humano, una institución. Es, pues, siempre el relato de una **creación**: se narra cómo algo ha sido producido, ha comenzado a ser”.

And c) 2 minute discussion in threes: What is your myth? How do they compare and contrast?

Day 1 Show Broad Popol Vuh background (images from artifacts):

https://www.youtube.com/watch?v=jw9fMzU_UuE

ACTIVITIES: Here are four activities to complete based students' interpretation and understanding of the Popol Vuh. I complete the first two on Day 1 and the second two on Day 2.

Activity 1: The Popol Vuh presents various explanations of the origins of the Maya world. Based on the first part of the video, students, in pairs, will write a dialogue. Students are Gods who discuss how to create human beings. At first, they have different opinions but in the end, they reach an agreement. They must discuss the advantages and disadvantages of Men made of mud. Then, of Men made of wood or tz'ité. They can follow the example below and expand upon it in reasoning and creativity:

"God 1 thinks it's best to use mud for creating Man. Explain, in her opinion, what advantages there are. God 2 disagrees with God and thinks wood would be better,

then defends his point of view.

God 1: What do you think if we make Men of mud? In my opinion, it's a material that has a lot of advantages, such as...

God 2: No, that's a terrible idea, making then of wook is far better because...

God 1: I don't agree with you because...

God 2: What you're saying is true, but you should also consider...

Activity 2: Switch pairs, and watch the second part of the Popol Vuh video. Students must come up with a hypothesis on how the first Men were created from corn. Students can create a graphic organizer or idea cluster, which includes the following:

Who were their predecessors?

What were they like?

Where did they live?

What did they eat?

What challenges did they face?

What was their daily life like?

Day 2: As well as warm up mentioned above, project and play game:

http://cvc.cervantes.es/ensenanza/actividades_ave/nivellII/actividades/actividad_19.html?id=44

Activity 3: Different pairs. In at least 20 lines of writing, students will invent their own myth of creation. They should try to use imperfect for descriptive aspects and the preterite for the succession of events part of the story. They can use vocabulario from their earlier work on Quizlet and from the Popol Vuh text.

In the beginning, _____

Then _____

Finally _____

Activity 4: In new pairs, students will create a comic strip with at least 6 scenes, that depicts the creation of man, ending in the Man made of corn:

Re-Cap:

Family Maps. Who are you? Family Tree.

Creation. What is your myth of creation? Popol Vuh.

We plan on visiting to the visit the Deerhide at Sterling Library and the Yale University Art Gallery to view Maya objects displayed there.

Popol Vuh Text: http://mitosyleyendascr.com/mitos/popol_vuh.pdf

Game:

http://cvc.cervantes.es/ensenanza/actividades_ave/nivelIII/actividades/actividad_19.html?id=44

HW 1 WATCH

<http://www.youtube.com/watch?v=bhG3DfgP3RA>

<http://www.youtube.com/watch?v=BP4WiTcNfIA&feature=relmfu>

AND FILL OUT POPOL VUH NOTE GUIDE FOR CLASS.

<p>People's names/Where they live.</p>	<p>Key Deities? How did they create the earth?</p>	<p>How many tries to create humans? What failed?</p>	<p>Who Seven Macaw? Why and by whom is he destroyed?</p>
<p>Describe the relationship between the two sets of brothers, One Monkey/One Artisan, Hunahpu/ Xbalanque.</p>	<p>How do One Hunahpu and Blood Woman become the parents of the Hero Twins?</p>	<p>What do Xbalanque and Hunahpu learn from the rat?</p>	<p>What trials do Hunahpu and Xbalanque experience in the underworld?</p>

HW2

QUESTIONS TO RESEARCH AND ANSWER.

1. What is the name of the people that generated this story? Where did (do) they live?
2. Who are some of the key deities discussed in the *Popol Vuh*? How did they create the earth?
3. What kinds of humans did the gods create and then destroy as failed attempts? What had gone wrong?
4. Who is Seven Macaw and why is he destroyed? By whom?
5. Describe and explain the relationship between the two sets of brothers, the older pair, One Monkey and One Artisan, and their younger brothers, Hunahpu and Xbalanque. What might be the cultural or ethical significance of this episode of the *Popol Vuh*?
6. How do One Hunahpu and Blood Woman become the parents of the Hero Twins? Can you think of stories from other cultures that have a similar sequence of events? How might we explain or investigate this similarity?
7. What do Xbalanque and Hunahpu learn from the rat? How do they receive this news? How do they reward the rat? What seems to be the significance of the ball game?
8. What trials do Hunahpu and Xbalanque experience in the underworld? Who helps them to survive their various trials?
9. How do the boys finally deceive and defeat the lords of Xibalba?
10. What becomes of the Hero Twins? Are there parallels to this outcome and the results of other stories?
11. If this story is understood to teach not only about creation, the gods, and the events in the lives of the Hero Twins, but also about ideals of behavior, what kinds of ethical lessons or examples could be derived from the story?
12. Has this story remained significant to the Maya people in recent times? How could we find out more about the current importance of this story to the Maya?

POSSIBLE POST LESSONS ASSESSMENT QUESTIONS:

The text as evidence of past civilizations:

1. What can the *Popol Vuh* teach us in a general way about Mesoamerican civilizations? What are some of the possible problems with or limitations of using the *Popol Vuh* as a source of cultural information? List and offer explanations of some elements of Mayan civilization based on your reading of the *Popol Vuh*.
 2. What kinds of questions specifically related to the age and translation of texts might modern scholars and students want to consider when evaluating the validity of the *Popol Vuh* as evidence about the ideas, values, and society of the ancient Mayan civilization? How might we pursue answers to these questions?
 3. How have scholars attempted to explain the similarities between the *Popol Vuh* and stories from the Judeo-Christian tradition? In what ways does the dating of textual artifacts affect these discussions?
 4. When was the *Popol Vuh* first translated into English? By whom? What is the current level of scholarly interest in Mayan civilization? How could we begin to answer these questions?
 5. When and where did the *Popol Vuh* begin to appear as a primary source text in courses on Ancient History? What can this fact teach us about the history of teaching and learning about the past in modern times?
 6. What other question(s) about the text would you like to ask or answer?
- (Credit from <http://www.historians.org/tl/LessonPlans/ca/Jones/PVQUEST.HTM>)

Title of Curricular Unit: El Arte de América Latina y Mesoamérica

Name: Giovanna Carbone

School: Branford High School

Subject Area: Spanish 4

Grade Levels: 11& 12

Number of Lessons in Unit: 2

Time frame to allow for Lessons: 3-4 days

Brief Narrative Describing the Unit:

In this Unit, Students will acquire new vocabulary that will enable them to describe works of art in Spanish. Students will use <http://www.famsi.org> and <http://www.mesoweb.com> in order to learn about Mesoamerican cultures. They will focus their study on the ancient Maya and Maya iconography.

Unit Teaching Objectives

- Students will learn new grammatical structures and practice them in their oral and written activities:
- Noun- Adjective agreement
- Ser & Estar
- Estar + Past participle
- Preterite vs. Imperfect
- Formulas of Comparison (ex. Tan _____ como, mas _____ que, menos _____ que, et al..)
- Students will use *Realidades 3* Chapter 2 to read about the visual arts of Spain and Latin America
- Students will use object based observation techniques to study the works of art and develop their own opinions about them
- Students will compare a late PreClassic Maya mural from San Bartolo, Guatemala with “El Camión”, a 20th Century painting by Frida Kahlo

Unit Essential Questions

- What is art?
- In what ways do art, architecture and technology reflect a culture’s belief systems?
- What can we learn about ancient civilizations from examining their cultural relics and artifacts?

List of Key People and Vocabulary

Key people: Mayan artists (recreated paintings by Heather Hurst of art from the San Bartolo cave walls)

Spanish Artists (ex. Pablo Picasso, Salvador Dalí,...)

Latin American Artists (ex. Frida Kahlo, Diego Rivera, Fernando Botero,...)

Vocabulary: https://conjuquemos.com/print_vocabulary_list.php?id=340&source=public (This site contains a complete list of vocabulary for *Realidades 3* Chapter 2)

Lesson 1: El arte de Los Maya de Mesoamérica

Lesson Specific Objectives: Students will read an article *The Murals of San Bartolo* and they will describe a mural from one of the walls of San Bartolo using a list of guided questions. This activity will be done in pairs in class using the projector. They will then select another Mayan work of art from the FANSI website and describe it individually using the same guiding questions that were used to describe the first mural.

Sources:

www.sanbartolo.org/discovery.html (Article)

www.pbs.org/wqbh/nova/ancient/maya-masterpiece-revealed.html (Mural)

www.famsi.org/research/pohl/index.html (Murals)

Preguntas para describir una obra de arte

1. ¿Cómo se llama la obra?
2. ¿Quién hizo esta obra?
3. ¿Qué figuras o imágenes hay en el fondo?
4. ¿Qué figuras o imágenes hay en el primer plano?
5. En tu opinión, ¿Qué significa esta obra de arte? ¿Por qué?
6. ¿Te gusta? ¿Por qué? O ¿Por qué no?

Lesson Specific Essential Questions:

What can we learn about the culture and society of the ancient Mayans by observing their works of art?

Methods of Assessment

Formative: Class Discussion

Summative: List of questions from above answered in complete Spanish sentences

Lesson 2: El Arte de Frida Kahlo

Lesson Specific Objectives:

- Students will look at various works of art created by Frida Kahlo on the overhead projector to become acquainted with the artist's work.
- Students will describe a specific work of art created by Frida Kahlo using the same guided questions from the previous lesson.
- Students will make comparisons between the Frida Kahlo painting work vs. the San Bartolo Mural

Lesson Specific Essential Questions: What are some factors that may have inspired Frida Kahlo's work thematically and stylistically?

Activity 1: In this lesson students will describe a work of art by Frida Kahlo titled "El Camión" (*The Bus*). This image will be on the projector and students will respond to the same questions they used in the San Bartolo activity.

Activity 2: Students will then look at both Kahlo's "El Camión" and the San Bartolo Mural that we analyzed in class and make comparisons between the two using the following formulas:

Tan_____ como

Mas_____ que

Menos_____ que

Tanto/a/os/as_____ como

Mejor que/mejores que

Peor que/peores que

Sources: (These sites were useful in viewing a wide range of paintings created by Frida Kahlo)

www.fridakahlofans.com/paintingsyear01.html

<http://www.fridakahlofans.com/c0042.html>

Methods of Assessment

Formative: Class Discussion

Summative: Detailed written description containing both the descriptions of Frida's painting as well as the Comparisons and Contrasts made between her work and the Mayan San Bartolo Mural

Additional Resources:

www.peabody.yale.edu

www.smith.edu/vistas/#

www.mesolore.org

<http://server.fhp.uoregon.edu/dtu/sites/kahlo/>

What New Technology will you use in this unit as a result of attending the Yale Summer Institute?

For Creating the Unit? Aforementioned Websites; Projector

For Student use? Computer/Websites

For Presentation? Overhead Projector

Vanessa Del Giudice

Yale Peabody Museum-PIER-CLAIS 2012 Summer Institute for High School Teachers

Curricular Unit: Indigenous Peoples of the Americas: Maya Cultures Across Time

Introduction

Title: Reading Ancient Images: Using Murals to Interpret Maya History and Create a Personal Narrative

Author: Vanessa Del Giudice

Subject Area: Spanish

Grade Level(s): Elementary-Intermediate

Number of Lessons in the Unit: One

Time Frame to Allow for Unit: One to two weeks, depending on the pace of the class



The countdown to 12-21-12

Overview of the Unit:

The Mayas of the Classic Period left detailed records of their history in the form of sculptures on monuments and buildings, decorations on vessels, and writings in codices (books). By examining these monuments and texts, scholars have been able to identify the leaders and important events of these societies and learn about the beliefs and practices of their cultures. However, these sources have often been misinterpreted in popular culture leading to misunderstandings about ancient Maya societies.

In this unit, students will examine examples of ancient Maya murals in order to learn about some Pre-Columbian societies of Mesoamerica and to gain insights into how public monuments and works of art are used to create historical narrative and establish identities. Students will also examine the Maya writing system to gain a sense of its complexity. Spanish vocabulary will emphasize physical description, seasons and weather, family, and colors. In addition, vocabulary will be introduced to help students talk about ancient Maya culture and history, including terms needed to talk about the works of art. Finally, students will create a personal narrative by writing and illustrating a codex in Spanish.

The teacher can adapt the activities in this unit to accommodate the readiness level of students studying Spanish at the elementary or intermediate level, according to the proficiency guidelines of the course.

Unit Teaching Objects:

Students will develop an understanding of the following concepts:

- The history of a people is developed through the creation of historical narratives which present an established interpretation of events of the present or the past.

- The rulers of a society create public monuments and works of art to validate their interpretation of historical events.
- Myth and narrative play an important role in creating the identity of a people.
- The culture of a people is a complex creation of shared beliefs, practices, and products which may be transmitted in a variety of ways.
- Effective communication in Spanish depends on the appropriate selection of vocabulary, accurate use of verb tenses, and control of grammar structures and syntax.

Unit Essentials Questions:

Students will explore the following questions:

- How is history created?
 - How do historical narratives shape our understanding of historical figures and events?
 - How are historical figures and events presented in the public sphere?
 - What can we learn about history from examining authentic sources?
- How are identities created?
 - What is the importance of myth and narrative in creating the identity of a people?
 - How do the products of a society, including works of art and written texts, reflect the beliefs and practices of a people?
- What are the elements of effective communication in Spanish?
 - What thematic vocabulary is appropriate to present information on a specific topic?
 - Which verb tenses are appropriate to relate events in the present, past, or future?
 - How does the correct use of grammar structures and syntax support clear and coherent communication?

Curricular Lessons

Lesson 1: Todos cuentan historias

Lesson Specific Objectives:

Upon examining the mural art from Bonampak and San Bartolo students will:

- Examine the figures and activities in the murals and describe what they see in order to gain knowledge of historical events and mythological narratives from a primary source.
- Respond to questions in order to interpret the significance of the events depicted in the murals.
- Make inferences and share their ideas about the cultural values and beliefs of the society depicted in the murals in a class discussion and in a follow-up writing task.
- Examine the Maya writing system and construct a glyph of their name.
- Write a narrative in Spanish about themselves in order to practice presenting information and ideas in the target language.
- Construct a codex in order to present their personal narrative in an authentic Maya form.

Lesson Specific Essential Questions:

Students will explore the following questions:

- How do historical narratives shape our understanding of historical events?
- How are historical figures and events presented in the public sphere?
- What can we learn about history from examining authentic sources?
- What is the importance of myth and narrative in creating the identity of a people?
- How do the products of a society, including works of art and written texts, reflect the beliefs and practices of a people?
- What are the elements of effective communication in Spanish?

Lesson 1, Warm-up Activity:

Primary Source: Johnson, Charles William and Jorge Luna Martínez. “PAKAL, The Ancient Astronaut.” *Paleoanimation*, Earth/matrix Productions. 2006-2011. Web. 25 July 2012.

<<http://www.paleoanimation.us/pakal.html>>

K'inich Janaab Pakal



The Linda Schele Drawings Collection, FAMSI

King Pakal



Detail of Sarcophagus Lid, Alieneight.com

Show students the animation, “PAKAL, The Ancient Astronaut,” in order to demonstrate how an image can be interpreted in different ways, depending on what we “see,” or what we expect to see. (See: *Primary Source*, Warm-up Activity for the source of the animation.) Ask students to think about how our point of view can influence our interpretation of an image and how we can gain a better understanding of a work of art by learning about the people who produced it. Who was Pakal? When and where did he live? What did he do that made him an important figure in his society? What was the reason for creating this image depicting him?

Lesson 1: Todos cuentan historias, Activity 1: La narrativa histórica: Leyendo las imágenes

Primary Sources:

Images for the Bonampak murals:

De la Cova, Antonio Rafael. "The Maya: Bonampak." *Latin American Studies*. 15 December 1997. Web. 21 August 2012. <<http://www.latinamericanstudies.org/bonampak-1.htm>>

"Music of the Ancient Maya." *Storied Walls: Murals of the Americas*. Peabody Museum of Archaeology and Ethnology, Harvard University. 2012. Web. 21 August 2012.

Video: <<http://peabody.harvard.edu/node/612>>

Brochure: <http://peabody.harvard.edu/files/storied_walls_brochure.pdf>

Robertson, Merle Greene. "Bonampak murals." Mesoweb-PARI Photo Database. *Mesoweb*. 2012. Web. 27 August 2012. <<http://www.mesoweb.com/photo/>>

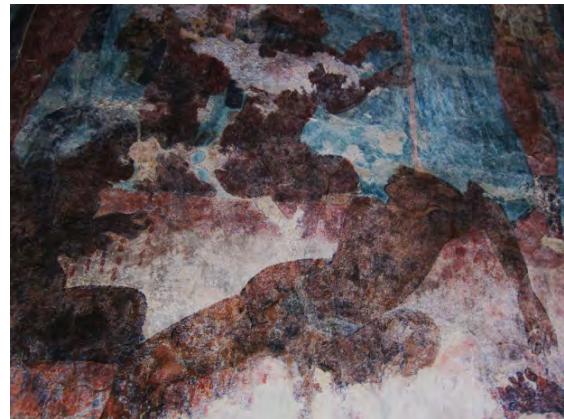
(Note: Scroll down to select "Bonampak murals.")

Image for the San Bartolo mural:

Tyson, Peter. "A Maya Masterpiece Revealed." *Nova*. PBS.org. 09 January 2007. Web. 30 July 2012. <<http://www.pbs.org/wgbh/nova/ancient/maya-masterpiece-revealed.html>>



Mural, Bonampak, Structure 1, Room 1



Mural, Bonampak, Structure 1, Room 2

Working in small groups, students will examine details of the murals from Bonampak and San Bartolo in order to gain practice in observing images and talking about what they see in Spanish. (See: *Primary Sources*, Activity 1 for sources to access images of the murals.) In addition, by using a primary source, students will gain an understanding of how the Mayas presented their history in monumental art.

Depending on the readiness level of the students, the teacher can choose to select specific sections of the murals to assign to the small groups for this task or lead a discussion with the whole class on one section of a mural before assigning the remaining sections to the small groups. The teacher should review the comprehension questions to ensure that students understand the activity. (See: *Handout 1*.)

After responding to guiding questions, which will help them focus their observations, the small groups of students will share their ideas and interpretations in a discussion about Maya culture as depicted in the murals. After the class discussion, each student will write a narrative in Spanish to summarize the events depicted in the murals. The teacher can provide a vocabulary list for the

discussion and writing task to supplement thematic vocabulary from the students' text. (See: *List of Key Places, People and Vocabulary.*)

Method of Assessment:

- Guiding questions for talking about the images: Informal assessment (optional)
- Small group discussion of the images: Informal assessment (optional)
- Writing task: Informal assessment (homework assignment) or formal assessment (Performance Assessment Rubric for scoring the writing)

Nombre: _____

Lesson 1: Todos cuentan historias, Activity 1: La narrativa histórica: Leyendo las imágenes

Handout 1: Los murales: Preguntas para la discusión

Adapted from materials by Jessica Sack, Yale Art Gallery, and Cyra Levenson, Yale Center for British Art

Mira el mural y contesta las preguntas que siguen.

1. ¿Qué ves en el mural? ¿Personas? ¿Objetos? Haz una lista de adjetivos para describirlos.
2. Al examinar el mural ¿qué observas? ¿Hay grupos de personas? ¿Qué hacen?
3. ¿Quiénes son estas personas? ¿Qué está pasando en las escenas? ¿Cuál es la narrativa que se presenta en las imágenes?
4. En tu opinión ¿por qué ocurren los eventos que se presentan en el mural? Muestra ejemplos entre las imágenes para explicar tus ideas.
5. Después de examinar los murales ¿qué puedes inferir sobre la sociedad de los mayas?

Después de contestar las preguntas, escribe una narrativa para resumir los eventos que se presentan en el mural. Tú puedes describir a las personas e indicar tus opiniones sobre sus actividades.

Lesson 1: Todos cuentan historias, Activity 2: La narrativa escrita: los glifos mayas

Primary Sources:

Syllabary Charts and Numbers:

Calvin, Inga E. *Hieroglyphic Decipherment Guide*. Maya Hieroglyphic Writing. Foundation for the Advancement of Mesoamerican Studies, Inc. 31 January 2012. Web. 01 August 2012.

<http://www.famsi.org/mayawriting/calvin/glyph_guide.pdf>

Explanation of the Maya Writing System, Syllabary Charts, and Numbers:

Pitts, Mark and Lynn Matson. *Writing in Maya Glyphs, Book 1*. Chapter 1, “Introduction, The Ancient Maya & Their Writing” and Chapter 2, “How to Write Your Name in Maya Glyphs.” The Aid and Education Project, Inc. 2008. Foundation for the Advancement of Mesoamerican Studies, Inc. Web. 24 July 2012. <<http://www.famsi.org/research/pitts/MayaGlyphsBook1.pdf>>

Students will be introduced to Maya glyphs and numbers to help them understand how the Maya the writing system works. By examining the glyphs and their use in the codices and on important monuments, students will gain insights into the nature of the information that was recorded, including key dates and events, as well as narratives about powerful rulers. Students will also have an opportunity to write some numbers and word glyphs and to construct their own glyphs for names and places familiar to them.

The teacher should begin the activity by using examples of the glyphs found in the syllabary chart to demonstrate that the writing system relies on word glyphs, as well as phonetic syllables. (See: *Primary Sources*, Activity 2 for sources to access syllabary charts and numbers.) Some common glyphs, such as those for names, animals, places, directions, colors, days, and months, can be used to show examples of words that were important in ancient Maya culture. The teacher can show the students some glyphs and ask them to identify the words or ask them to find glyphs in a text. The teacher can also explain that the Mayas had a base 20 number system and show students how to write some numbers, using a chart of the numbering system.

Next, the students will use the syllabary chart to create a glyph of their name. (See: *Handout 2*.)

They can also create glyphs for the name of their school or town. Since the glyphs can be constructed using phonetic syllables or word glyphs, or a combination of both, students can use their imagination to create more than one glyph for the same name, as did Maya scribes. Students will use the glyphs they create for the writing project (Activity 3).

Method of Assessment:

- Creating a Name Glyph: Informal assessment as homework or class assignment (optional)

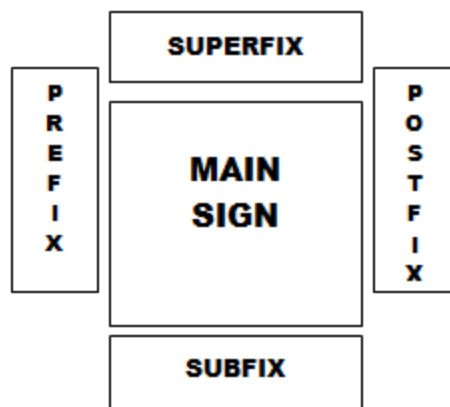
Lesson 1: Todos cuentan historias, Activity 2: La narrativa escrita: los glifos mayas

Handout 2: Using Maya Glyphs to Write Your Name

Adapted from *Writing in Maya Glyphs, Book 1* by Mark Pitts and Lynn Matson and *Hieroglyphic Decipherment Guide* compiled by Inga E. Calvin

Follow the steps to construct a glyph of your name.

1. Divide your name into syllables with each one ending in a vowel. This may result in more syllables than your name has in English. If your name ends in a consonant, add one more syllable which has the same vowel as the previous one. This syllable is considered to be “silent.”
2. Use one of the charts of phonetic syllables to find the glyphs for the syllables in your name. If there is no glyph for a syllable, use the glyph for the consonant + “a” and the glyph for the vowel. If you have a consonant in your name that is not represented by a phonetic syllable, substitute another syllable. For example, substitute “t” for “d,” “p” for “f,” “l” for “r,” etc.
3. Before constructing a glyph block for your name, select one syllable to be the “main” syllable. This should be the syllable that is stressed when you pronounce your name. If your name has three or more syllables, select a syllable from the middle of your name.
4. Organize the glyph block by placing the main syllable in the center of the block. This is the main sign. If possible, select a square-shaped glyph for the main sign, and try to select smaller glyphs for the other syllables. Place the other syllables around the main sign, starting with the prefix block for the first syllable. The next syllable should be placed in the superfix block (if needed). The syllables in the first two blocks should precede the main syllable in your name. Then place the syllables that follow the main sign in the postfix and subfix blocks (if needed).



5. Variations on the organization of the glyph block are possible, but it should be relatively compact and square. The glyph should be read from left to right and top to bottom.

Lesson 1: Todos cuentan historias, Activity 3: La narrativa personal: Contando mi historia

Primary Source:

Bakewell, Liza and Byron Hamann. "Mesoamerican Codices." *Mesolore*. Brown University. Web. 25 July 2012. <<http://www.mesolore.net/classroom/tutorials/21>>

Battle Scene



Mixtec Codex, Mesolore

Meeting with an Oracle



Mixtec Codex, Mesolore

In order to practice the communication of information and ideas in the target language, students will write a personal narrative in Spanish. (Tell them to think about creating a Facebook page, for example.) Following guiding questions, students will identify themselves and explain who they are and what they do. (See: *Handout 3*.)

Before writing their own narrative, the students should learn how codices were used in Mesoamerica to present historical narratives and biographies of powerful dynasties. They should be able to see how the narratives were organized and illustrated in codices and what the rulers chose to represent in their narratives. They can also see examples of historical narrative from some Mixtec codices. (See: *Primary Source*, Activity 3 to learn about Mesoamerican codices and read the narratives.) As with the murals, the teacher can ask the students to relate the narratives from the codices in their own words in Spanish.

The personal narrative for the writing project will be presented in the form of a codex with text and illustrations on each panel. The illustrations could include name glyphs, numbers, or dates, along with images drawn by the students.

To make a codex glue two sheets of 11"x17" paper together along the 11" side. Fold the double sheet in half lengthwise to make one long strip (5.5"x17"), and then fold the strip into six equal panels. The two end panels can be folded back and taped or glued down to make a front and back cover for the book. The codex can also be opened to reveal all of the panels at once, as shown in the Mixtec examples, with images and text displayed in two rows, top and bottom, across the page.

Method of Assessment:

- Personal Narrative: Performance Assessment Rubric for scoring the codex writing project (See: *Handout 4*.)

Nombre: _____

Lesson 1: Todos cuentan historias, Activity 3: La narrativa personal: Contando mi historia
Handout 3: El código: Preguntas para la narrativa personal

Contesta las preguntas antes de escribir la narrativa personal.

Primer cuadro:

1. ¿Quién eres tú? ¿Cuál es tu nombre? ¿Cuándo es tu cumpleaños? ¿Qué haces?
2. ¿Cómo eres tú? Escribe una descripción física.
3. ¿Cómo eres tú? ¿Cómo es tu personalidad?

Segundo cuadro:

4. ¿Dónde vives? Escribe una descripción de tu pueblo o ciudad.
5. ¿Cómo es tu país? Escribe una descripción de la geografía y el clima de tu región.

Tercer cuadro:

6. ¿Qué pasó? Cuenta brevemente una experiencia interesante o importante de tu vida.

Cuarto cuadro:

7. ¿Qué harás en el futuro? ¿Quieres continuar los estudios, trabajar, viajar? Cuenta brevemente tus planes para el futuro.

Después de contestar las preguntas, escribe las respuestas en forma de párrafos en las páginas de tu código, un cuadro para cada página. Además, tú puedes hacer un dibujo en cada página o poner unos glifos mayas para representar los nombres.

Lesson 1: Todos cuentan historias, Activity 3: La narrativa personal: Contando mi historia

Handout 4: Performance Assessment Rubric for Writing Task

CRITERIA	Excellent	Good	Satisfactory	Needs Improvement
Content	The writing clearly and concisely defines the topic. Well-developed concepts present a point of view or relate a narrative. Main ideas are supported with relevant, accurate, and detailed information. Ideas are synthesized to form thoughtful insights.	The writing clearly defines the topic. Specific concepts present a point of view or relate a narrative. Main ideas are supported with relevant and accurate information. Ideas are synthesized to form insights.	The writing attempts to define the topic. Some specific concepts present a point of view or relate a narrative. Main ideas are supported with some relevant and accurate information. Ideas are analyzed without forming insights.	The writing ineffectively defines the topic. Specific concepts are insufficiently developed to present a point of view or relate a narrative. Main ideas are not supported by relevant information, and there may be inaccuracies. Ideas are not analyzed and no insights are formulated.
Organization	The writing is logically and thoughtfully structured and reaches a coherent conclusion. It is interesting and creative, and promotes a clear understanding of the topic.	The writing is logically structured and reaches a coherent conclusion. It is interesting and promotes an understanding of the topic.	The writing has a generally logical structure and reaches a conclusion. It is somewhat interesting and attempts to promote an understanding of the topic.	The writing does not have a logical structure and does not reach a conclusion. There may be some interesting points, but it does not promote an understanding of the topic.
Communication and Fluency	Written expression is clear and comprehensible. Sentences connect coherently to each other and support the development of the themes. The text can be read quickly and without difficulty.	Written expression is comprehensible. Sentences connect coherently to each other. The text can be read with minimal difficulty.	Written expression is generally comprehensible. Sentences connect somewhat coherently to each other. The text can be read with some difficulty.	Written expression is generally not comprehensible. Sentences do not connect coherently to each other. The text is difficult to read.
Target Language: Vocabulary	The writing contains rich, precise, and idiomatic vocabulary which is used effectively and creatively in the context and attains an appropriate level of proficiency.	The writing contains accurate vocabulary which is used correctly in the context and approaches an appropriate level of proficiency.	The writing contains generally correct but limited vocabulary with some errors of word usage for the context. There may be some instances of second language interference.	The writing contains very limited vocabulary with numerous errors of word usage for the context. There may be many instances of second language interference.
Target Language: Grammar and Syntax	The writing demonstrates a superior command of grammar usage with virtually no errors and an ease of expression.	The writing demonstrates correct grammar usage. Any errors do not impede comprehension.	The writing demonstrates a basic command of grammar usage. There may be some instances of second language interference and/or errors which impede comprehension.	The writing demonstrates a limited command of grammar usage. There may be many instances of second language interference and/or numerous errors which impede comprehension.

List of Key Places, People and Vocabulary

Key Places:

Sites for the murals in this lesson:

México: Chiapas, Bonampak (Selva Lacandona, el río Usumacinta).

Guatemala: Petén, San Bartolo.

Some Additional Maya Sites of Interest:

México: Palenque, Toniná, Yaxchilán, Chichén Itzá.

Guatemala: Tikal, Piedras Negras.

Honduras: Copán.

(See: Foundation for the Advancement of Mesoamerican Studies, Inc. for maps: “Maya Area (Mexico)” <[http://research.famsi.org/maps/maps.php?map=mexico maya](http://research.famsi.org/maps/maps.php?map=mexico%20maya)> and “Maya Area (Guatemala)” <[http://research.famsi.org/maps/maps.php?map=guatemala maya](http://research.famsi.org/maps/maps.php?map=guatemala%20maya)>.)

Key People:

K'inich Janaab Pakal (Pakal, el rey de Palenque), el rey (*ajaw*), la reina, el noble, el sacerdote, el escriba, el guerrero, el prisionero, el músico, el bailarín, el dios, la diosa

Vocabulary:

See textbook vocabulary for: physical description (tall/short, old/young, dark/light eyes, short/long hair, etc.), seasons and weather, family, colors, etc.

To supplement textbook vocabulary for the activities:

Geography: el norte, el este, el sur, el oeste, la montaña, la llanura, la selva, la caverna, el río

Structures at the Sites: la plaza, el edificio, la pirámide, el templo, el salón, la escalera, la entrada, la pared, el techo

Works of Art: el mural, los murales, la pintura, la escultura, los glifos, la figura, las prendas, los adornos, el casco, las plumas, los instrumentos musicales, el desfile, el baile, la guerra, las armas, la lanza, el cuchillo, el vaso, la olla, el cesto, la ofrenda, el sacrificio, la serpiente, la boca, el maíz, a la derecha, a la izquierda, encima de, debajo de, al primer plano, al fondo

Resource List

List of Key Places, People, and Vocabulary:

“Maya Area (Mexico)” and “Maya Area (Guatemala).” *Map of Mesoamerica*. Foundation for the Advancement of Mesoamerican Studies, Inc. Web 24 July 2012.

<<http://www.famsi.org/maps/index.html>>

FAMSI.org provides maps of Mesoamerica which show cultural and linguistic areas, as well as countries. These interactive maps also have links to reports on the specific sites in each region.

Lesson 1, Warm-up Activity:

Johnson, Charles William and Jorge Luna Martínez. “PAKAL, The Ancient Astronaut.”

Paleoanimation, Earth/matrix Productions. 2006-2011. Web. 25 July 2012.

<<http://www.paleoanimation.us/pakal.html>>

This website presents an animation of the sarcophagus lid from Pakal’s tomb identifying symbols from ancient Maya culture and interpreting the sculpture as an astronaut in a modern spacecraft.

Lesson 1, Activity 1:

De la Cova, Antonio Rafael. “The Maya: Bonampak.” *Latin American Studies*. 15 December 1997. Web. 21 August 2012. <<http://www.latinamericanstudies.org/mayas.htm>>

This website presents information on numerous Maya archeological sites with maps, photos, and links to articles and videos on Maya civilization. It also has information on other Mesoamerican civilizations.

“Music of the Ancient Maya.” *Storied Walls: Murals of the Americas*. Peabody Museum of Archaeology and Ethnology, Harvard University. 2012. Web. 21 August 2012.

<<http://peabody.harvard.edu/exhibits/current?q=node/284>>

This webpage from *Storied Walls*, an exhibition at the Peabody Museum of Harvard University, presents a study of wall art in the Americas, including Bonampak and San Bartolo. There are links to the online brochure for the exhibition and a video which uses a reproduction of the mural from Room 1 at Bonampak to explain some aspects of the narrative and iconography.

Robertson, Merle Greene. “Bonampak murals.” Mesoweb-PARI Photo Database. *Mesoweb*. 2012. Web. 27 August 2012. <<http://www.mesoweb.com/photo/>>

This webpage presents numerous images of the Bonampak murals from Rooms 1, 2, and 3. The database contains photos of structures, paintings, objects, and photographic documentation of archeological projects from many sites in Mesoamerica. In addition, Mesoweb and PARI provide links to a variety of resources on Mesoamerican cultures, including reports, articles, books, and other websites.

Tyson, Peter. “A Maya Masterpiece Revealed.” *Nova*. PBS.org. 09 January 2007. Web. 30 July 2012. <<http://www.pbs.org/wgbh/nova/ancient/maya-masterpiece-revealed.html>>

This webpage presents information on the discovery of the murals at the San Bartolo archeological site in Guatemala and has an interactive image of the mural which explains the Maya iconography in the painting.

Lesson 1, Activity 2:

Calvin, Inga E. *Hieroglyphic Decipherment Guide*. Maya Hieroglyphic Writing. Foundation for the Advancement of Mesoamerican Studies, Inc. 31 January 2012. Web. 01 August 2012.

<http://www.famsi.org/mayawriting/calvin/glyph_guide.pdf>

This guide provides tables to decipher phonetic syllables, nouns, verbs, and number glyphs. The glyphs are large and easy for students to copy.

Pitts, Mark and Lynn Matson. *Writing in Maya Glyphs, Book 1*. Chapter 1, “Introduction, The Ancient Maya & Their Writing” and Chapter 2, “How to Write Your Name in Maya Glyphs.”

The Aid and Education Project, Inc. 2008. Foundation for the Advancement of Mesoamerican Studies, Inc. Web. 24 July 2012. <<http://www.famsi.org/research/pitts/MayaGlyphsBook1.pdf>>

This guide explains the Maya writing system, including phonetic syllables and word glyphs. It also provides directions for constructing glyphs for names and titles and for writing simple sentences.

Lesson 1, Activity 3:

Bakewell, Liza and Byron Hamann. “Mesoamerican Codices.” *Mesolore*. Brown University.

Web. 25 July 2012. <<http://www.mesolore.net/classroom/tutorials/21>>

This article explains in detail the history of Mesoamerican codices and distinguishes their ritual function from Western history texts. The article also provides excellent images from the codices, information about the materials used in making codices, and examples of historical narrative.

Photo Credits

Lesson 1, Warm-up Activity:

Schele, Linda. “K’inich Janaab Pakal.” The Linda Schele Drawings Collection, Schele Number: 143. Foundation for the Advancement of Mesoamerican Studies, Inc. 2000. Web. 25 July 2012.

<http://research.famsi.org/schele_list.php?rowstart=10&search=pakal&display=10>

This drawing from a tablet in Palenque depicts Lady Sak K’uk offering the headdress of rulership to her son, K’inich Janaab Pakal.

“King Pakal—Mayan Ruler or Ancient Astronaut.” *Aliens and UFOS*. Alieneight. 2012. Web. 24 July 2012. <<http://www.alieneight.com/?s=pakal>>

This image shows a detail of the sarcophagus lid from Pakal’s tomb. This is the image which has been interpreted as showing Pakal as an astronaut.

Lesson 1, Activity 3:

Bakewell, Liza and Byron Hamann. “Mesoamerican Codices.” *Mesolore*. Brown University.

Web. 25 July 2012. <<http://www.mesolore.net/classroom/tutorials/21>>

These images of a battle scene and a meeting with an oracle are examples of the types of events, including, births, deaths, marriages, and sacrifices, that were recorded in Mixtec codices.

Additional Resources

“Ancient Books: Mixtec Group Codices.” John Pohl’s Mesoamerica. Foundation for the Advancement of Mesoamerican Studies, Inc. Web. 27 September 2012.

<<http://www.famsi.org/research/pohl/jpcodices/pohlmixtec1.html>>

This article describes some Mixtec codices and explains their narratives.

Bakewell, Liza and Byron Hamann. “Glossary,” *Mesolore*, Brown University. Web. 24 July 2012. <<http://www.mesolore.net/glossary>>

This glossary provides an explanation of words from Mesoamerican culture and Spanish colonial society, as well as general terms used in the study of history and archeology.

Bueche, Paola. “Maya Scholar Deciphers Meaning of Newly Discovered Monument That Refers to 2012.” *Know*. The University of Texas at Austin. 28 June 2012. Web. 30 July 2012.

<<http://www.utexas.edu/know/2012/06/28/la-corona/>>

This article discusses new evidence from La Corona, a site in Guatemala, that debunks the popular notion that the Mayas predicted the world would end on December 21, 2012.

“Cracking the Maya Code.” *Nova*. PBS.org. 08 April 2008. Web. 30 July 2012.

<<http://www.pbs.org/wgbh/nova/ancient/cracking-maya-code.html>>

This video presents the long history of the decipherment of Maya hieroglyphs and discusses the important revelations gained through the ability to read ancient Maya texts. This is an excellent resource for helping students understand Maya society and the process of studying an ancient culture.

Hixson, David R. “Bonampak.” Mesoamerican Photo Archives. *Mesoweb*. 2010. Web. 27 August 2012. <<http://www.mesoweb.com/mpa/bonampak/bonampak.html>>

This website shows details of the murals of Bonampak with explanations of the images, as well as photos of the archeological site.

Josserand, J. Kathryn and Nicholas A. Hopkins. “Maya Hieroglyphic Writing Workbook.” Jaguar Tours. 2011. Foundation for the Advancement of Mesoamerican Studies, Inc. Web. 24 July 2012. <<http://www.famsi.org/mayawriting/hopkins/MayaGlyphWritingWrkBk.pdf>>

This workbook explains in detail the Maya hieroglyphic writing system, including the glyphs, syntax, grammar, text composition, interpretation of texts, etc.

Kaufmann, Carol. “Sistine Chapel of the Early Maya.” *National Geographic* 204. 6, December 2003: 72-77.

This article gives an update on the ongoing excavation of the San Bartolo site and provides images of the mural, including an artist’s rendering of one section of the mural.

“K’inich Janaab Pakal I.” Encyclopedia Mesoamericana. *Mesoweb*. 2010. Web. 27 Sept. 2012.

<<http://mesoweb.com/encyc/index.asp?passcall=rightframeexact&rightframeexact=http%3A//mesoweb.com/encyc/view.asp%3Fact%3Dviewexact%26view%3Dnormal%26word%3DI%26wordAND%3DKinich+Janaab+Pakal>>

This article provides details of the life of Pakal the Great, identifies important events of his reign, and describes some of the monumental construction projects he undertook in Palenque.

Marhenke, Randa. "The Ancient Maya Codices." Foundation for the Advancement of Mesoamerican Studies, Inc. 15 February 2012. Web. 01 August 2012.

<<http://www.famsi.org/mayawriting/codices/marhenke.html>>

This article presents an introduction to the Maya codices and discussions of each of the four major surviving codices.

Saturno, William. "The Dawn of Maya Gods and Kings." National Geographic 209.1, January 2006: 68-77.

This article, written by one of the lead archeologists of the San Bartolo site, discusses the process of excavating the pyramid and the murals. The article includes images of the mural and an explanation of some elements of the iconography, as shown in an artist's rendering of the mural.

Skidmore, Joel. "Advanced Age Confirmed for Pakal of Palenque." Mesoweb Reports and News. *Mesoweb*. 2010. Web. 27 September 2012.

<<http://www.mesoweb.com/reports/pakal.html>>

This article discusses the discovery of Pakal's tomb and the controversy surrounding the analysis and interpretation of data from the tomb and its temple by various researchers.

Stuart, David. "The Truth about 2012." The Mesoamerica Center. The University of Texas at Austin. 20 April 2012. Web. 02 August 2012.

<<http://www.utmesoamerica.org/news/truth-about-2012>>

In this discussion Dr. Stuart explains that the Mayas did not predict that the world would end on December 21, 2012 and that this date comes from the "Long Count" calendar, which the Mayas used to measure time by hundreds and thousands of years. The article also offers an explanation for why there is confusion about this date.

"Templo de las pinturas de Bonampak." Instituto Nacional de Antropología e Historia. 2010. Web. 17 September 2012.

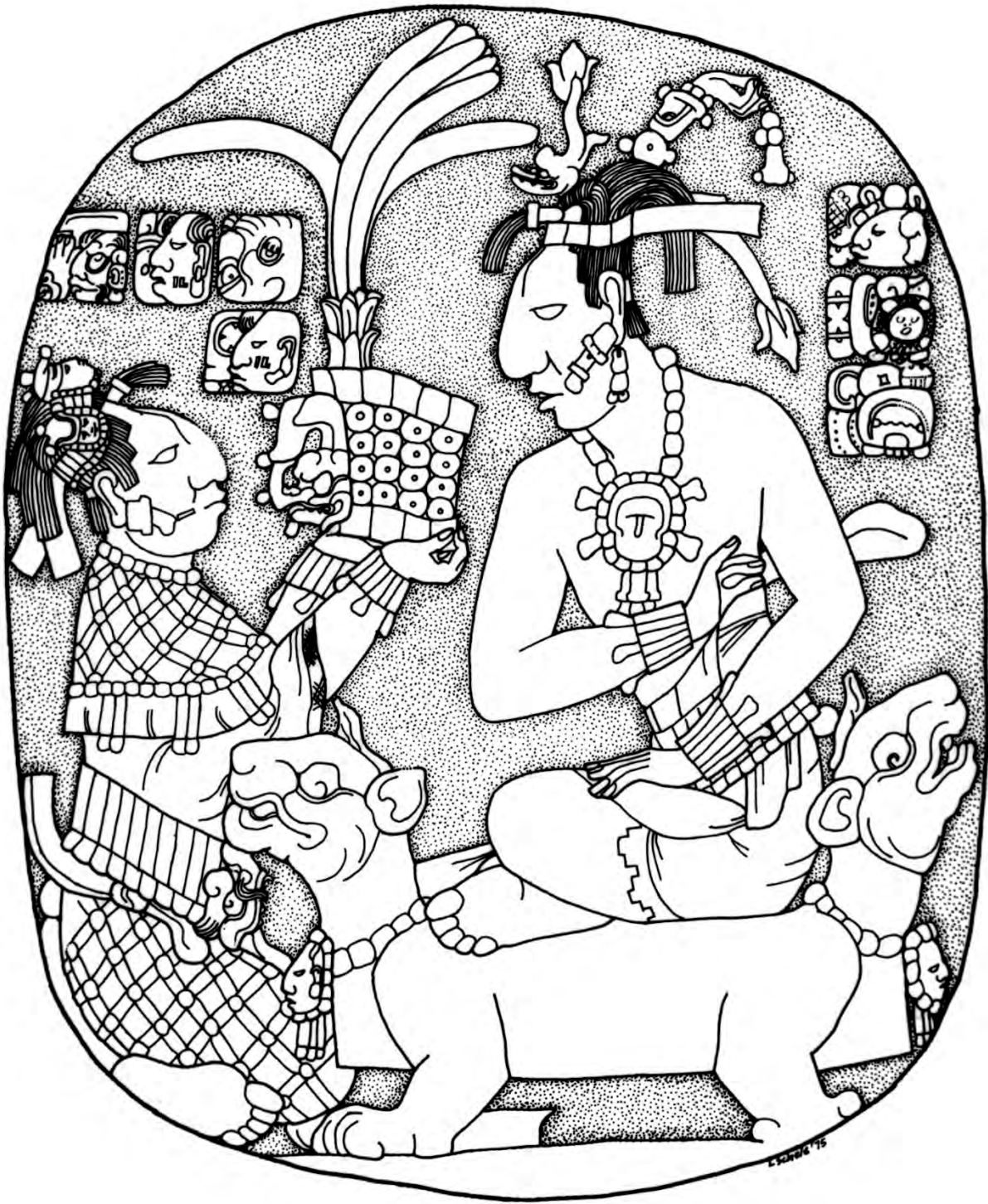
<<http://www.inah.gob.mx/images/stories/Multimedia/Interactivos/bonampak/index.html>>

This web page provides several interactive images of the murals of Bonampak.

Vail, Gabrielle and Christine Hernández. *The Maya Codices Database*. 2011. Web. 01 August 2012. <<http://www.mayacodices.org/learn.asp>>

This website presents an explanation of the history and cultural significance of the Maya codices, along with information about the Maya calendar. It is written in language that is appropriate for students. Drawings and images from the codices are presented.





Dancing in Time: Bailando al compás del calendario Maya

Lynn Fernandez

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Dancing in Time

Bailando al compás del calendario Maya

Lynn Fernandez
Monte Vista High School, Danville, CA
Spanish 3 and Honors 4
Grades 10-11

INTRODUCTION

The ancient Maya were fascinated with time; it permeated every aspect of their lives. This lesson explores Maya civilization through the lens of their concept of time – cyclical time, linear time and cosmic time. The lesson itself is a cycle, discussing and then returning to several topics in turn, viewing each one from a different perspective each time.

Number of lessons in the unit: 7

Time frame to allow for unit: Approximately twelve 50-minute class periods

Unit Teaching Objectives:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Unit Essential Questions:

- 1. How did the Maya perceive and portray time?*
- 2. Why were the Maya so fascinated with time, and how did a concern with time permeate every aspect of their lives?*
- 3. How is it similar and how is it different from your own perception of time?*
- 4. How does this relate to us and why is it important?*

Prior to Teaching This Lesson

Students will research and prepare short presentations, either individually or in pairs, on various aspects of Maya life and thought. (see detailed description of requirements and resources). The presentations could be delivered live in the classroom, or prepared on Voicethread.com, a presentation vehicle similar to PowerPoint that allows collaboration, viewer participation and voiceovers of slides.

1. Prepare a wiki on wikispaces.com containing lists and links to appropriate books, articles, websites and images to guide their research.
2. Giving the students adequate lead time, assign the presentations and prepare a calendar to indicate which day each presentation is due based on the lesson plan.
3. Prepare a collection of images from the Powerpoints on Pinterest.com that students will refer to throughout the unit to compare, analyze and interpret in light of what they have learned about the Maya world view. Most of the images will be studied, compared and analyzed again and again as students gain a deeper understanding of the Maya notion of time.

UNIT 1: CYCLICAL TIME

Lesson 1: Cyclical Time and the Maya Calendar

Teaching Objectives for Unit 1 Lesson 1::

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 1 Lesson 1:

1. *Who are the Maya and why do we study them?*
2. *How does the Maya system of writing numbers work?*
3. *What is the nature of cyclical time?*
4. *How did the ancient Maya record cyclical time?*

1. Lesson 1 Activity 1: Who are the Maya and why do we study them? (15 minutes)

[PowerPoint 1 Intro, CD of jungle sounds, Maya Student Notebooks]

- a. Put on a CD of jungle sounds. Show PowerPoint 1 (Intro) of photos of the jungle to orient students and give them a feel for the climate and geography of the Maya region.
- b. Give students a few minutes in small groups to write down in their notebooks as many reasons as they can think of why it is important to study Mesoamerica in general and the Maya in particular. Discuss their reasons as a class. Some ideas: Understanding other cultures is important in today's global world; The Maya are significant from a historical perspective as one of five nuclear areas of the world, the others being Egypt, Mesopotamia, the Indus Valley, China. (O'Neil); The ability to view things from multiple points of view is important (your college professors will expect this); Mesoamerican contributions to the world affect your life in a very immediate and profound way.
- c. Explain that the Maya were fascinated with time; time permeated every aspect of their lives. In this curricular unit we will look at the Maya through the lens of their concept of time.

2. Lesson 1 Activity 2: Numbers (30 minutes)

[PowerPoint 2 Numbers, Maya Student Notebooks]

- a. Discuss with students some of the reasons why we need numbers (counting things, weighing things, calculating things, showing relationships, passage of time). Have them jot these down in their notebooks.
- b. Give students a few minutes in small groups or individually to list in their notebooks as many ways they can think of that we use to write numbers. Call on groups to share. Are these all base 10 systems? Do they all rely on relative placement to determine value?
- c. Use PowerPoint 2 (Numbers) to explain how to read Mayan numbers. Students should take notes in their Notebooks.
- d. Discuss how this system of writing numbers is similar to our system (place system determines value- 1's, 10's, 100's, etc.), and how it is different (base 20 instead of base 10; uses 3 symbols – dot, bar, zero - instead of 10 symbols – 1, 2, 3, 4, 5, 6, 7, 8, 9, 0). Students should jot down ideas in their Notebooks.

3. Lesson 1 Activity 3: The Calendar Round (30 minutes)

[PowerPoint 3 Calendar Round, Maya Student Notebooks]

- a. Discuss with students their ideas about the nature of time.
 - i. Do you wear a watch? How many times a day do you look at a clock? How important is time to you? Why is it important to you? Are there consequences of not paying attention to time? What are they?
 - ii. Give students a few minutes in small groups or individually to jot down in their notebooks all the ways they can think of that we mark the passage of time. (You may need to give a couple of examples so they understand what you are looking for.) Call on students to share ideas. Some possibilities: watches or clocks (arbitrary division of one revolution of the earth into evenly spaced allotments of time), sundial, periods or blocks of the school day, days, months, lunar cycles, years, the passing of the seasons, genealogy and generations, beats and measures in music.
 - iii. Discuss with students: Is our perception of time linear or cyclical or both? Which of the above mark time in a cyclical way? (Hours of the day, days of the week, months of the year, seasons) Which mark time in a linear way? (Minutes and hours ticking by on the clock, number of years BC or AD, genealogy, music). Have them check the appropriate column in their Notebooks.
- b. Use PowerPoint 3 (Calendar Round) to explain the Maya Tzolk'in calendar, or sacred calendar of 260 days
 - i. The number 13 has significance for the Maya – it is one of the numbers upon which their sacred calendar is based.
- c. Use PowerPoint to explain the Maya Haab' calendar, or solar calendar of 365 days
 - i. 5 leftover days at the end of the year are days of great anxiety – days of chaos
 - ii. The intersection of these calendars is called the calendar round (la rueda calendárica)
- d. Have students watch the following youtube videos for homework. Assign them to take notes or write one to three good questions in their Notebooks about the videos. (See Notebook for links)

4. Lesson 1 Activity 4: Looking at Images (10-15 Minutes)

- a. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

Lesson 2: World View and Ritual in Cyclical Time

Teaching Objectives for Unit 1 Lesson 2:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 1 Lesson 2:

1. *How were the cycles of time important and relevant to the Maya on a most basic, life or death level?*

2. *How did the Maya view the creation of man and the nature of the cosmos?*
3. *How and why did the Maya need to interact with the cosmos as it relates to cyclical time?*

1. Lesson 2 Activity 1: Agriculture and Indigenous Foods (60 minutes)

[PowerPoint 4 Agriculture, Maya Student Notebooks]

- a. Advance preparation: Give students a few minutes to list 13 of their favorite foods in their Notebooks (I have chosen the number 13 because it is significant to the Maya calendar and world view). They should ignore for the time being the column that says ¿Comida indígena?
- b. Student Presentations (see Guidelines for Presentations)
 - i. Explain the rhythm of the seasonal cycles in the tropics
 - ii. What were the agricultural practices of the Maya?
 - iii. What was the most important food for the Maya?
 - iv. What is the Popol Vuh? How does it explain the creation of human beings?
 - v. Bees (interesting but optional)
 - vi. Chocolate
- c. Use PowerPoint 4 (Agriculture) to explain foods that were indigenous to the Americas and their importance to Maya culture. Students should do a small drawing of one of the indigenous foods in each square of the grid in their Notebooks.
- d. Have students go back to their list of favorite foods and check off which ones contain foods that are native to the Americas in the column ¿Comida indígena?
- e. Have students reflect in their Notebooks: How was the calendar (passage of time) relevant on a most basic level; why was it of vital, life and death importance? (Success of agricultural cycles determined whether communities had enough food; it was vitally important to do everything they could to sustain these cycles.)
- f. Bring in (or have students bring in) Mexican-style chocolate for the students to sample.
- g. Optional Lotería game: Use the grid in their notebooks where they have done drawings of indigenous foods. Divide the class into 16 groups, pairs or individuals; assign each group one of the items. They must come up with a riddle, a rhyme, a rap or some other clever clue to their item. These will be used to play Lotería (similar to Bingo) on the grid. Students will have to understand the clue in order to be able to mark their square when it is called.

2. Lesson 2 Activity 2: Cosmvision, Ritual and Cyclical Time (60 minutes)

[PowerPoint 5 Cosmvision, Maya Student Notebooks]

- a. Student Presentations
 - i. Explain the Maya concept of the sky level of cosmos
 - ii. Explain the Maya concept of the earth level of cosmos
 - iii. Explain the Maya concept of the underworld
 - iv. Importance of Jaguar
 - v. What was the role of the Kings in Maya society?
 - vi. What was the role of the shamans?

- vii. How did they get captives for sacrifice and who were the most desirable captives?
- b. Discuss the following and have students note ideas in their notebooks: How is this world view similar to ours? How is it different?
- c. Show PowerPoint 5 (Cosmovision): Rituals were necessary to keep the cycles going; cyclical time requires sacrifice to continue. Sacrifice could be human victims, autosacrifice (bloodletting). Rituals could also be an offering of flowers. Have students take notes in their Notebooks. (See notes on PowerPoint 5 for further information.)

3. Lesson 2 Activity 3: Looking at Images (10 minutes)

- b. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

Lesson 3: Artistic Expression and Cyclical Time

Teaching Objectives for Unit 1 Lesson 3:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 1 Lesson 3:

1. *What can we learn about the Maya obsession with cyclical time from examples of their artistic expression: writing, art and architecture?*
2. *How did the Maya acquire their knowledge of cyclical time in the first place?*

1. Lesson 3 Activity 1: Writing (30 minutes)

[Maya Student Notebooks]

- a. Discuss with students how we use writing. Have them jot down ideas in their Notebooks.
- b. Student Presentations
 - i. What kind of writing did the Maya use?
 - ii. What is the Dresden Codex? What kind of information does it give?
- c. Have students recap the information on the codices from the youtube videos they have watched for homework. They should make notes in their Notebooks.

2. Lesson 3 Activity 2: Architecture (20 minutes)

[PowerPoint 6 Art, Maya Student Notebooks]

- a. Use PowerPoint 6 (Art) to talk about how Maya writing and architecture reflects their preoccupation with cyclical time. Recap the youtube videos the students have already watched. Have students make notes in their Notebooks.

3. Lesson 3 Activity 3: Looking at Images (10 minutes)

- c. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

UNIT 2: LINEAR TIME

Lesson 1: Linear Time and the Maya Calendar

Teaching Objectives for Unit 2 Lesson 1:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 2 Lesson 1:

1. *What is the nature of linear time?*
2. *How did the Maya mark linear time?*
3. *What importance did linear time have for the Maya?*

1. Lesson 1 Activity 1: The Long Count Calendar (40 minutes)

[PowerPoint 7 Long Count Calendar, Maya Student Notebooks, PDF Activity]

- a. Discuss with students the various ways we mark linear time (BC, AD, BCE, CE). Have students jot down ideas in their Notebooks.
- b. Use PowerPoint 7 (Long Count Calendar) to explain the Maya system of marking linear time – the Long Count Calendar. The end of time periods were times of great anxiety - did we do enough to keep the world OK?
- c. Discuss with students the fears we experienced in our culture about Y2K at the turn of the millennium, especially related to computers and technology; you might have them interview their parents to find out what their parents experienced.
- d. Use Powerpoint 7 to discuss the significance of December 21, 2012 in the Maya calendar.
- e. For homework have students calculate their birthdays in Long Count notation with the help of worksheet (see sources)

2. Lesson 1 Activity 2: Looking at Images (10 minutes)

- d. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

Lesson 2: World View, Ritual, Artistic Expression and Linear Time

Teaching Objectives for Unit 2 Lesson 2:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 2 Lesson 2:

1. *What can we learn about the Maya concern with linear time from examples of their artistic expression: writing, art, architecture?*

3. Lesson 2 Activity 1: Genealogy and History (40 minutes)

[PowerPoint 8 History , Maya Student Notebooks]

- a. Student presentations
 - i. How were kings determined in Maya culture?
 - ii. Explain the story of the Hero Twins from the Popol Vuh
- b. Use PowerPoint 8 (History) to explain the following:
 - i. The importance of genealogy to the Maya
 - ii. The role of the shamans in linear time (to preserve the traditions, the morals, the stories, the histories of the culture)
 - iii. How the Maya used long count dates and historical narrative in painting, pottery, relief sculpture to show linear time
- c. Have students reflect in their Notebooks on how the Maya ritualistically portrayed the Hero Twins.

4. Lesson 2 Activity 2: Looking at Images (10 minutes)

- e. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

UNIT 3: COSMIC TIME

Lesson 1: Cosmic Time and the Maya

Teaching Objectives for Unit 3 Lesson 1:

Students will be able to answer the Essential Questions via class discussion, research and presentations.

Essential Questions for Unit 3 Lesson 1:

1. *We can look at time as being absolute and linear, but could it be understood in a different way completely, a more fluid notion that defies traditional western European thinking?*
2. *Did the Maya have a different view of time, and if so, how can we interpret their artistic expression in light of that view?*

1. Lesson 1 Activity 1: Cosmic time and the Maya World View and Artistic Expression (30 minutes)

[Maya Student Notebooks]

- a. Provide a definition of “cosmic;” What does this really mean? Not only big but also fluid, not bound by linear or cyclical rules. Cosmic: adjective; “Of or from or pertaining to or characteristic of the cosmos or universe; inconceivably extended in space or time.” –(Image or text from the Visual Thesaurus, Copyright ©1998-2012 Thinkmap, Inc. All rights reserved.)
- b. Have students read the following articles about time and discuss in small groups their own thoughts about whether time is absolute or fluid. Have them write ideas in their Notebooks.

Pickford, Clifford. "Traveling Through Time,"
<http://www.pbs.org/wgbh/nova/physics/traveling-through-time.html>
"Carl Sagan Ponders Time Travel."
<http://www.pbs.org/wgbh/nova/physics/Sagan-Time-Travel.html>

- f. Student Presentations
 - i. Veneration of ancestors
 - ii. The World Tree
 - iii. The Vision Serpent
- g. Show PowerPoint 9 (Cosmic Time). Discuss with students the idea that rituals were not just symbolic actions. For the Maya the rituals were perpetual recurrences of the action (see PowerPoint notes for further information)

2. Lesson 1 Activity 2: Looking at Images (20 minutes)

- a. Have students look at and discuss the images you have assembled on pinterest.com, comparing, analyzing and interpreting these images in light of what they have learned in this lesson.

3. Lesson 2: Coda

Teaching Objectives for Unit 3 Lesson 2:

Students will be able to answer the Essential Questions via class discussion and final essay.

Essential Questions for Unit 3 Lesson 2:

1. *How did the Maya perceive and portray time?*
2. *Why were the Maya so fascinated with time, and how did a concern with time permeate every aspect of their lives?*
3. *How is it similar and how is it different from your own perception of time?*
4. *How does this relate to us and why is it important?*

1. Lesson 2 Activity 1: Wrapping it Up (40 minutes)

[Maya Student Notebooks]

- a. Have students consider and discuss the final questions in their Notebooks: How did the Maya perceive and portray time? How do we see that in their artistic expression? How is it similar to your own perception? How is it different? How does this relate to us? Why is it important?
- b. Have students reflect in their Notebooks on how the creation stories and the story of the Hero Twins reflect the Maya cosmivision. Relate this to Maya thought about cyclical time, linear time and cosmic time.

2. Lesson 2 Activity 2: Final Essay (30-40 minutes)

- a. Have students choose two or three of the images you have assembled on pinterest.com (or have them choose their own), and turn in a written essay comparing, analyzing and interpreting these images in light of what they have learned in this Lesson.

Method(s) of Assessment (formative and summative)

1. Student Presentations
2. Maya Student Notebooks
3. Final Essay

Handouts

1. Prior to teaching the unit
 - Handout 1: Maya Student Notebook
 - Handout 2: Guidelines and Requirements for Student Presentations
 - Bibliography for Student Presentations
2. Unit 2 Lesson 1 Activity 1
 - Handout 3: Long Count Calculation Worksheet (see sources)

LIST OF RESOURCE MATERIALS AND REFERENCES USED

Coe, M and J. Kerr. <i>Art of the Maya Scribe</i> . Harry N Abrams (1998). Selection: "The Maya Script: Its Character and Origins," pp. 49-70.
Coe, Michael D. <i>Breaking the Maya Code</i> . New York: Thames and Hudson (1999).
Coe, Michael D. and Mark Van Stone, <i>Reading the Maya Glyphs</i> , 2 nd edition. London: Thames and Hudson (2005). Selection: Chapter 3, "Time and the Calendar," pp. 37-48.
Cortez, Constance. "New Dance, Old Xius: the "Xiu Family Tree" and Maya Cultural Continuity After European Contact." In <i>Heart of Creation: the Mesoamerican World and Legacy of Linda Schele</i> , ed. A. Stone. Tuscaloosa: University of Alabama Press, 2002: 201-215.
French, Kirk D. "Palenque Means Big Water," http://www.mesoweb.com/palenque/features/bigwater.html
Golden, Charles and Andrew Scherer. Border Problems: Recent Archaeological Research along the Usumacinta River. <i>The PARI Journal</i> 7(2):1-16 (2006).
Magaloni Kerpel, Diana. "Technique, Color, and Art at Bonampak." <i>Courtly Art of the Ancient Maya</i> , ed. M. Miller and S. Martin, pp. 250-252. San Francisco: Fine Arts Museums of San Francisco (2004).
Miller, Mary Ellen. <i>Maya Art and Architecture</i> . New York: Thames and Hudson (1999).
Schele, Linda and David Freidel. <i>A Forest of Kings: The Untold Story of the Ancient Maya</i> . New York: William Morrow (1990).
Schele, Linda and Peter Mathews. <i>The Code of Kings</i> . New York: Touchstone (1998).

Sharer, Robert and Loa Traxler. *The Ancient Maya*, 6th edition. Stanford: Stanford University Press (2005).

Selection: Chapter 1, "*The Setting of Maya Civilization*," pp. 23-56.

Stephens, John Lloyd. *Incidents of Travel in Central America, Chiapas, and Yucatan*. New York: Dover Publications (Reprint of 1841 text). Selections: v. I, pp. 96-99, 117-60.

Stuart, David. *The Order of Days: The Maya World and the Truth about 2012*. New York: Harmony Books (2011).

Lectures Yale University

Developing Global Citizens: Ideas and Practice of IB Teachers Across the World: Dr. Merry Merryfield, Professor Emerita, School of Teaching and Learning, Ohio State University (July 9, 2012).

Introduction to Maya and Mesoamerican cultures: Megan E. O'Neil (July 9, 2012).

Ancient Maya Mural Painting Workshop: Heather Hurst, Assistant Professor of Anthropology, Skidmore College (July 9, 2012).

Maya Numbers and Some of Their Uses: Anna Blume, Associate Professor of the History of Art, School of Liberal Arts, State University of New York, FIT (July 9, 2012).

Brief Introduction to Maya Hieroglyphs: Megan E. O'Neil, Institute Director (July 10 2012).

The Second Discovery of America: Nineteenth-Century Encounters with the Ancient Maya: R. Tripp Evans, Prof. of Art History and Mary L. Heuser Chair in the Arts, Wheaton College (July 10, 2012).

Session at Beinecke Library with Tripp Evans, Wheaton College, and **George Miles**, Curator, Western Americana Collection. *Beinecke Rare Book and Manuscript Library* (July 10, 2012).

Maya Kings, Courts, Commoners, and Countryside: Charles Golden, Associate Professor, Department of Anthropology, Brandeis University (July 10, 2012).

A Painted Deerhide from Oaxaca, Mexico: Who, What, When, How, and Why?: Mary Ellen Miller, Dean of Yale College and Sterling Professor of the History of Art, Yale University. *Sterling Memorial Library Map Department*

Yale University Art Gallery, Ancient Americas collection, led by Megan Doyon, Yale University Art Gallery, and **Megan O'Neil**, Institute Director (July 11, 2012).

Colonial Worlds: Maya and Europeans: Byron Hamann, Assistant Professor, Department of History of Art, The Ohio State University (July 11, 2012).

The Maya in Regional Context, Or, Mesolore: Exploring Mesoamerican Culture: Byron Hamann, Assistant Professor, Department of History of Art, The Ohio State University (July 11, 2012).

Xiu Family Chronicles and the Conquest of Yucatan: Constance Cortez, Associate Professor, School of Art, Texas Tech University (July 12, 2012).

Pre-Columbian Iconography in Modern and Contemporary Chicana/o Art: Constance Cortez, Associate Professor, School of Art, Texas Tech University (July 12, 2012).

Mayan Cosmivision and Communities in Resistance in Chiapas: June Nash, Distinguished Professor Emerita of Anthropology, City University of New York (July 12, 2012).

Visit to Peabody Museum West Campus Ancient Americas collections, led by Roger Colten, Yale Peabody Museum, and **Megan O'Neil**, Institute Director (July 13, 2012)

Mayans and Migration: Regina Bateson, PhD Candidate, Department of Political Science, Yale (July 13, 2012).

More

Pickford, Clifford. "Traveling Through Time," <http://www.pbs.org/wgbh/nova/physics/traveling-through-time.html>

"Carl Sagan Ponders Time Travel." <http://www.pbs.org/wgbh/nova/physics/Sagan-Time-Travel.html>

Thinkmap Visual Thesaurus at www.visualthesaurus.com

The Mesoweb sebsite at www.mesoweb.com

FAMSI (Foundation for the Advancement of Mesoamerican Studies, Inc.) website at www.famsi.org
For futher information on the Maya calendar and a link to print the current month's calendar with long count dates. <http://www.famsi.org/research/calendrics/index.html>

The Ancient Maya: Tools of Astronomy
<http://www.youtube.com/watch?v=2P7MaGCyuwk>
<http://www.youtube.com/watch?v=5V5I4iFec88>
<http://www.youtube.com/watch?v=GQcDqdGD8eU>
<http://www.youtube.com/watch?v=5pYUy9P2OII>
<http://www.youtube.com/watch?v=x6fv8q83JE8>

Long Count Calculation Worksheet:
http://www.pbs.org/wgbh/nova/education/activities/pdf/2804_maya.pdf

2012
<http://www.famsi.org/research/vanstone/2012/index.html>

Yale Peabody Museum Online Exhibits, "The Maya Murals of Bonampak: Windows on an Ancient Culture" at <http://peabody.yale.edu/exhibits/maya-murals-bonampak>

Questions About the Unit

1. What new technology will you use in this unit as a result of attending the Yale Summer Institute?
 - pinterest.com
 - wikispaces.com
 - voicethread.com
2. How will you incorporate museum artifacts, virtual collections and primary sources in the unit:
 - Teacher presentations: virtual collections and images of museum artifacts
 - Student research and presentations: primary sources, virtual collections and images of museum artifacts
 - Assessment: compare, analyze and interpret images of museum artifacts in light of what has been learned about Maya thought

PowerPoint Notes

Slide #	PowerPoint 1: Intro
1.	The Maya have lived in Mesoamerica since about 1000 BC, and their descendants live there still. Many of the accomplishments for which they are best known happened during what is considered the classic period, from AD 200-1000.
2.	Map of Mesoamerica
3.	Map of Maya Region
4.	The geography of the Maya region varies from semi-arid plains in northern Yucatan . . .
5.	. . . to the fairly temperate highlands of Chiapas and Guatemala . . .
6.	. . . to the tropical rainforests of the lowlands of Chiapas and Guatemala.
7.	Selva Lacandona
8.	Selva Lacandona
9.	There were some large polities like Tikal, about 500,000 people.
10.	Most were much smaller – 30,000 – 50,000. “A closer parallel might be the city-states of Classical Greece: little countries that were politically autonomous, yet culturally, socially, and economically interdependent.” (Schele p. 57)
11.	The distance from edge of a kingdom to the capital is usually not more than a day’s walk. In ancient times there would have been well-worn paths through the jungle. (Golden)
12.	Selva Lacandona
13.	The Maya traded widely for luxury items such as obsidian, jade and cacao. They built wide roads or causways to link parts of their kingdoms but not highways between kingdoms. In the jungle and mountains and without the wheel highways did not make sense; they traveled along paths instead. (Schele)
14.	The main arteries of transportation were rivers via canoe. (Schele)
15.	Palenque
16.	Palenque
17.	Howler monkey, Palenque
18.	El fin

Slide #	PowerPoint 2: Numbers
1.	Maya numbers
2.	How many ways do we have to write numbers?
3.	Have students study the first two examples and come up with the value for a dot (1) and a bar (5). Then have them solve the next two problems, writing their answers in bar and dot notation.
4.	Look at these examples of Maya glyphs. What numbers do you see? (Note that there are some curved shapes that resemble dots, but they are in fact just designs to fill the space.)
5.	Have students study the first math problem and figure out what the single dot up above represents. Then see if they can solve the other two problems in Maya notation. (The Maya system depended on placement to determine value, just as ours does. Once 4 bars (20) are accumulated on the lower level, they move to the next level as one dot, which is worth 20.)
6.	Have students solve this problem in Maya notation, and then convert it to Arabic numbers.
7.	Students should be able to use what they have learned to figure out that the next highest place has a value of the previous level times 20, or in this case 400.
8.	Have students determine the value of these numbers.
9.	The Maya system is similar to ours except that it is a base-20 system instead of base-10.
10.	El fin.

Slide #	PowerPoint 3: Calendar Round
1.	The Maya had two cyclical calendars, one a sacred or ritual calendar, and the other a calendar that marked a solar year, similar to ours.
2.	The Tzolk'in, or ritual calendar consisted of 20 days names that were paired with the numbers 1-13 to create the cycle of days. After 13, the numbers start again at 1 to complete the first cycle of 20 days. In the second cycle the day names start over, but the numbers continue from the previous cycle.
3.	This slide shows one complete cycle of unique day name/number combinations. After 260 days the day names start again from the beginning.
4.	The number 13 is significant for the Maya because of its association with the calendar.
5.	The Haab' or solar calendar has a cycle of 18 months of 20 numbered days plus one month of 5 days, which were considered days of danger and chaos.
6.	If you overlay the 260-day calendar and the 360-day calendar, you have days that are named for both calendars – for example, 1Imix (the first day of the 260-day calendar), 0 Pop (the first day of the 360-day calendar).
7.	Using both calendars to name the days, it would be 52 years before the date 1 Imix 0 Pop comes around again.
8.	An example of the date 4 Ahaw (260-day calendar name) 8 K'umku' (360-day calendar name) in Maya glyphs.
9.	A glyph showing the date 7 Ajaw
10.	El fin.

Slide #	PowerPoint 4: Agriculture
1.	Seasonal cycles are different in the tropics. For us, winter is a time of death, spring is a time of rebirth For the Maya, spring is a time of drought and the burning of the fields in preparation for planting; trees dry out, the sky fills with smoke. The dry season is also the time for wars; would not endanger the work of the farmers since planting could not be done; also could move around easier in the swamps during dry season. In the summer the rains come and planting commences. There is a rhythm to tropical life that flows through the experience of all beings living there. In the rich abundance of life that thrives in the forest, in the coming of the rains, and in the terrible consequences of drought, there is a contrast of life and death, of abundance and deprivation, that teaches the lessons of life and cyclic time in metaphors of undeniable power and elegance. Their metaphor is not ours – a spring rebirth timed by the equinox. It is instead the coming of the life-giving rains timed by the summer solstice.” (Schele p. 62)
2.	Many of the foods we eat today are native to Mexico, Central and South America, and were unknown in the rest of the world until the Spanish ships arrived in the 16 th century.
3.	Corn, beans and squash are known as “las tres hermanas,” the three sisters, because they form the basis of the Mesoamerican diet.
4.	Corn, beans and squash can be grown together in the milpa, or corn field. The corn provides a trellis for the squash vines to climb and the beans planted in between help keep down the weeds.
5.	Maya kings and nobles are often depicted as the maize god. The Maya maize god is epitome of masculine, youthful, elegant beauty: elongated forehead, hair/headress tied up in bundle like corn silk; the maize god dies every year just like corn and is reborn out of a crack in the earth. (O’Neil)
6.	Have students look at this example and discuss what they see. It is an image of the maize god depicted as a scribe. Note the sloping forehead and the hairstyle. After they have discussed their ideas, click to show caption.

7.	Have students look at this drawing of a panel from Palenque and discuss what they see. After they have given their ideas click to show caption. “Description: Composite reconstruction of limestone panel fragments. Profile of a male facing left who wears an elaborate counterweight earflare and a large bead necklace. His upswept hair is held with a headdress like that worn by Itzamnaaj or God D. The associated glyphs name K'inich Janaab Pakal, Palenque Ajaw. “ (Famsi.org)
8.	Have students look at these panels and discuss what they see. (Note hairstyles.)
9.	The backward sloping forehead associated with the maize god was achieved by physically shaping a child’s head as an infant with a flat board or similar object, as shown in this sculpture. Shaping the head in this way did not adversely affect the child’s brain.
10.	Some of the many foods native to the Americas.
11.	Foods native to the Americas.
12.	Foods native to the Americas.
13.	Chewing gum is made from chicle, a plant native to Mexico and Central America. Rubber has been harvested from Rubber trees native to the Gulf Coast Lowlands for three thousand years or more, and was used to make rubber balls that could bounce for the Mesoamerican ballgame.
14.	Chocolate was important to Maya culture. Cacao beans were considered so precious they were used as money.
15.	Have students study this rollout image of a chocolate pot and describe what they see. Based on their observations they should speculate on why it was made, what it was used for, and what it tells us about the importance of chocolate in Maya life. After they have discussed their ideas, click to show caption. The Maya mixed chocolate with water, vanilla, chiles, and beat it to a froth. It was a drink used in everyday life by the wealthy, and also for ceremonial purposes such as marriages. We see here a Maya ruler on a throne; the one on his knees is a commoner giving an offering of chocolate; the ruler is holding hand out; 3-legged vessel on the floor contains tamales (corn).
16.	Have students look at this chocolate drinking vessel and discuss what they see. Based on their observations they should speculate on why it was made, what it was used for, and what it tells us about the importance of chocolate in Maya life. The hieroglyphic band around the rim is typical of Maya pottery. It was often a dedication giving dates, the name of the person who made it, for whom it was made, and for what purpose – in this case for drinking chocolate.
17.	The Maya glyph for kakaw, or cocoa. The syllable “ka” was the word for “fish,” hence the fish-like appearance of the glyph. The two dots at the beginning indicate the syllable is to be repeated twice, followed by the suffix glyph for “wa” (the final “a” is silent). This gives us the three syllables “ka-ka-w(a).” (Coe)
18.	El fin.

Slide #	PowerPoint 5: Cosmovision
1.	Cosmovision: The Maya vision of the cosmos.
2.	Ancient Maya society was comprised of two distinct social groups, the nobility and commoners, with family origin the determinant of group membership and sacred lineages the source of identity among noble families. Only nobles were permitted to perform religious ceremonies and to be craftsmen, war chiefs, and scribes. Commoners, who belonged to non-sacred lineages, not only had to work for their own subsistence but also had to pay tribute to the <i>ajaw</i> . Such tribute could be in kind (food, supplies, weapons or tools) or in labor, the latter of which permitted the construction of the numerous buildings of the city. Commoners also participated in the military campaigns organized by the nobles. Some important personages became lineage ancestors after their death.

	As a means of justifying its power, the ruling lineage highlighted the divine origin of its ancestors. (Palenque museum)
3.	The kings were responsible for the prosperity of the community, and built great plazas and pyramids to demonstrate the wealth and power of the polity.
4.	Toniná
5.	The king was called “K’uhul Ajaw” – “holy lord” or most powerful ruler. It was the reciprocal interpersonal relationships between kings and nobles, and between nobles and commoners that held the kingdom together. It was very exhausting to be king, to maintain all those relationships, to perform the dances, the bloodletting rituals, etc. Yet it was the king’s rituals that kept the world going. (Golden)
6.	<p>There were many rituals and festivals, especially at the end of each cycle of time, such as the end of a katún (about 20 years). These rituals were often performed by the king on 4-sided platforms (representing the 4 cardinal directions). This was a complex cycle of events kept track of by the shamans (sacerdotes). Many monuments make references to kings being (for example, in the case of Pakal) a “5 katún king,” meaning he was in his 5th katún (about 20 years), or somewhere between 80 and 100 years old. This probably reflects a perceived intimacy between the ajaw (king) and the time periods themselves. (O’Neil)</p> <p>Platforms such as this one were oriented toward the 4 cardinal directions, each of which had its associated color. “East was red and the most important direction since it was where the sun was born. North...was white and the direction from which the cooling rains of winter came. West, the leaving or dying place of the sun, was black. South was yellow and was considered to be the right-hand or great side of the sun. In the Maya conception east, not north, should always be at the top of maps. (Schele p. 66)</p>
7.	<p>Human sacrifice was an important ritual demanded by the gods in order to keep the agricultural cycles and the cycles of time itself going. The kings went to war with other polities for many reasons, one of which was to acquire high-ranking captives for sacrifice.</p> <p>Have students look at this panel and discuss what they see. Why do you think a king would have had this panel carved?</p> <p>Description: Limestone panel from Temple XVII, with glyphs and two figures. A captive kneels before a standing warrior who holds a flint spear and wears a war headdress. The large text to the left records an event at Palenque that occurred in AD 490 by Ahkal Mo' Naab' I. The small text above the kneeling figure gives the name of a person captured. The text to the far right describes an event involving Kan B'alam sitting on a jaguar-covered bench or pillow. (Schele @ famsi.org)</p>
8.	Have students look at this panel and discuss what they see. Relief carvings of captives at Palenque. After discussion, click to show caption.
9.	<p>Have students look at this panel and discuss what they see. Pay special attention to the attitude of his body and how he is dressed. After discussion click to show caption.</p> <p>Relief carving of captive at Toniná. Part of the ritual was to humiliate the captives by stripping them of their finery – clothes, jewelry, etc. Headdresses of especially high-ranking captives were left on to show their status. Captives are usually shown bound, and with paper strips in their ears where their ornamental ear flares have been removed. (O’Neil)</p>
10.	<p>Have students look at this panel and discuss what they see. Why do you think the king would have had this panel carved?</p> <p>Description: Temple Side image, Stela 11 depicting Bird Jaguar standing inside a corbeled arch frame, his captives squeezed under the lintel in front of him and bound together like those of the Kimbell panel. Bird Jaguar is dressed as Chac-Xib-Chac and holds our God K with his left hand, as if the god were his ax. (famsi.org)</p>

11.	<p>Description: Monument 122. K'inich K'an Joy Chitam II, named as lord of Palenque in text on leg, is shown in the bound posture of a captive. The secondary caption records a date and a Star War event that suggests the Palenque ruler was captured by Tonina. (famsi.org)</p>
12.	<p>Bloodletting was another important responsibility of the kings and nobles. What do you see happening in this image? A noble woman typically let her own blood by drawing a barbed rope through her tongue and letting the blood fall onto a pottery offering bowl filled with paper, which would then be burned to nourish the gods. (Cortez) The sculpture depicts a sacred blood-letting ritual which took place on 26 October 709. King "Shield Jaguar" is shown holding a torch, while Queen "Lady Xoc" draws a barbed rope through her pierced tongue.</p>
13.	<p>What do you see happening in this image? A king typically let his own blood by perforating his penis, also letting the blood drip onto the paper in an offering bowl.</p>
14.	<p>Have students look at this panel and discuss what they see. After discussion click to show caption. As a result of the pain and loss of blood the king would then go into an ecstatic trance and would perform a dance on top of a pyramid for his people. These rituals were necessary. Cyclical time requires sacrifice to continue; sacrifices are reciprocal relationships between the lords and the gods. They assured the continuation of the agricultural cycles, which assured the survival of the people. (Schele) Description: Carved limestone panel with three figures. The central figure, K'inich K'an Joy Chitam II, stands in a dancing posture holding aloft a serpent-footed axe and wearing the shell ear-piece of GI. His father, K'inich Janaab Pakal (right), and mother, Lady Tz'akbu Ajaw (left) sit flanking him. Pakal holds a small, full-figure K'awiil and Lady Tz'akbu Ajaw holds a personified Jester God. The text records an anniversary of the death of his ancestor, K'an Joy Chitam I. (Famsi.org) As we can see, everyday life was grounded in the cycles of time; kingship was the very foundation of daily life. (Schele)</p>
15.	<p>What do you think these are? What is their purpose? After discussion click to show captions Other rituals also included offerings (such as flowers, or sometimes blood) placed on altars such as these. (O'Neil)</p>
16.	<p>The Maya had rubber, and so were able to make balls that bounced, allowing them to play a ballgame similar to basketball or soccer on ball courts such as this one in Toniná. The ballgame was both a sport and an important ritual for the Maya. It is thought that the movements of the ball represented a reenactment of the movements of the sun and moon. (O'Neil)</p>
17.	<p>If the shape of the pyramids represented sacred mountains, what might the shape of the ball court represent? Click to activate animation. (An entrance to the underworld.)</p>
18.	<p>Have students look at this panel and discuss what they see. What do you think the circle is? What do you see inside the circle? Why do you think this panel was carved? After discussion click to show caption. On this panel from a hieroglyphic stair we see "a richly attired ballplayer on one knee facing a ball that rolls down a set of stairs. The ball contains the image of a bound captive and glyphs identifying the sacrificial victim. Text describes Itzamnaaj B'alam II (Shield Jaguar) playing ball at the Six Stair Place." (famsi.org)</p>
19.	<p>What do you see here? After discussion click to show caption. On another image from the same hieroglyphic stair is "a richly attired ballplayer on one knee facing a ball that rolls down a set of stairs. The ball contains the image of a bound captive and glyphs identifying the sacrificial victim. An individual named as Bird Jaguar plays ball against a stairway with six steps." (famsi.org)</p>

20.	The jaguar is an important symbol for the Maya, associated with kings and nobles, and often associated with Xibalba, the Maya underworld.
21.	B'alam
22.	Na bolom, or "House of the Jaguar" is a museum in San Cristobal de las Casas, Chiapas.
23.	Jaguar image at Na balom.
24.	Jaguar image at Na balom.
25.	What do you see here? What do you think is happening in this panel? What is with the jaguars? Description: Oval Palace Tablet from House E, Palace. Lady Sak K'uk, wearing a jade net skirt and cape, offers the Drum Major headdress decorated with a Jester God of rulership to her son K'inich Janaab Pakal. Janaab Pakal sits cross-legged on a double-headed jaguar bench. The captions name both figures. (famsi.org)
26.	El fin.

Slide #	PowerPoint 6: Art
1.	La escritura.
2.	Maya writing describes people, gods, celestial bodies and events, dates, numbers, counting. (Blume) Books were (and still are) very important to the Maya. There were probably hundreds originally, but shortly after the Spanish arrived in Yucatan a Franciscan monk, Diego de Landa, ordered them burned to prevent what he termed "idol worship." There are only four known Maya codices remaining. The ones we have are astronomical almanacs, calendric notation, genealogy, cycles of moon and Venus.
3.	Have students look at this piece and discuss what they see. Why do you think they put hieroglyphs on their pottery? The Maya also left hieroglyphic texts on their pottery, often a dedication of the pot indicating who made it, for whom it was made, what it was for, dates, and so on. Pottery was often buried in tombs with the dead.
4.	Art
5.	Have students look at this mural and discuss what they see related to cyclical time and rituals. This section of the Bonampak murals shows captives of war destined for the sacrifices that will ensure the continuation of the cycles of life.
6.	Have students look at this relief sculpture and discuss what they see related to cyclical time and rituals. We have seen this relief before: it shows a Maya ruler depicted as the maize god - important for the continuation of the agricultural cycles.
7.	Architecture
8.	We can see Maya writing not only inscribed on the architecture, but as a part of the architecture also. These windows are in the form of the glyph for "wind," so they are what they say. (O'Neil)
9.	What do you think this is? After students speculate click to show caption. This shows part of the aqueducts at Palenque. Many Maya sites, such as Tikal, built large reservoir systems that filled during the rainy season and were essential to their survival during the dry season. Palenque had the opposite problem: it was surrounded by abundant water sources and needed a system to handle excess water during the rainy season. (French)
10.	Recap from video homework: The pyramid of Kulkulkán in Chichén Itzá has exactly 365 steps and is oriented so that on the equinoxes the light from the sun and the shadow cast by the steps show the form of the feathered serpent (Kulkulkán) on the side of the staircase.
11.	Recap from video homework: "El caracol" observatory in Chichén Itzá; used to study the movements of Venus and other heavenly bodies.

12.	Palenque also had an observatory tower, shown here.
13.	Observatory, Palenque
14.	Have students recap what they learned previously about this structure. Platforms such as this one were used to celebrate the passage of time, especially the end of a katún (about 20 years).
15.	Have students recap what they have learned previously about the ball court. The movement of the ball in the ballgame represented the cyclical movements of the sun and the moon.
16.	El fin.

Slide #	PowerPoint 7: Long Count Calendar
1.	Long Count Calendar
2.	We mark historical time in a linear fashion, using the number of years before or after our year zero (an arbitrary decision to call a year zero based on the life and death of Jesus Christ, a belief system). The Maya also marked time in a linear fashion. It is called the Long Count Calendar. (Blume) So, now we have a total number of days, but a total number of days marked from when? Going back to our numbers, how many days does this number represent? Each level is a place that determines value, just like our numbering system. Except that this is a base 20 system, while ours is base 10. So the bottom level is the ones, the second level is the 20's, and so on, each level increasing by a factor of 20. EXCEPT, the tun level, which only increases by a factor of 18, probably so that number of days would come closer to the length of a solar year.
3.	The Maya had a year zero, too, also an arbitrary decision based on a belief system. In the year zero, corn first came to earth, which was the creation of people, according to the Popol Vuh, a sacred Maya text. This year zero corresponds to our date August 11, 3114 B.C.
4.	Long Count Calendar
5.	Here again we see the significance of the number 13 in the Maya calendar – the bak'tun of the year zero.
6.	Long Count Calendar
7.	This is a modern adaptation of the Long Count Calendar. It is a stela outside the entrance to the Toniná Museum indicating the date of the dedication of the Museum. The Maya did not invent this system; it was used as early as 1000 BC, but the Maya did invent the visual notation for zero (a shell shape); the Maya also used it to write much bigger numbers. Use of the Long Count ceased around AD 900.
8.	So, what do you think will happen on December 21, 2012?
9.	Cartoon
10.	Cartoon
11.	The Maya calculated many years into the future and as well as into the past, which shows that 2012 was not considered to be the “end of the world,” simply the end of an era.” (Stuart) Again, we see that the number 13 has great significance for the Maya “So, the 2012 date of the Maya calendar is not actually the “end” of anything; rather, it’s a mathematically predetermined recurrence of the date of ancient Maya Creation. To reiterate, there will be a number of such repetitions in the distant future as well. “ (Stuart)
12.	El fin.

Slide #	PowerPoint 8: History
1.	History
2.	The Maya also left many texts in the form of elegantly executed relief sculpture that not only gives dates, but historical narrative that tells us what happened.

3.	Have students study this drawing and see if they can find a long count date. Click to show answers.
4.	What do you think the other hieroglyphs are talking about? After discussion click to show caption. Description: Text from Stela 11, Structure 40, that record accession of Bird Jaguar III on May 3, AD 752. (famsi.org)
5.	We have seen this panel before. Let's look at the hieroglyphs this time and describe what you see. Description: Limestone panel from Temple XVII, with glyphs and two figures. A captive kneels before a standing warrior who holds a flint spear and wears a war headdress. The large text to the left records an event at Palenque that occurred in AD 490 by Ahkal Mo' Naab' I. The small text above the kneeling figure gives the name of a person captured. The text to the far right describes an event involving Kan B'alam sitting on a jaguar-covered bench or pillow. (Schele @ famsi.org)
6.	Genealogy was of paramount importance to the Maya, especially for the purpose of establishing the right to kingship. This altar shows the dynastic lineage for the polity of Copán. Sixteen kings of Copán are shown, four on each side of the monument. This was a form of propaganda, intended to show that the king was just as worthy of rule as the first leader.
7.	Stelae were usually the historical depiction of the kings - planted in the ground to resemble trees. Why do you think kings would commission these stelae?
8.	Stela showing the mother of King Bird Jaguar. Since she was not the first wife of Bird Jaguar's father, there were possible questions about Bird Jaguar's right to be king. Much of the art commissioned by him at Yaxchilán was an attempt to legitimize his right to be king. (O'Neil)
9.	Why do you think Bird Jaguar would have commissioned this stela? (Confirming his right to be king, historical narrative) Description: Temple Side image, Stela 11 depicting Bird Jaguar standing inside a corbeled arch frame, his captives squeezed under the lintel in front of him and bound together like those of the Kimbell panel. Bird Jaguar is dressed as Chac-Xib-Chac and holds our God K with his left hand, as if the god were his ax. (famsi.org)
10.	We have seen that the role of the shamans was keep track of the cycles of the calendar. They also played a role in keeping track of time in a more linear fashion, preserving the stories, traditions and history of the culture.
11.	We have seen this drawing before. What do you think is happening here in terms of what we have talked about today? (Art showing historical narrative, right to kingship) Description: Oval Palace Tablet from House E, Palace. Lady Sak K'uk, wearing a jade net skirt and cape, offers the Drum Major headdress decorated with a Jester God of rulership to her son K'inich Janaab Pakal. Janaab Pakal sits cross-legged on a double-headed jaguar bench. The captions name both figures. (famsi.org)
12.	What is happening in this mural? Why would they record this in a mural? (Genealogy, heir to throne, historical narrative) Bonampak mural depicting the presentation of a new heir. These types of historical narratives placed the kings and nobles within the framework of history. (Schele)
13.	What is happening in this mural? (Historical narrative)
14.	We have seen this mural before. What is happening? (Captives destined for sacrifice, historical narrative)
15.	Look at this piece and discuss what you see. What story does this pot tell? What information does it give? Why would they create something like this? What do you think it was used for?
16.	Look at this pieces and discuss what you see. What story does this pot tell? What information does it give? Why would they create something like this? What do you think it was used for?
17.	Pyramids were often built on top of older pyramids. It was thought that by doing so the pyramid would accumulate sacred power from all the pyramids that had been built there before.
18.	El fin.

Slide #	PowerPoint 9: Cosmic Time
1.	“The Maya were preoccupied with demonstrating historical action as the inevitable result of cosmic and ancestral necessities.” (Schele p. 66)
2.	How do we view Maya writing in terms of cosmic time? “The art of writing for the ancient Maya was not only the sequence and structure of worlds, but included making the image of the world itself. Writing was a sacred proposition that had the capacity to capture the order of the cosmos, to inform history, to give form to ritual, and to transform the profane material of everyday life into the supernatural.” (Schele, p. 55)
3.	The Popol Vuh tells that people were created from corn. For the Maya the act of planting corn is actually a re-creation of the world; it’s not just symbolic; it is actually happening each time one plants corn.
4.	What do you see here? Sacrifice was the re-enactment of the sacrifice in the Popol Vuh, but also the actual creation of the world over and over. Description: Cylinder vessel illustrating Celestial Bird seated atop human sacrifice . (famsi.org)
5.	Each time an object is made – pottery, weaving, etc. – it is an act of creating the world; not a copy, actually creating it again. (O’Neil)
6.	When Maya art depicts someone, usually a ruler or maybe a battle, <u>doing</u> something, the Maya perceive that it is not just a representation of something that happened in the past. The action is perpetually going on through the art. Depictions of people are always in perpetual motion; you are actually there with them and they are actually there with you. (Golden)
7.	Here at Palenque the captives depicted in these relief carvings are being perpetually humiliated by being walked on every time someone passes across the top of the stairs.
8.	The Maya painted what they painted and carved what they carved to show that it was what was happening and is happening (Golden)
9.	What do you see happening here? When you look at the carvings of people, you are actually looking at the landscape – how the landscape was changed by what the rulers did – who they married, who they took captive, who they defeated, etc. These pictures didn’t just represent the landscape, they <u>were</u> the landscape (Golden)
10.	Remember that stelae were images of kings planted in the ground like trees. Eventually a polity would be planted with a forest of these kings. These were not just historical representations of kings who lived in the past, they continued to live among us. Interacting with time in this way is how you keep it going (Golden)
11.	“Scenes of scattering rites or other period-ending ceremonies typically appear on stelae erected in plazas or in front of temples. The size and dimensions of some of these monuments suggest they might have been considered as stand-in “bodies of the performing king, living portraits engaged in public ceremonies out in the open. The well-preserved monuments that still stand in the plaza of Copan offer a good case in point. Here the images of the ruler were erected on many period endings over the course of two decades, accumulating over time to the point where the multiple statue-like portraits resemble an ancient diorama. All of them show the Copan king Waxaklahuun Ubaah K’awiil in different ritual guises at different points during his reign. By the end of this rule (he was captured in war by the king of Quiriguá), the plaza had become a place where one could see his images “frozen” in time, each engaged in a perpetual ritual performance. Many monuments at Maya sites operated on this principle, I think, where artistic images and royal portraits conveyed more than mere representation; they were themselves animate embodiments of the king, extensions of the kingly self that always “acted” to ensure the perpetual renewal of time and the cosmos.” (Stuart)
12.	

13.	<p>The natural landscape was depicted in the architecture. Pyramids represented a witz, or mountain; when you go in the temple you go into the mountain; the mountains are alive. (Golden)</p> <p>“The architecture of ritual space thus replicated the features of sacred geography – the forest, the mountain, and the cave.” (Schele 72)</p> <p>“ . . .the pyramids and in the plazas of the May cities, which replicated in symbolic form the sacred landscape generated by the gods at creation.” (Schele 70)</p> <p>As we have discussed, the Maya kings would often build new pyramids on top of old ones, thereby taking advantage of the accumulated sacred power of the site. Many Spanish churches were often built on top of Maya pyramids for the same reason. The height increases visibility, and there is a connection to former sacred space; the power associated with the stones taken out of the former sacred spaces transfers to the new church. (Cortez)</p> <p>“So powerful were the effects of these rituals that the objects, people, buildings and places in the landscape in which the supernatural materialized accumulated energy and became more sacred with repeated use. Thus, as kings built and rebuilt temples on the same spot over centuries the sanctums within them became ever more sacred.” (Schele 72)</p>
14.	<p>The ceiba tree is what the Maya considered the World Tree. The world tree was an axis that passes through all three layers of the cosmos; the center of existenc. “This axis was not located in any one earthly place, but could be materialized through ritual at any point in the natural and human-made landscape. It was materialized in the person of the king, who brought it into existence as he stood enthralled in ecstatic visions atop his pyramid-mountain. There were two great symbolic representations of this center axis: the king himself, who brought it into being, and his natural analog, the World Tree. The act of communication between the human world and the Otherworld was represented by the most profound symbols of Maya kingship: the Vision Serpent and the Double-headed Serpent Bar. In the rapture of bloodletting rituals, the king brought the great World Tree into existence through the middle of the temple and opened the awesome doorway into the Otherworld.” (Schele, p. 68)</p>
15.	<p>Do you see a World Tree in this drawing of a carved panel?</p> <p>Description: Panel from the Temple of the Cross. Both individuals stand on a skyband. At right, K’inich Kan B’alam II, named by the accession text directly in front of him, holds a small Quadripartite Badge. The larger individual, left, holds a K’awiil figurine. At center, a World Tree rises from a Quadripartite Badge. The Celestial Bird, “Itzam-Ye,” perches atop the World Tree while a double-headed serpent curls through the arms of the tree.</p>
16.	<p>The Temple of the Inscriptions was built as a tomb for Palenque’s king Pakal. There is a chamber deep inside the pyramid that contains his sarcophagus. The chamber is accessible by a narrow stone staircase.</p>
17.	<p>The sarcophagus of Pakal.</p>
18.	<p>What do you see?</p> <p>Sarcophagus of Pakal. He is sitting in a container with the World Tree coming up. Auto-sacrifice items just below where he is sitting – stingray spine, obsidian blade, symbol representing death. He is surrounded by all his ancestors who are supporting him.(Cortez)</p> <p>Description: Sarcophagus cover inside the Temple of the Inscriptions. Shown is the double-headed serpent that undulates through the branches of the tree, with enlargements of the K’awiil ("God K") and Jester God figures who emerge from the open jaws of the serpent. Below is the image of K’inich Janaab Pakal and the Quadripartite Monster.</p>
19.	<p>El fin.</p>

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Slide #	PowerPoint 1: Intro
2	Wikimedia commons http://en.wikipedia.org/wiki/File:ES-Mesoamérica.png
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9	Wikimedia commons http://en.wikipedia.org/wiki/File:Tikal-Plaza-And-North-Acropolis.jpg

Slide #	PowerPoint 2: Numbers
	None

Slide #	PowerPoint 3: Calendar Round
8	Schele drawing #6716 famsi.org

Slide #	PowerPoint 4: Agriculture
3	Image of las calabazas wikimedia commons http://en.wikipedia.org/wiki/File:YellowSquash.jpg
5	wikimedia commons http://en.wikipedia.org/wiki/File:K%27inich Janaab Pakal I.jpg
6	wikimedia commons http://en.wikipedia.org/wiki/File:Maya maize god.jpg
7	Schele drawing #140 famsi.org
12	Image of pineapple wikimedia commons http://en.wikipedia.org/wiki/File:Pineapple and cross section.jpg Image of guavas wikimedia commons http://en.wikipedia.org/wiki/File:Guava bangalore.jpg
13	Image of chicle wikimedia commons http://en.wikipedia.org/wiki/File:Sapodilla_big.jpg Image of rubber tree wikimedia commons http://en.wikipedia.org/wiki/File:Latex - Hevea - Cameroun.JPG
15	wikimedia commons http://en.wikipedia.org/wiki/File:Mayan people and chocolate.jpg
16	Chocolate pot Yale University Art Gallery Exhibit (Photo Lynn Fernandez)
17	wikimedia commons http://en.wikipedia.org/wiki/File:Kakaw (Mayan word).png

Slide #	PowerPoint 5: Cosmovision
5	wikimedia commons http://en.wikipedia.org/wiki/File:K%27inich_Janaab_Pakal_I.jpg
10	Schele drawing #6218 famsi.org
11	Schele drawing #149 famsi.org
12	wikimedia commons http://en.wikipedia.org/wiki/File:Yaxchilán_lintel.jpg
13	San Bartolo mural, Heather Hurst (Photo Lynn Fernandez)
14	Schele drawing #120
20	wikimedia commons http://en.wikipedia.org/wiki/File:Junior-Jaguar-Belize-Zoo.jpg
21	b'alam glyph famsi.org http://research.famsi.org/montgomery_dictionary/mt_entry_list.php?lsearch=B'
25	Schele drawing #143 famsi.org

Slide #	PowerPoint 6: Art
1	wikimedia commons http://en.wikipedia.org/wiki/File:Humboldt_1810_pp_47_48_50_51_52.jpg
2	wikimedia commons http://en.wikipedia.org/wiki/File:Humboldt_1810_pp_47_48_50_51_52.jpg
3	YPM ANT 239991 Yale Peabody Museum website
5	Bonampak mural Heather Hurst (Photo Lynn Fernandez)
8	Wind glyph wikimedia commons
10	wikimedia commons http://en.wikipedia.org/wiki/File:Chichen-Itza-Castillo-Seen-From-East.JPG
11	wikimedia commons http://en.wikipedia.org/wiki/File:Chichén_Itzá_Mayan_observatory.jpg

Slide #	PowerPoint 7: Long Count Calendar
2	Schele drawing #4024 famsi.org
4	Schele drawing #4024 famsi.org
5	Schele drawing #4024 famsi.org
6	Schele drawing #4024 famsi.org
9	cartoon http://www.cagle.com/news/mayan-2012/
10	cartoon http://www.dailyfunnystuff.net/2012-a-comic-perspective-on-the-mayan-calendars-prediction-of-devastation
11	wikimedia commons http://en.wikipedia.org/wiki/File:Estela_6_el_Tortuguero.jpg

Slide #	PowerPoint 8: History
3	Schele drawing #6202 famsi.org
4	Schele drawing #6202 famsi.org
6	wikimedia commons http://en.wikipedia.org/wiki/File:Altar_Q_at_Copán,_Honduras.jpg
9	Schele drawing #6218 famsi.org
11	Schele drawing #143 famsi.org
12	Bonampak mural Peabody Museum exhibit (Photo Lynn Fernandez)
13	Bonampak mural Heather Hurst (Photo Lynn Fernandez)
14	Bonampak mural Heather Hurst (Photo Lynn Fernandez)
15	Peabody Museum exhibit (Photo Lynn Fernandez)
16	Peabody Museum collection (Photo Lynn Fernandez)

Slide #	PowerPoint 9: Cosmic Time
4	4 Schele drawing #5508 famsi.org
5	5 Yale University Art Gallery exhibit (Photo Lynn Fernandez)
16	16 Schele drawing #170 famsi.org
18	18 Schele drawing #7619 famsi.org



B'alam

Bailando al compás del calendario maya

Lección 1: el tiempo cíclico

Los mayas

¿Por qué debemos estudiar las culturas de Mesoamérica?

¿Quiénes eran los Mayas? ¿Dónde y cuándo vivían?
¿Cómo es el clima?







Los números

¿Para qué usamos los números? ¿Qué importancia tienen los números en una sociedad?

¿Cuántas maneras tenemos de escribir los números? Escribe ejemplos.

¿Cómo escribían los números los mayas?



¿Qué número es?			Respuesta: A+B+C =
   	_____ X _____ = _____ (Maya number) (Place value) (A)		
	_____ X _____ = _____ (Maya number) (Place value) (B)		
	_____ X _____ = _____ (Maya number) (Place value) (C)		
¿El sistema maya de los números se basa en qué número?	La palabra maya para el número 20 es la palabra para:		
¿Cómo es similar el sistema maya a nuestro sistema de escribir los números?			
¿Cómo es diferente?			
Escribe tu número de teléfono en notación maya:			

El calendario maya

Vocabulario:

Calendario Tzolkin

Calendario Haab

La rueda calendárica

Para discusión: ¿Llevas un reloj por lo general? ¿Cuántas veces al día miras a un reloj? ¿Qué importancia tiene el tiempo para ti? ¿Hay consecuencias de no prestar atención al tiempo? ¿Cuáles son?

¿Cómo marcamos el tiempo?	cíclico	linear	ni cíclico ni linear
1.			
2.			
3.			
4.			

5.			
6.			
7.			
8.			
9.			
El calendario Tzolk'in			
El calendario Haab'			
La rueda calendárica			
¿Cuál es un número muy importante para los Mayas?		¿Por qué?	
<p>Tarea: Videos! The Ancient Maya: Tools of Astronomy</p> <p>http://www.youtube.com/watch?v=2P7MaGCyuwk (10 minutos)</p> <p>http://www.youtube.com/watch?v=5V514iFec88 (10 minutos)</p> <p>http://www.youtube.com/watch?v=GQcDqdGD8eU (10 minutos)</p> <p>http://www.youtube.com/watch?v=5pYUy9P20II (10 minutos)</p> <p>http://www.youtube.com/watch?v=x6fv8q83JE8 (4 minutos)</p> <p>Preguntas sobre la astronomía y los Mayas:</p> <p>1.</p> <p>2.</p> <p>3.</p>			

El maíz y la agricultura

El ciclo de las estaciones: vida y muerte

Haz una lista de 13 de tus comidas favoritas.		¿Comida indígena?
1.		
2.		
3.		

4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	

Para discusión: ¿Cómo son los ciclos de las estaciones en la región maya? ¿Son diferentes a los ciclos que conocemos nosotros? ¿Qué importancia tenía el ciclo de las estaciones para los mayas?

Dibuja una comida indígena en cada espacio

En parejas o individualmente escribe un acertijo, rima, rap, o pregunta para identificar una de los productos indígenas.

La cosmovisión y los rituales

El mundo tiene tres niveles:

1.

2.

3.

¿Cuál es la importancia del jaguar?

¿Cuál es el papel de los reyes en cuanto a los ciclos del tiempo?

¿Qué son los colores asociados con las cuatro direcciones?

Este

Norte

Oeste

Sur

¿Por qué eran necesarias los rituales?

Da 4 ejemplos de rituales importantes de los mayas.

1.

2.

3.

4.

¿Quiénes eran los cautivos más deseados?

¿Qué papel tenían los sacerdotes en los rituales?

¿Cómo es similar la visión de los Mayas a la nuestra?

¿Cómo es diferente?

La escritura

¿Para qué usamos nuestra sistema de escritura?

¿Qué tipo de escritura tenían los mayas?

¿Para qué usaban los mayas su sistema de escritura?

¿Dónde encontramos la escritura de los mayas?

¿Qué sabemos de los libros de los mayas?

El arte y la arquitectura

¿Cómo refleja la arquitectura de los Mayas su preocupación con el tiempo?

Lección 2: El tiempo linear

El calendario de la cuenta larga

¿Cómo marcamos nosotros el tiempo linear? ¿Qué significa el sistema de B.C./A.D. (BCE/CE)? ¿Cómo hemos llegado a marcar el tiempo histórico así?

¿Qué sistema de marcar el tiempo linear tenían los mayas?

Mi fecha de nacimiento:

Bak'tun (44,000 días) _____

K'atun (7,200 días) _____

Tun (360 días) _____

Winal (20 días) _____

K'in (1 día) _____

Mi fecha de nacimiento en notación maya:

Escribe esta fecha en notación de la cuenta larga:
21 diciembre 2012

¿Qué significado tiene esta fecha?

¿Qué crees que va a pasar ese día? ¿Por qué?

La historia

Cosmovisión y expresión artística

¿Cómo llega una persona a ser el rey de una comunidad? ¿Qué tiene que ver esta idea al tiempo linear?

Describe el papel de los sacerdotes en cuanto al tiempo linear.

¿Cómo muestra la escritura una preocupación con el tiempo linear?

¿Cómo muestran las artes (la escultura, la pintura, la cerámica) una preocupación con el tiempo linear?

¿Cómo muestra la arquitectura una preocupación con el tiempo linear?

¿Quiénes eran los gemelos héroes del Popol Vuh? ¿Cuáles rituales importantes explica esta historia?

Lección 3: El tiempo cósmico

El tiempo cósmico

Definición de "el tiempo cósmico"

¿Es posible que el tiempo no sea linear? ¿Es posible que a veces el tiempo ande más rápido o despacio en vez de a un compás absoluto? ¿Es posible que puedes viajar por el tiempo, o estar en dos épocas a la vez?

La cosmovisión y los rituales

Explica el árbol sagrado.

Explica la serpiente de visión

La escritura

¿Cómo podemos ver la escritura maya en cuanto al tiempo cósmico?

El maíz

¿Cómo podemos ver el maíz en cuanto al tiempo cósmico?

Los rituales

¿Cómo podemos ver los rituales mayas en cuanto al tiempo cósmico?

La expresión artística

¿Cómo podemos ver las artes de los mayas en cuanto al tiempo cósmico?

Coda

Explica el concepto del tiempo desde el punto de vista de los mayas.

¿Cómo lo vemos en sus expresiones artísticas?

¿Cómo es similar a tu percepción del tiempo?

¿Cómo es diferente?

¿Por qué es importante considerar estas cuestiones?

Indigenous People of the Americas
Maya Cultures Across Time

Yale Peabody Museum PIER-CLAIS 2012 Summer Institute for High School Teachers
Yale University, New Haven, CT July 9-13, 2012

Introduction to Maya Cultures Past and Present: Colors, Clothing, Food and Places

Victoria Neely Hart

Spanish 101 and 101 Honors
2nd 6 weeks, 1st semester

Spanish one students will be introduced to the Maya culture both past and present. The activities will use pictures taken during my trip to Chiapas and web resources to present the location of the Maya people both past and present, examples of traditional clothing, food staples and the monuments of the ancient city of Palenque. Because my school's goal in Spanish 101 is to use 90% Spanish in the classroom, the students will practice linguistic skills describing the colors, numbers, and locations of the pictures observed in class.

Table of Contents

Lesson Plans: Introduction to Maya Cultures Past and Present: Colors, Clothing, Food and Places

Food Project Rubric

Food, Color, Numbers Quiz

Guided Observation Questions

Palenque and Lakewood Worksheet

Separate documents:

Smartboard Resources - Maps

Smartboard Resources - Food and Numbers

Smartboard Resources - Clothing

Smartboard Resources - Palenque

Lesson 1: Introduction to Maya Geography

Objectives:

1. Students will identify where Maya civilization existed in the past
2. Students will identify what countries occupy that same area today
3. Students will label the past and present areas/countries on a map.
4. Students will list and locate any important Maya cities/monuments using prior knowledge.

Lesson 1, Activity 1

1. The students will be asked to use prior knowledge to identify the areas of the world that the ancient Maya civilizations existed.
2. The outline map from http://www.famsi.org/maps/meso_student.jpg will be put on the Smart board.
3. After talking in groups, a student volunteer will identify on the Smart board map where they believe the civilization existed.
4. Teacher and/or other students will make corrections if necessary.
5. After talking in groups, student volunteers will identify the current countries that occupy the blank map.
6. Teachers and other students will make corrections if necessary.
7. Students will be asked to identify other prior knowledge about the Maya culture.
8. Teacher and students will add or correct information.
9. Teacher will share National Geographic interactive map to introduce or confirm student information. <http://ngm.nationalgeographic.com/2007/08/maya-rise-fall/map-interactive>

Assessments:

Formative: Student participation and students' maps will be checked for accuracy.

Summative: Students will take a quiz where they must label the areas filled in on the map during the lesson.

Lesson 2: Maya foods across time and place

Objectives:

1. Students predict what foods they think were staples in the ancient Maya culture.
2. Students will identify 10 staple foods from ancient Maya world
3. Students will list the 10 foods in English and Spanish
4. Students will describe the color and quantity of the 10 foods in Spanish.
5. Students will use the correct form of the adjective based on the number and gender of the food item.
6. Students will state in Spanish if they like the 10 foods or not using the correct form of me gusta or me gustan and the correct article based on number and gender.
7. Students will compare the use of the 10 foods staples in the past and present times.
8. Students will categorize the 10 foods in the modern food pyramid.
9. Students will prepare food using the 10 staple foods.

Lesson 2, Activity 1

1. In groups of 3-4 students, students will be asked to brainstorm 10 foods that they believe were staples of the ancient Maya culture.
2. Groups will share their answers.
3. In groups students will read article 10 Maya foods that changed the world's eating habits.
4. Students will use pictures to identify foods in Spanish and English.
5. Students will use words in Spanish to predict if the words will use el or la.
6. Students will describe the color of each food item with the correct form of the color.
7. Students will answer the following four questions about each food item.
 - ¿Qué es esto?
 - ¿De qué color es/son?
 - ¿Cuántos/as hay?
 - ¿Te gusta/n?

Lesson 2, Activity 2

1. Students will be provided with a copy of the modern food pyramid in Spanish.
<http://pepascientificas.blogspot.com/2010/10/conozca-la-piramide-nutricional-peruana.html>
Students will be asked to place the 10 foods on the food pyramid and discuss what is lacking. The students will brainstorm if the Maya people ate other foods and what they may have been. Students share and compare information. Teacher and students will add and correct information. Questions will be asked to guide students to think if geography would make a difference in different groups diets.

Lesson 2, Activity 3

Students will be shown artifacts from the following websites on the Smartboard. The goal of the lesson is that students will be able to identify the important foods present in the artifacts. The goal is for the students to identify corn and chocolate as two most important food staples in the Maya culture.

<http://www.archaeology.org/1011/abstracts/chocolate.html>

<http://archives.nbclearn.com/portal/site/k-12/flatview?cuecard=52209>

<http://users.misericordia.edu/davies/maya/codex4.htm>

http://www.britishmuseum.org/explore/highlights/highlight_image.aspx?image=maize_god.jpg&retpage=16087

Lesson 2, Activity 4

1. The students will work in groups of 1-3 to prepare a dish to share to conclude this activity. The students should be ready to discuss the food and identify which of the traditional Maya food items that are represented. (Rubric attached)

Students will be directed to Maya Recipe website for ideas.

<http://car.utsa.edu/Legacy/mayarecipes.htm>

Assessments:

Formative: Students will be assessed on participation in all of the activities.

Summative: Students will be assessed with the food preparation project. (Attached)

Lesson 3: Maya Numbering and Math

Objectives:

1. Students will identify the symbols of the Maya numeral system.
2. Students will solve simple math problems using the Maya numeral system.

Lesson 3, Activity 1

1) Students will be introduced to the Maya number system using dots and dashes on Smartboard.

2) Students will go to the Smart board and manipulate symbols to make Maya numbers.

3) Students will complete practice sheets from

http://www.outreachworld.org/Files/florida_internatl_u/MayanMathematicsandArchitecture.pdf

Assessments:

Formative: Students will be assessed on participation and number worksheets.

Summative: Students will take a quiz with numbers, colors and foods. (Quiz Attached)

Lesson 4, Maya Fashion

Objectives

1. Students will observe and interpret current fashion styles in San Lorenzo Zinacantán and San Juan Chamula, Chiapas, Mexico.
2. Students will make comparisons between fashion trends in Chiapas and Colorado.

Lesson 4, Activity 1

1) Students will observe the photos taken in San Lorenzo Zinacantán and San Juan Chamula and discuss them using the Guided Observation Worksheet (Questions Attached)

Assessment:

Formative: Students will be assessed on their participation answering the observation questions.

Lesson 5: Palenque and Lakewood

Objectives

1. Students will use Spanish vocabulary to compare Palenque and Lakewood Colorado.
2. Students will use correct form of articles and verb to make comparisons.

Lesson 5, Activity 1

- 1) Students will be introduced to vocabulary used to describe ancient and modern cities.
- 2) Students will answer questions about Palenque and their own city and make comparisons.

Assessments:

Formative: Students will complete the worksheet and review answers in Spanish. (Worksheet attached)

Summative: Students will write 5 sentences comparing their city and Palenque.

- ✓ Students will choose an ingredient or ingredients that were an important food item in the ancient Maya world.
- ✓ Students will find a culturally Hispanic recipe that uses this ingredient or these ingredients.
- ✓ Students will prepare this recipe
- ✓ Students will bring the prepared dish to share with the class.
- ✓ Students will be ready to share about the ingredients of their dish, about their dish and their experiences preparing it.

Total: 40 puntos	Excelente 10 puntos	Bien hecho 8 puntos	Asi asi 6 puntos	Hay problemas 4 puntos
Ingredient(s)	There is a recipe card with all of the ingredients listed in correctly in English and Spanish. There is a least one ingredient from the Maya food list.	There is a recipe card with most of the ingredients listed correctly in English and Spanish. There is a least one ingredient from the Maya food list.	There is a recipe card with some of the ingredients correctly listed in English and Spanish. There is a least one ingredient from the Maya food list.	There is a recipe card with less than half of the ingredients correctly listed in English and Spanish. There is a least one ingredient from the Maya food list.
Food Sample	The food is brought to class fully completed and is pleasantly presented with all of the supplies necessary to share.	The food is mostly completed, adequately presented and has most of the supplies necessary to share.	The food is somewhat presentable and/or there are not all of supplies necessary to share.	The food is not fully prepared, not presentable or there are no supplies that are necessary to share.
Presentation	All students in the group can identify the featured ingredient and tell a lot about the cultural origins of the dish. All students help present.	Most students in the group can identify the featured ingredient and tell about the cultural origins of the dish. Most students help present.	Some students in the group can identify the featured ingredient and tell a little about the cultural origins of the dish. Some students help present.	Only one student in the group can identify the featured ingredient and tell a little about the cultural origins of the dish. Only one student helps present.
Participation	All members of the group ask or answer questions about other dishes or their own dish.	Most members of the group ask or answer questions about other dishes or their own dish.	Some members of the group ask or answer questions about other dishes or their own dish.	The same group member asks and answers all of the questions.

Nombre _____ Fecha _____ Hora _____

Write a full sentences in Spanish that tells what the food is, what color it is and how many there are based on the Maya numeral.



Modelo: Es un aguacate. Es verde. Hay cinco.











Guided Observation Worksheet

Adapted from materials from the Yale Art Gallery and the Yale Center for British Art

Find an object or work of art, and spend 2 – 5 minutes closely observing it. If you are in a museum, do not read the exhibit label that gives information about the object or work of art.

After your observation time, answer the following questions in the following order. For questions 1 and 2, lists are fine (complete sentences not necessary).

1. What do you see?

2. What do you notice?

3. How was it made and what does it appear to be made from?

SEE BACK

4. If you are looking at an artifact, why might it have been made? What might it have been used for? If you are looking at a work of art, why do you think the artist produced this work? What is going on in the piece?

5. Now read the exhibit label (if there is one) and record:

Name/Title of object or work of art: _____

If an artifact, where in the world it is from: _____

If a work of art, artist's name and year of completion: _____

Any other descriptive information from the exhibit label:

Nombre _____ Fecha _____ Hora _____

Haz un dibujo que representa cada palabra

la plaza	el templo	el altar
el campo de pelota	el árbol	las montañas
el jeroglífico	el museo	la planta tropical
el mono	el edificio	el valle

¿Sí o No?

1. En Palenque, hay plazas. _____
2. En Lakewood, hay plazas. _____
3. En Palenque, hay muchos árboles. _____
4. En Lakewood, hay muchos árboles. _____
5. En Palenque, hay un campo de pelota. _____
6. En Lakewood, hay un campo de pelota. _____
7. En Palenque, hay pirámides. _____
8. En Lakewood, hay pirámides. _____
9. Palenque está en un valle. _____
10. Lakewood está en un valle. _____
11. Hay museos en Palenque y Lakewood. _____
12. Hay más plantas tropicales en Lakewood que en Palenque. _____
13. No hay ni templos ni altares en Palenque. _____
14. Palenque está en las montañas. _____
15. Hay monos en Palenque y Lakewood. _____
16. Hay edificios con jeroglíficos en Palenque. _____

Indica tres diferencias entre Palenque y Lakewood.

Modelo: Hay monos en Palenque, pero no hay monos en Lakewood.

- 1.
- 2.
- 3.

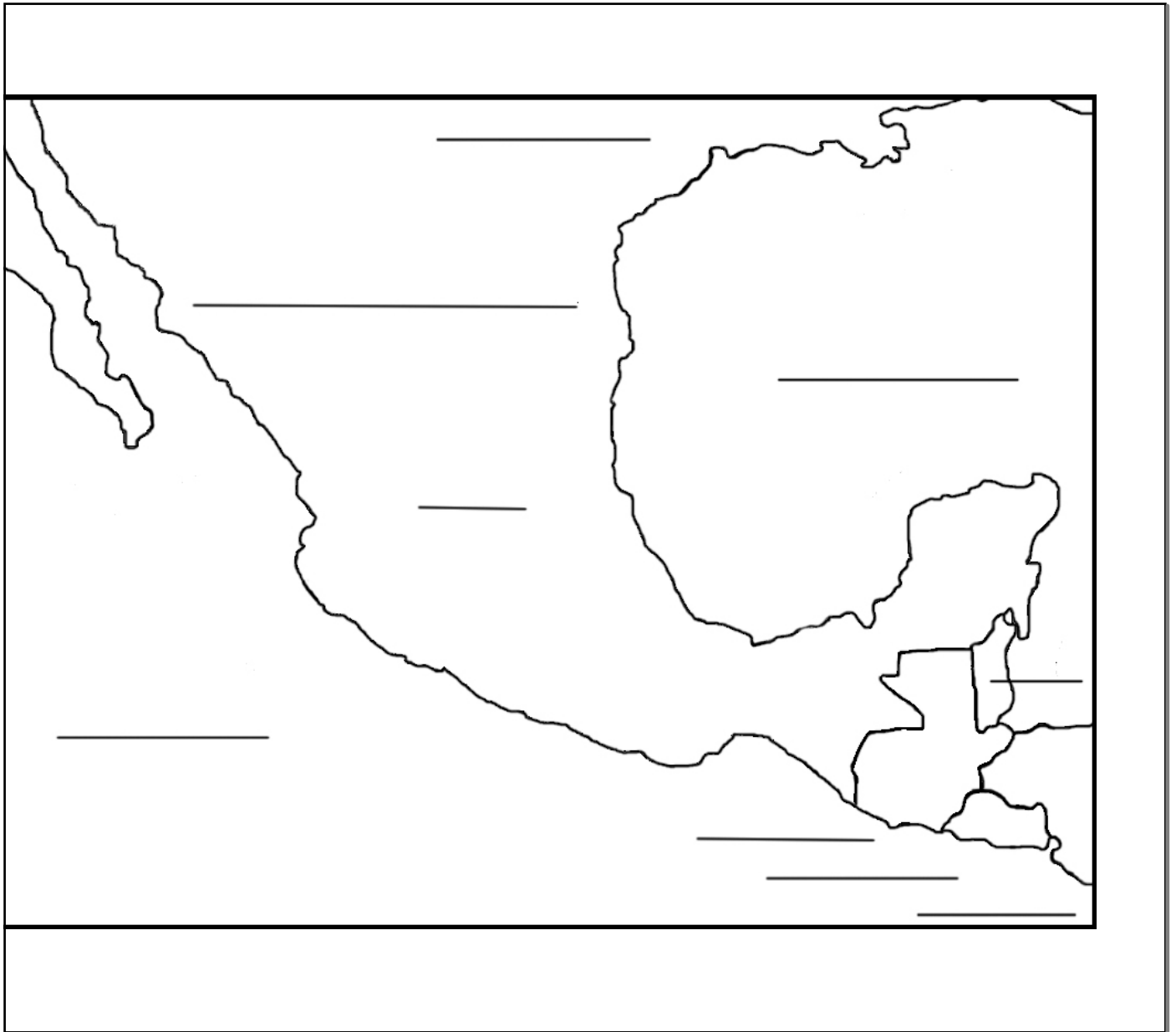
Introduction to Maya Culture

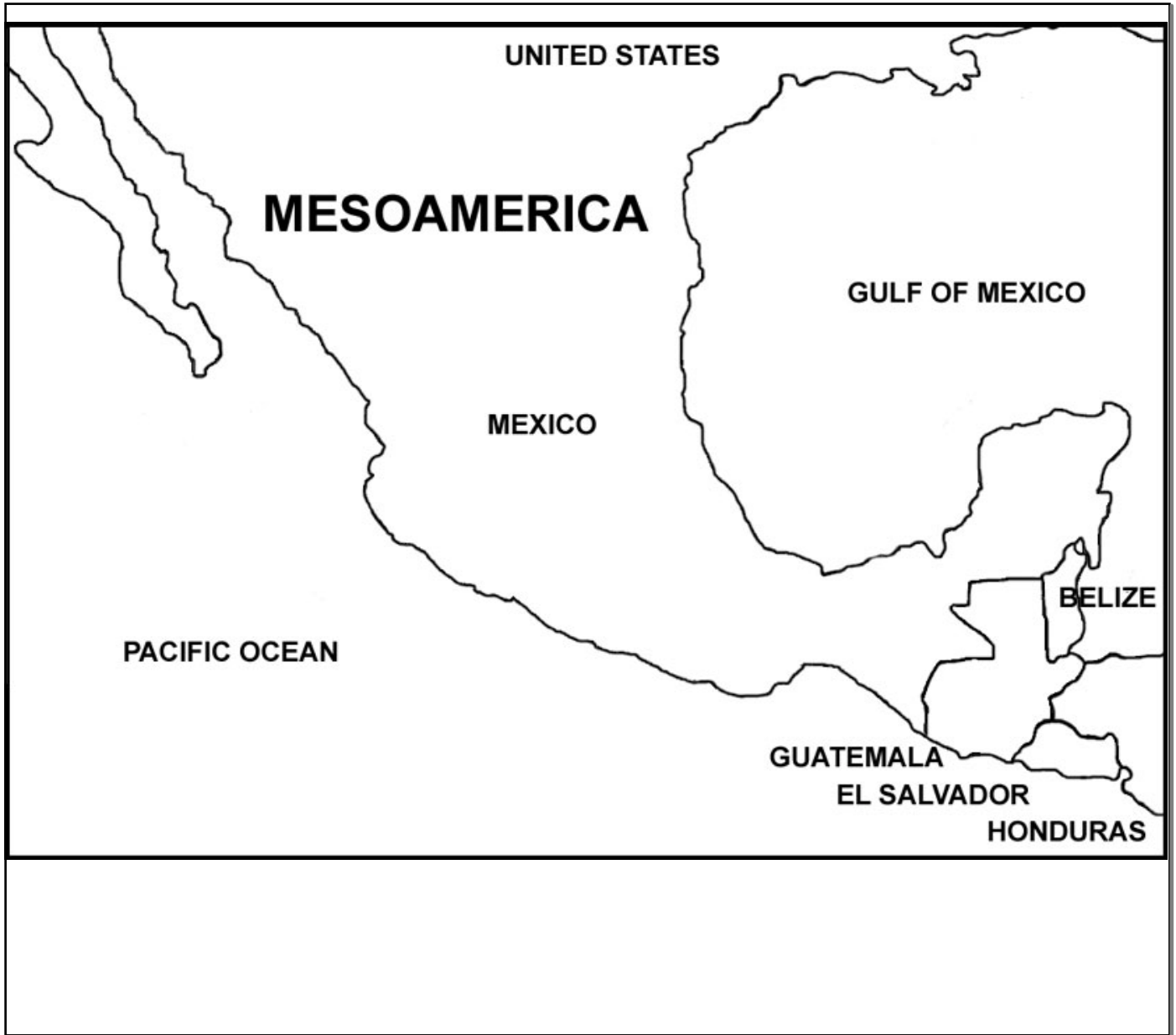
Past and Present

Sra. Hart

Spanish 101/101 Honors

MAPS





Introduction to Maya Culture

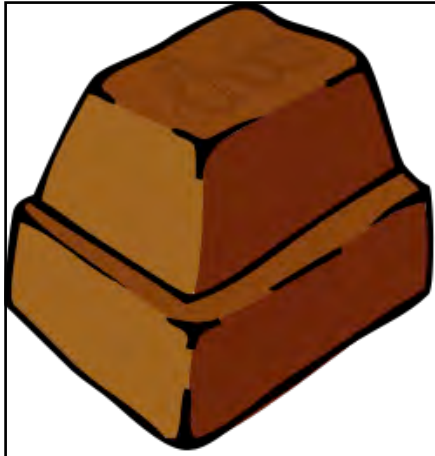
Past and Present

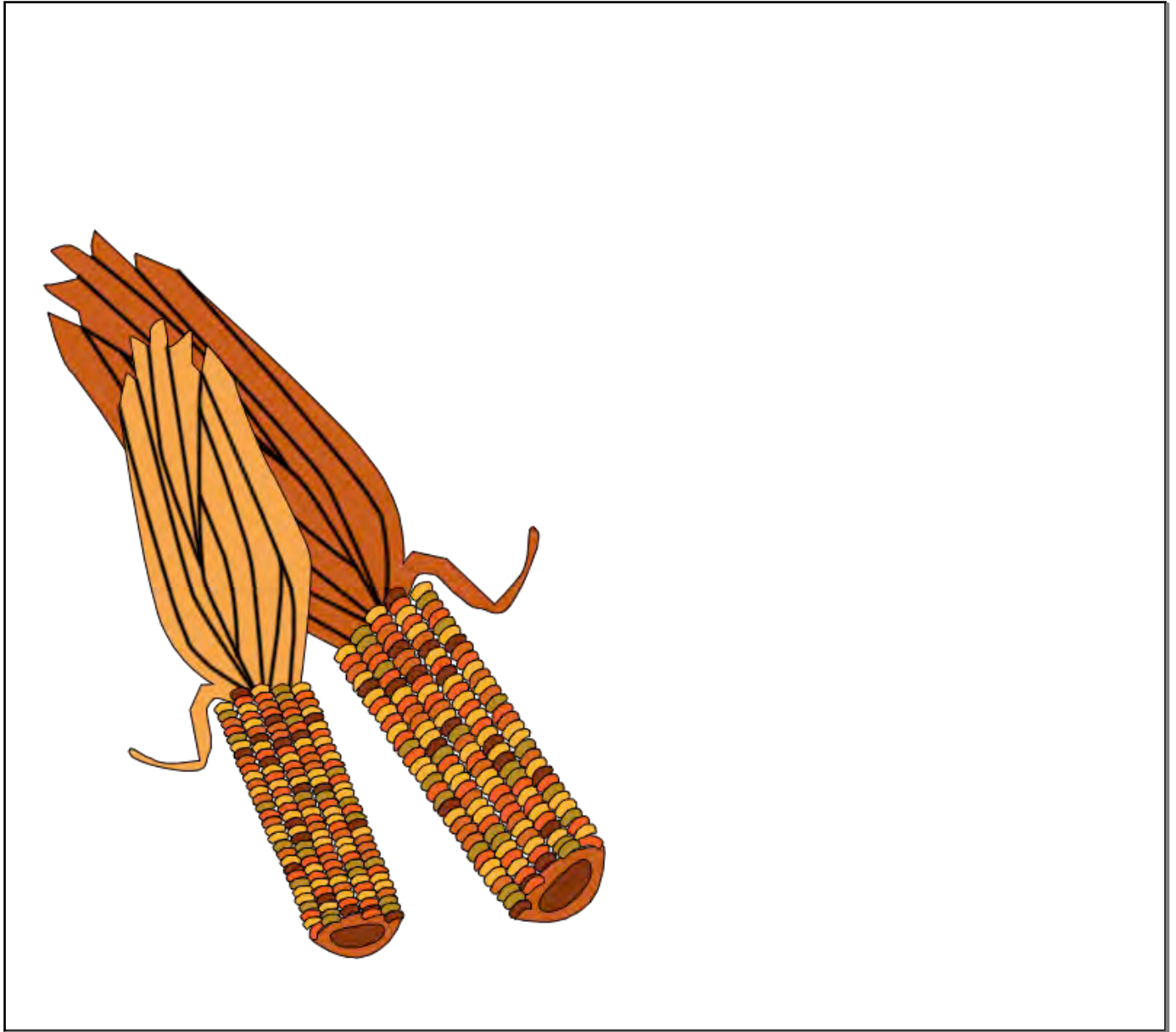
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FOODS and NUMBERS



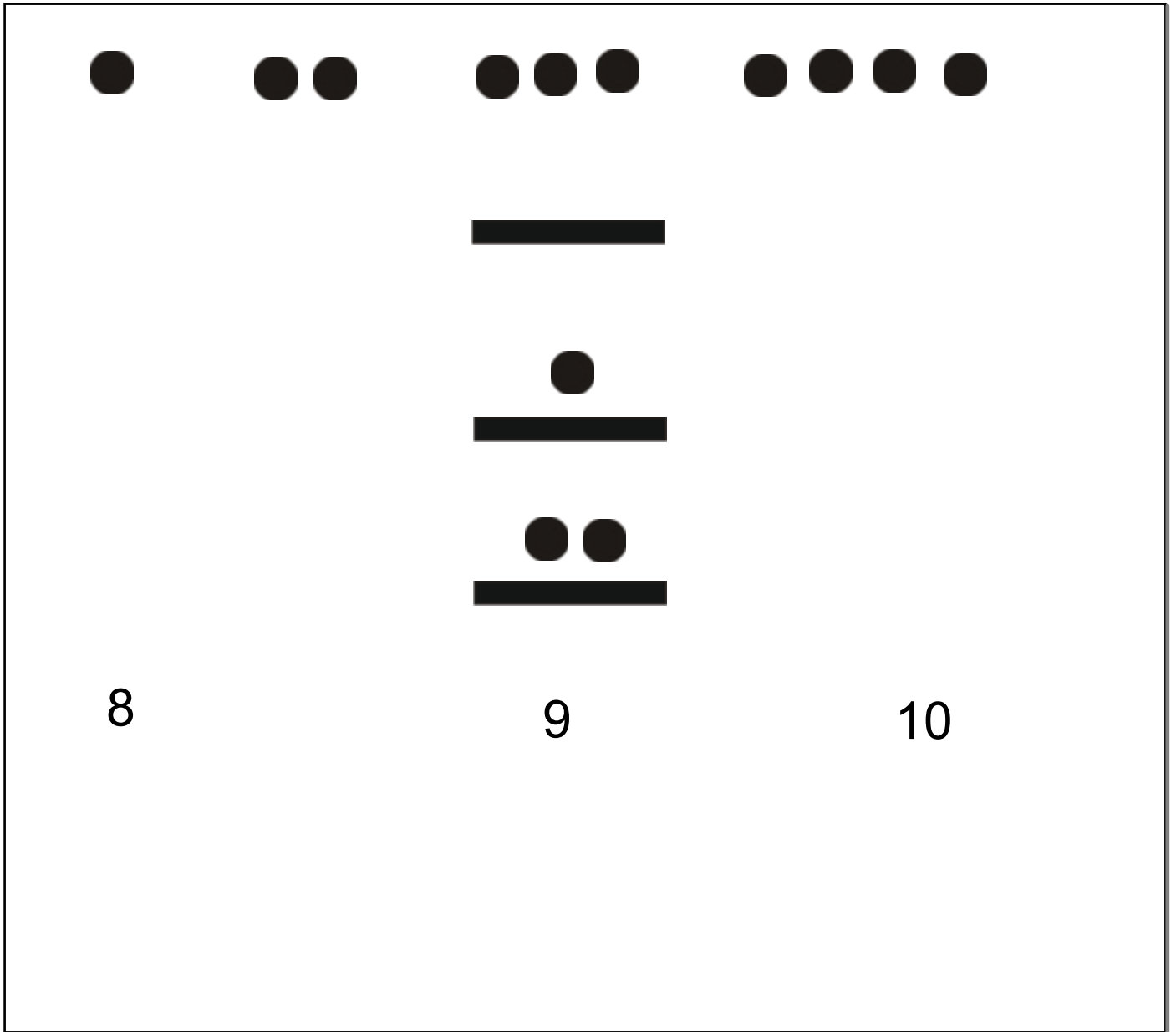


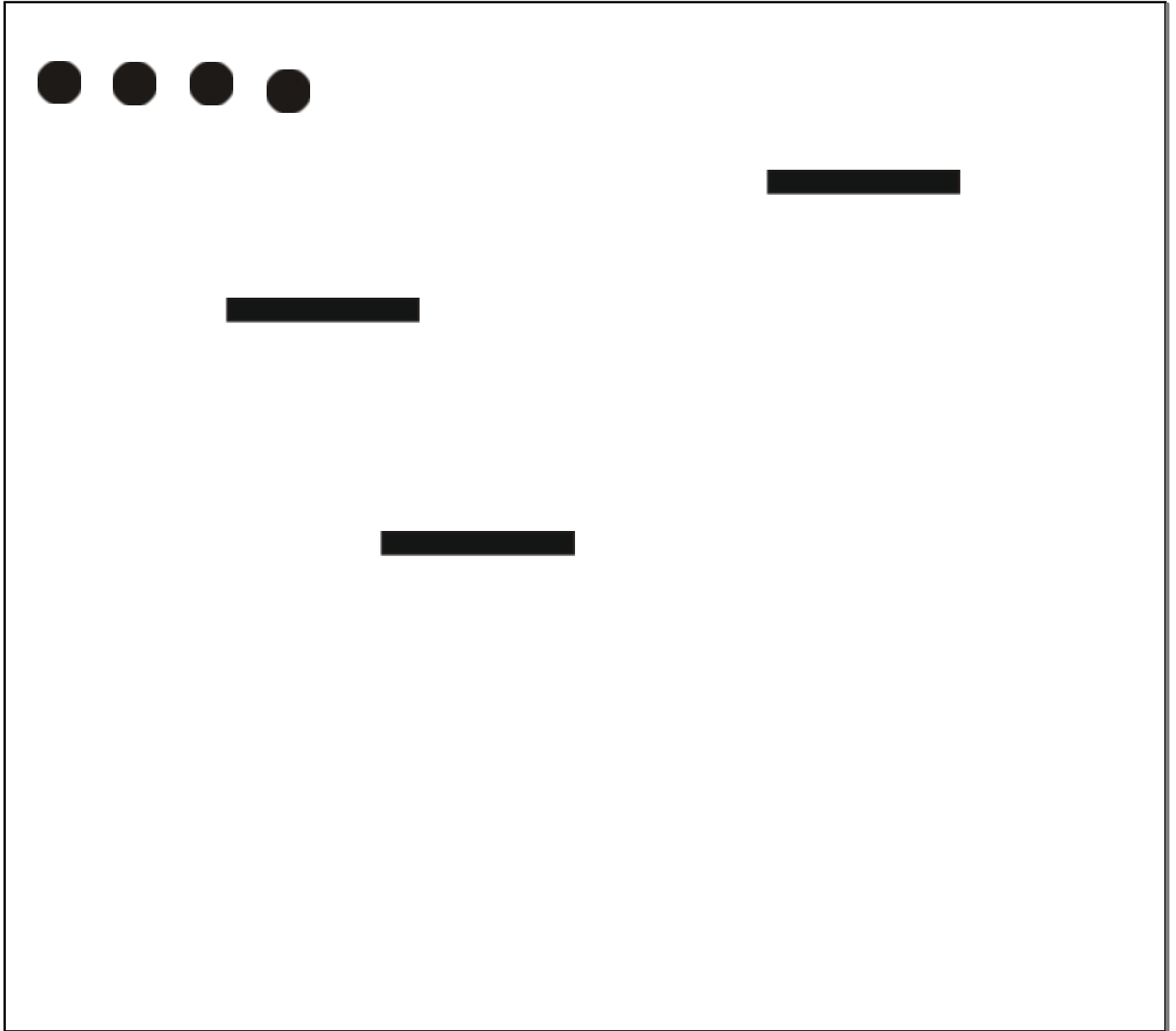


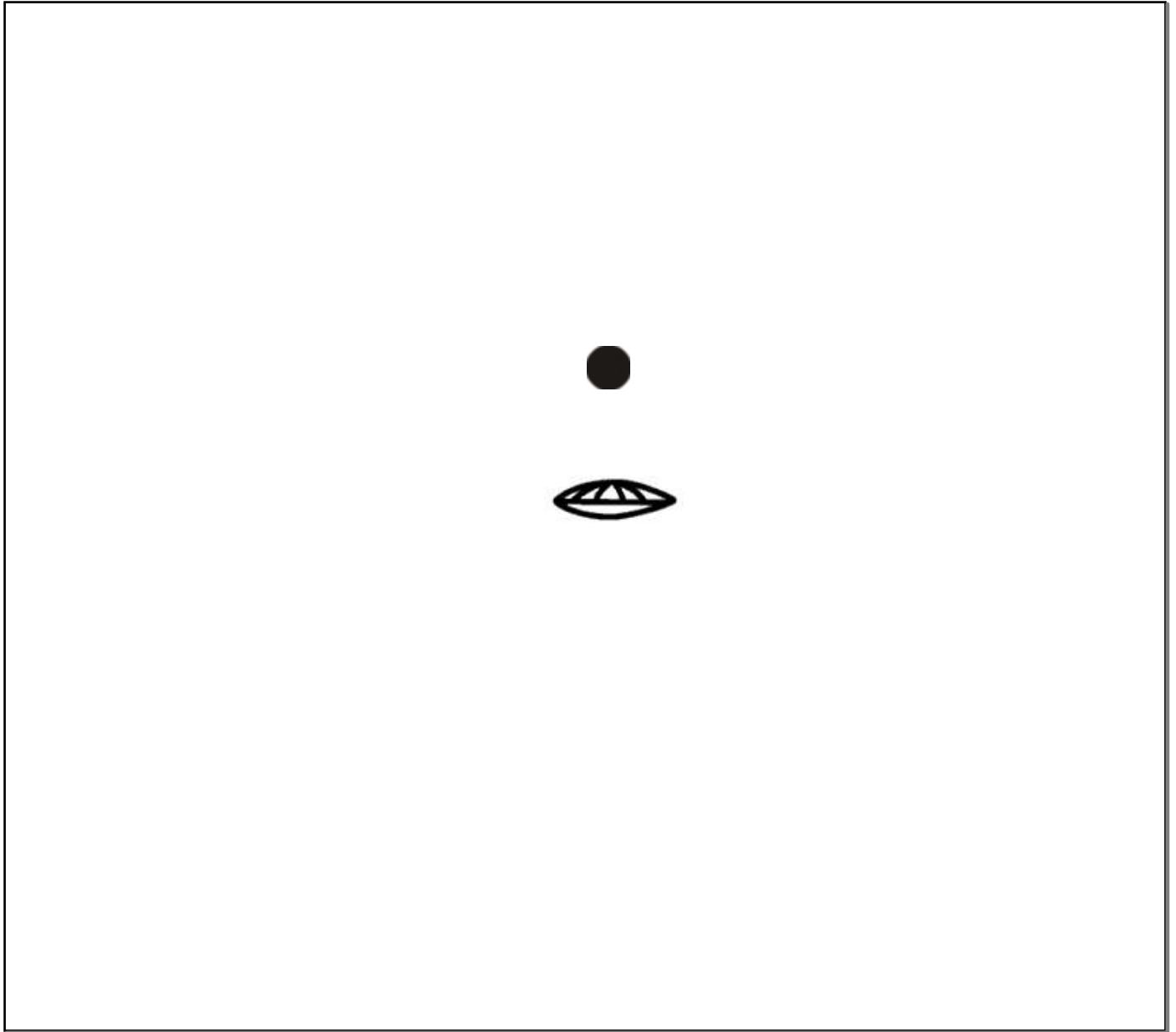
LA COMIDA DE HOY











Introduction to Maya Culture

Past and Present

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Clothing

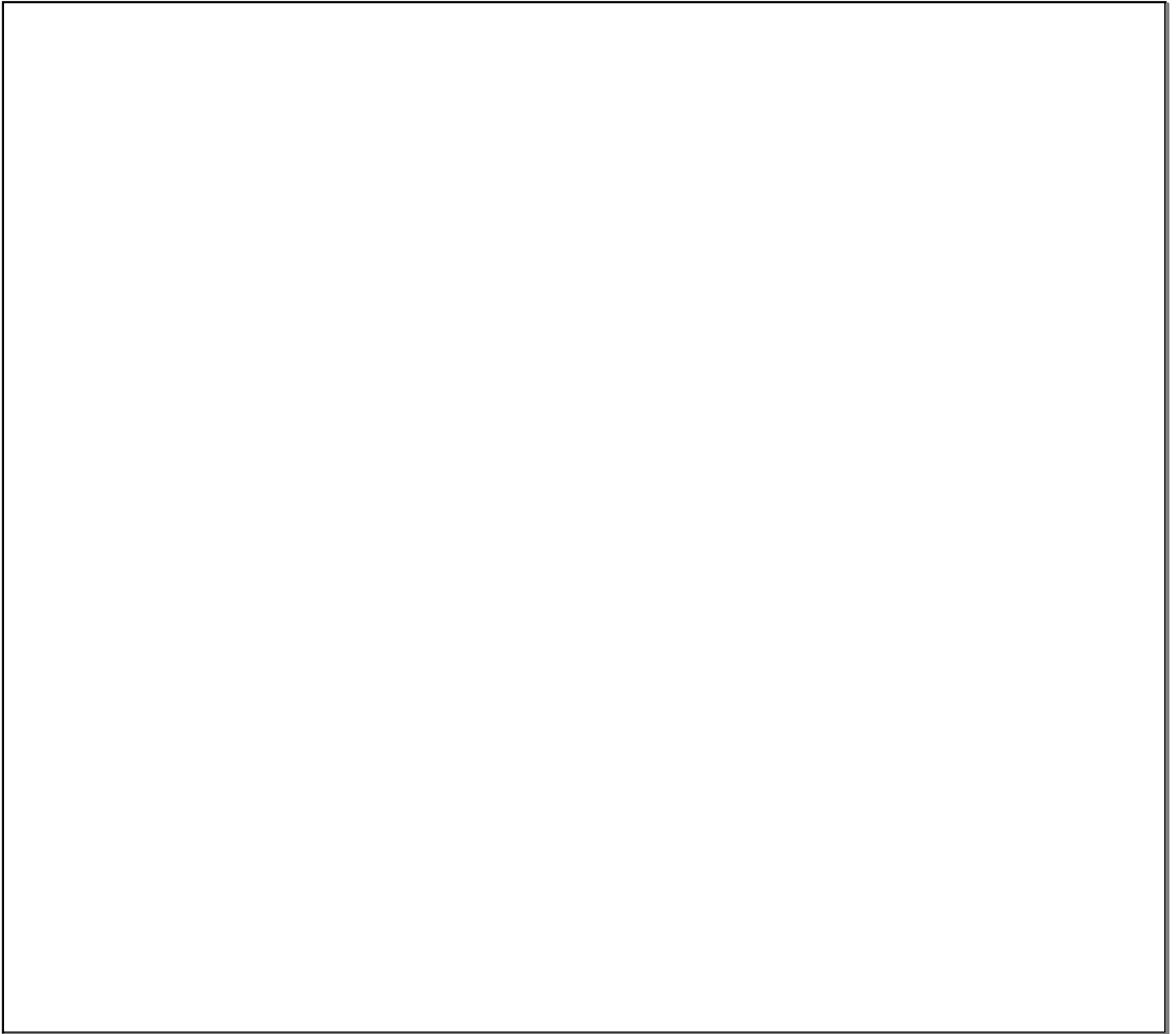












Introduction to Maya Culture

Past and Present

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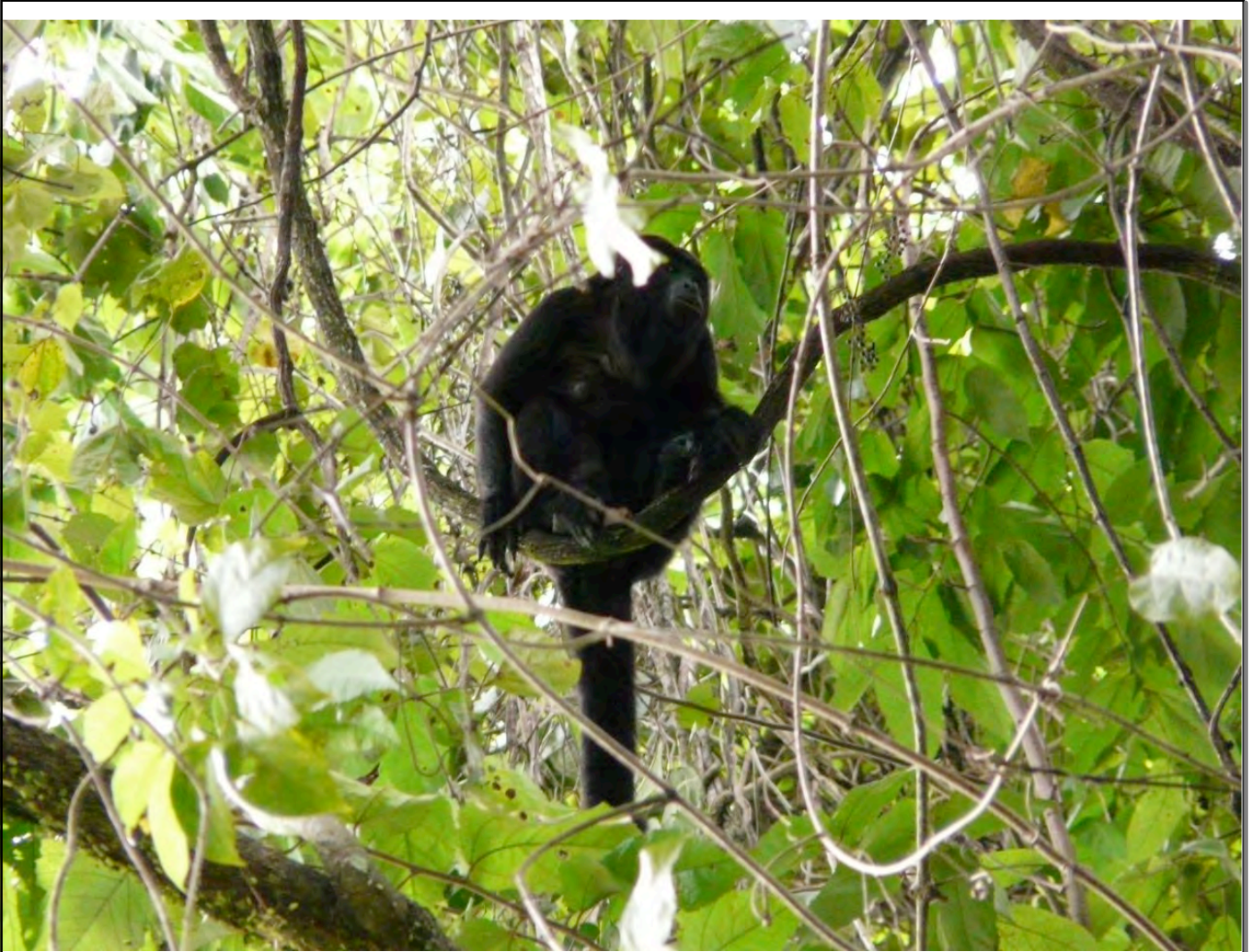
PALENQUE





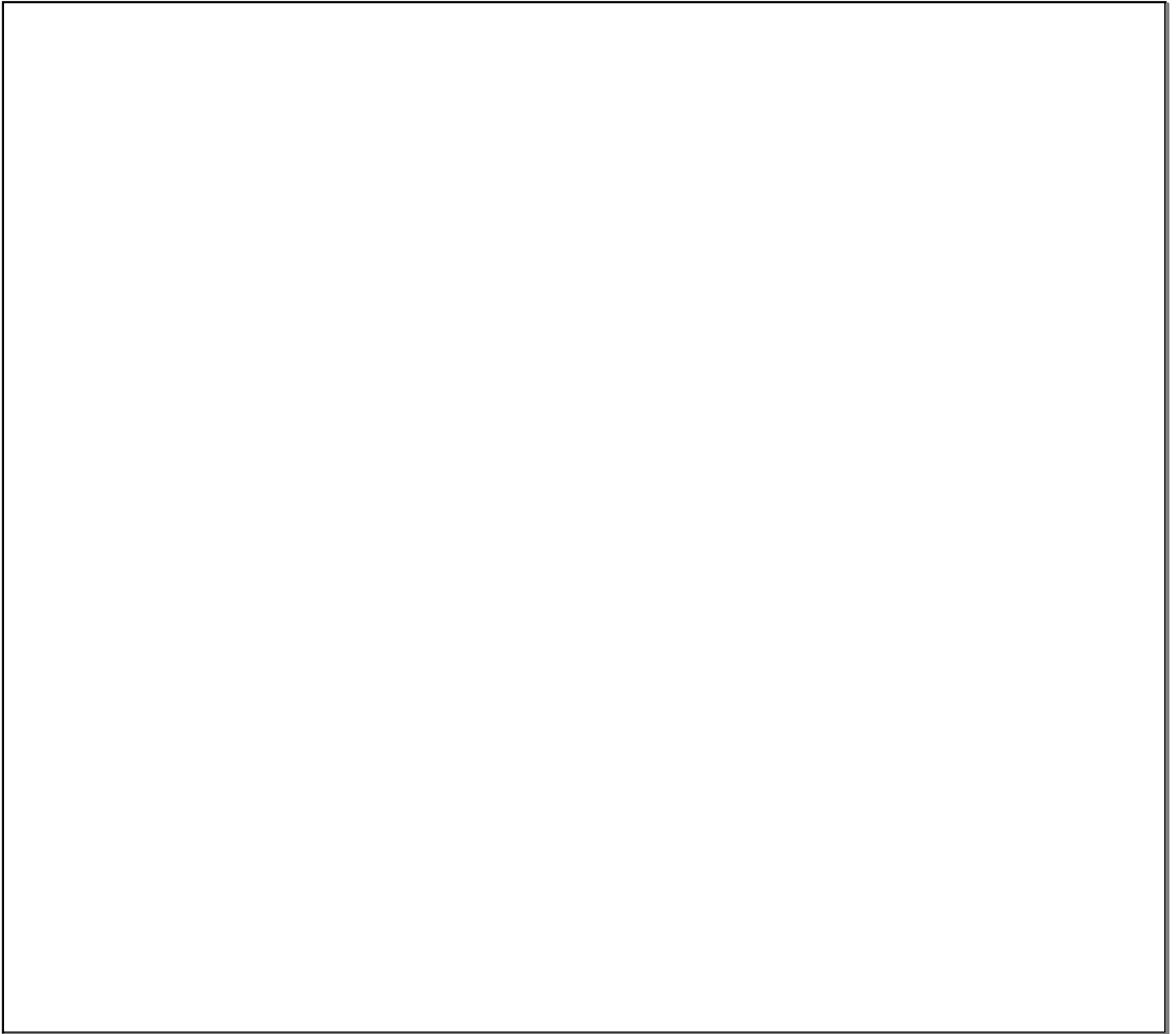




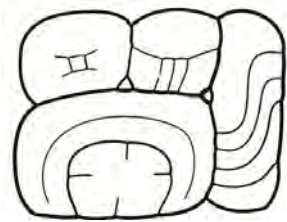








INDIGENOUS PEOPLES OF THE AMERICAS: MAYA CULTURES ACROSS TIME



Yale Peabody Museum-PIER-CLAIS 2012 Summer Institute for High School Teachers, Yale University, New Haven, CT, July 9-13, 2012

Curricular Unit Template

Introduction

Title of the curricular unit: Textiles of the Maya in Chiapas, Mexico

Name: Virginia Hilyard

Subject Area: Spanish 1, 11

Grade Level(s): 9-11

Number of Lessons in the Unit: 4

Time Frame to Allow for Unit: 2 weeks or ten 43 minute class periods

Brief Narrative Describing the Unit:

In the textiles of Chiapas, Mexico, Maya women tell a story in their weavings and textile embroidery about their understanding of time, space and the mythological forces of nature and the cosmos. The weavings of these Highland Maya women tell their individual stories and so assert their independence in creating an art form with designs and symbols derived historically from their ancient ancestors to which they have added their own modern interpretation of earlier designs.

In the state of Chiapas, located in southwestern Mexico, 200,000 Maya women or more weave their own intricate designs often using backstrap looms like their ancestors or more modern shuttle looms and sewing machines or needle and thread. They adapt these ancient designs into intricate forms of clothing for men and women in the Highlands of rural Chiapas north and surrounding the colonial city named San Cristobal de Las Casas. The textiles often include brocade technique and are interwoven with many designs considered sacred. It is their sacred duty to execute and perfect these designs and to often add their own personal interpretation of these ancient designs woven with respect for the Virgin Mary and Catholic Saints, as well as designs associated with their surroundings in rural Mexico.

Unit Teaching Objectives (what will student be able to do upon completion of the unit?)

Objective 1: Students will be able to locate the State of Chiapas, Mexico on the map and also pinpoint surrounding countries and the colonial city of San Cristobal de Las Casas.

Objective 2: Students will be able to sketch and identify the designs of the textiles of Chiapas and understand their symbolism.

Objective 3: Students will be able to understand the vocabulary of textile design as it pertains to the different regions of Chiapas.

Objective 4: Students will be able to look at a picture of a design and identify the region that it likely comes from, and compare the designs to clothing designs today and fashion today.

Unit Essential Questions (what are the most important concepts students should learn from this unit?)

What designs do you observe and how do they compare to those of earlier decades and generations?

What is expressed in these designs that relates to the past and also to the present?

How do these designs compare to those we see in Chiapas today and is there any similarity to what we see in designs and fashion in the United States?

List of Key People and Vocabulary

Maya Women

Lesson#1 Blank Map of Mexico to outline Chiapas

Handout #1 Map of Mexico

Lesson#2 Vocabulary

Lesson#2 Designs and Symbols of the Maya

Lesson#2 Activity#1 Imitation of Mayan Designs

Lesson#3 Comparison of Maya fashion and fashion today

Activity#1 Venn Diagram

Images of the Maya

Sources and Bibliography

Addendum: personal photos from Chiapas, July 2012

Lesson #1

Objective: Where is Chiapas and where are the areas surrounding the colonial city of San Cristobal de Las Casas such as Zinacantan and Chamula, as well as Santa Marta Magdalenas to the North where textiles are created and worn as ornament?

Resources: [www.google](http://www.google.com) map+Chiapas+Mexico

Morris, Walter F., Guia Textil De Los Altos De Chiapas: A Textile Guide to the Highlands of Chiapas , Asociacion Cultural Na Balom. Mexico. 2011

Handout #1 – blank map of Mexico to outline Chiapas, neighboring countries and locate San Cristobal de Las Casas

Overhead transparency to help students outline the area of Chiapas and surrounding countries, as well as the living Maya people of San Cristobal de las Casas, Chamula, and Magdalenas Aldama.

Lesson #2

Objective: students will learn the history of the symbols and the designs used in the textiles and the Spanish words for these textile motifs

The women weavers of the Maya Highlands use natural cotton and wool brocade embroidery technique with thread imported from China in recent times.

Primary source: Morris 2011.

Vocabulary: Handout #2
Activity#1

Word bank to match with the following words:

English to Spanish

1. language spoken in the Highlands of Chiapas
2. everyday dress
3. formal wool tunics
4. toads
5. made of wool
6. blouse
7. woven offerings
8. Classic Maya Period
9. cultural identity

Spanish to English: Match the numbers with the Spanish definitions:

1. _____ Tzotzil
2. _____ huipil(or Maya word for blusa)
3. _____ el periodo Maya Clasico (A.D. 200-900)
4. _____ el traje cotidiano
5. _____ de lana
6. _____ tunicas formales de lana
7. _____ ofrendas tejidas
8. _____ los sapos
9. _____ identidad cultural

Vocabulary Handout #3

Define the following words in English:

1. disenos sagrados=
2. el santo=
3. camisas con mangas coloradas=
4. la comunidad=
5. la creatividad=
6. los tejadores=
7. una tradicion=
8. las flores=
9. los animales=
10. el arbol de la vida=
11. el bordado=
12. el estilo
13. el brocado=
14. la espalda=
15. el cuello=
16. el pecho=
17. la moda=
18. adornar=
19. el cinturón (fajas)=
20. las rayas=
21. huipiles de rayas rojas o azules=
22. una pechera rectangular=
23. hacer bordados=
24. preservar=
25. la moda=

Curricular Lessons

Lesson #3

Title: The symbols present in the textiles of the Maya in Chiapas

Objectives: students will learn the history of the symbols and the Spanish words associated with the textiles and the Spanish words for the specific textile designs and compare the designs and colors used in different regions of Chiapas, such as the change from red to blue in recent years from San Lorenzo Ziancantan and the wool skirts found in San Juan Chamula.

Note: The women weavers of the Maya Highlands use natural cotton and wool and metallic thread as well as acrylic fabric imported in recent times

Lesson Specific Essential Questions: What designs do you see in the textiles and what might these designs symbolize? How do modern designs reflect those of Classic period Maya?

Discussion of the designs:

Note the “diseno del ‘universo’ alrededor del cuello”. Morris, Walter F. 19, 29, 22, 26, 29, 70.

See the “Hileras del perro que pata que alternan con el diseno universal”. In translation: “rows of dog’s paw that alternate within the design.” Different variations of this dog's paw and often the toad design as well are the designer's personal signature and identify the village or community that they come from.

image #1 Morris 71.

image #2 Morris 29&22.

"En el diseno del ‘universo’, el camino del sol a traves del cielo se muestra con una delgada linea amarilla que conecta los pequenos rombos del oriente y poniente a un rombo central mas grande. Este rombo interior tiene rizos a cada lado que representan alas; llamadas pepen, ‘mariposa’, son es el simbolo del sol entre las tejadores. La mariposa es una metafora para el sol porque como el sol, habita el inframundo cuando el dia se torna en noche."

In translation: Morris 29. Santa Marta

In the 'Universe' design the path of the sun across the sky is shown by a thin yellow line connecting the small diamonds of the east and west to a larger central diamond. The inner diamond has curls on each side that represent wings; called pepen, ‘butterfly,’ it is the weaver's symbol for the sun because like the sun, it inhabits the Underworld when day turns to night Butterflies as well as fruit bats dwell in caves--portals to the Underworld--and they feed on the same flowers. In the waning

light of dusk you may see a butterfly fluttering among the bushes at the edge of the cornfields, and then suddenly see a bat flying from the same spot." Morris 29.

Sapos or "Toads" are in folklore said to represent the wife of the "Senor de la Terra" or the wife of the Earth God. They are said to guard the Earth Lord's house and in Zinacantec myth, they are musicians who sing at the entrances to the caves. They are said to have glands that secrete a substance like a hallucinogen stronger than cocaine. In recreating these designs Maya women are performing a sacred duty and showing respect for their ancestors. As Protestants replace some Catholics these beliefs are beginning to disappear.

Image # 3 Morris 26-27.

The "huipiles" or blouses have the color blue in modern times in San Lorenzo Zinacantan, whereas red predominated in earlier decades. Red has turned to maroon and brown in some areas. The ponchos among the men, however, have varied little and The huipil is characterized by a "pechera" azul or "bodice" that is embroidered around the "col" or neckline and belts with giant tassels complete the outfit. Often the bodice has a line of individually designed diamond motifs that vary among designers.

Image #4 Morris 38.

In 2010 a tourist introduced "el bordado en punto de cruz" or cross-stitch embroidery which has become popular. Many Maya women today imitate earlier woven design with their own style of "punto de cruz." Others use black embroidery or "huipiles de rayas rojas o azules con bordado negro sobrepuesto," or black embroidered over a bodice of red or white stripes. Morris 65. In the Highlands as well around Chamula and Zinacantan where the altitude is 7,000 feet above sea level, skirts are woven out of black wool to resemble the fur of the howler monkeys. These skirts shed water in heavy rain and are cool in the summer rainy season. Men also wear huipiles made of natural brown wool, which was one color of few choices, brown, grey, white or black. For ceremonial dress they wear sleeveless tunics of black wool on the outside of a woven tunic, which is very expensive and difficult to make. Morris 122-123.

Image # 5 Morris 125.

Lesson #3 Activity #1

Students in Lesson # 3 will be given a piece of graph paper and pictures to observe on the overhead projector of Maya women in their individually designed huipiles or blouses. It is noted that most women's community of origin is known by the designs and previously entire communities were identifiable by their clothing designs. Students will attempt to match their designs with the different geographical areas around San Cristobal de Las Casas in Chiapas using the map from Walter "Chip" Morris' book.

Lesson #3 Activity #2

Students will identify the different designs such as the toad, the universe, the butterfly, the tree from a photograph Morris 19-29.

Optional Activity: Students may locate online a photograph of a backstrap loom and a modern shuttle loom and label the parts and uses comparing the techniques involved.

Lesson #4

Essential question #1: How are the fashions of Maya women different today from those of their ancestors?

Essential question #2: How does the dress of the Maya differ from our dress in the United States? What is similar and what is distinctly different?

Optional Activity #1: the teacher may hand out a Venn diagram for students to compare and contrast the dress of the Maya with that of the United States.

Optional Activity #2: the teacher may select a particular student to answer the questions posed by other students in front of the class. Students are given a set of previously prepared questions to study. Some of these questions may be general or more complex in nature that the teacher makes up from questions that he or she may raise throughout the two week unit.

Optional Activity#3: the teacher will hand out pictures of Maya Women or men in traditional or modern dress. Students will use the verb "llevar" to describe what they are wearing in two sentences in Spanish. They may include colors and design, as well as size and personal impression of the garment using "me gusta...or no me gusta..."

Methods of Assessment (formative and summative)

Lesson #1 includes the assessment rubric (#1-#4) on the map; #4 being an A or the highest

Rubric to include: #1 accuracy of detail

#2 correct placement of borders and surrounding countries

#3 correct spelling

#4 completed on time

Lesson #2 to include a quiz on the vocabulary and students correct peers work and mark the number correct at the top of the paper.

Lesson #3 to include assessment of the accuracy of the designs or symbols with correct labels in Spanish and English translation.

Lesson #4 to include discussion of the Venn Diagram and discussion amongst the class in small groups of selected diagrams for discussion. Are modern tattoos comparable expressions of identity today?

Summative Assessment:

A test on matching Spanish words with their English definitions as well as a general essay question (in English) about what they have learned from the Unit that they didn't know before and how might they use this information in the future?

Conclusion:

For the Maya today and during the time of their ancestors, textile art is a form of sacred duty ordained by the gods and expressed by them in their individual way. Some remnants have been imbedded in ancient pottery that reflect ancestral history of sacred observances. The differences between ancient designs and modern interpretations are becoming more pronounced in rural Chiapas. The marketplace, however, is still a place where Maya women and families gather to share and sell wares that often take a year to make. Each vendor expresses pride in the artwork and embroidery that captivates visitors to the area today. The Mexican government is treating those in Chiapas more as a community, which has helped to preserve cultural identity. Greenfield, Patricia Marks. Weaving generations together: evolving creativity among the Mayas of Chiapas. 23. Entrepreneurship and innovation have also been modern products of tourism and yet the Zinacantecs in particular have a "wariness about the presence and activities of strangers that helps preserve their cultural integrity." Greenfield 23. Nevertheless, printed patterns in many communities have replaced their ancestor's designs and as women become more independent their weaving and textile designs reflect their individuality. In San Cristobal de Las Casas women run their own weaving cooperative, San Jolobil, open to the general public.

Resources

Greenfield, Patricia Marks. Weaving Generations Together: evolving creativity among the Mayas of Chiapas. Santa Fe. School of American Research Press. 2004

Miller, Mary Ellen. Maya Art and Architecture. New York: Abrams, Inc. (1999).

Morris, Walter F. Jr. Living Maya. New York: Abrams, Inc. (2000).

Morris, Walter F. Jr. Guia Textil De Los Altos De Chiapas. Colorado: Thrums, (revised edition 2011).

Sharer, Robert and Loa Traxler. The Ancient Maya. 6th edition. Stanford: Stanford University Press (2006).

Chiapas, Mexico. Map. Morris. (2011).

Additional Resources (other useful sources that pertain to the curricular unit)

Guatemala: [http:// www.mayatraditions.com/index.php?option=com_content&view=article&id=97&itemid=159&lang=en](http://www.mayatraditions.com/index.php?option=com_content&view=article&id=97&itemid=159&lang=en)

Weavers in the codices:
<http://www.mesoweb.com/bearc/cmr/RRAMW44.pdf>.

Prehispanic Traces in the symbolism of Maya Weavings from Guatemala
[http:// www.famsi.org/reports/03101/01arathoon.pdf](http://www.famsi.org/reports/03101/01arathoon.pdf).

Dying and weaving

http://www.galenfrysinger.com/fying_and_weaving.htm

What new technology will you use in this unit as a result of attending the Yale Summer Institute? I will use new websites as well as the overhead projector and primary sources such as books and photographs.

For creating the unit? I will use both books, websites and personal photographs of the textiles of Chiapas.

For student use? I will use my personal photographs, as well as textiles purchased in Chiapas for discussion.

For presentation?

I will use the prepared Curriculum Unit and the textiles for discussion, as well as have the actual books available in the classroom for examination.

How are you going to incorporate museum artifacts, museum visits, virtual collections or primary sources in this curricular unit?

I plan to use the textiles and photographs of them in the additional resource materials online to enhance discussion. I also intend to permit student use of the classroom computer for individual research on topics of the student's choice.

The 2012 Summer Institute is sponsored by Programs in International Educational Resources (PIER) at the MacMillan Center, Council on Latin American and Iberian Studies (CLAIS), and Yale Peabody Museum of Natural History.

The 2012 Summer Institute is made possible by generous support from the Arthur Vining Davis Foundations and the U.S. Department of Education under HEA Title VI for international, area, and foreign language studies.

Title of the Curricular Unit: Exploring Culture and Communication

Name: Allison Shuda

School: Prairie Elementary School, Waunakee, Wisconsin

Subject Area: Integrated Social Studies and Spanish

Grade Level: 2nd Grade

Number of Lessons in the Unit: Three

Time Frame to Allow for Unit: One Week

Brief Narrative Describing the Unit:

Mexico is the focus country for 2nd grade and students learn a lot about recent history in Mexico, and this unit introduces students to cultures of the past. This unit connects to past learning through timelines and it connects to future learning about diversity within the United States and Mexico.

In this unit students are introduced to object-based learning strategies, use the object-based learning strategies to learn about the Bonampak mural, review timelines and learn about placing events from the distant past on a timeline, and compare and contrast Maya murals to the murals in our school. Students will be learning about their own number system and the number system of the Maya. Students will learn about the way that they record information and the way that records were kept in Maya cultures. Students will be asked to look for similarities between their cultures in Waunakee, Wisconsin to the cultures of the Maya. The unit is taught in Spanish, but the lesson plans are written in English for clarity.

Unit Teaching Objectives (what will the student be able to do upon completion of the unit?)

- Students will be able to describe a portion of the mural at Bonampak.
- Students will be able to compare and contrast the mural at Bonampak to murals that we have in our school.
- Students will be able to communicate their age in Spanish using the structure “Tengo _____ años.” and visually represent their age with Maya numerals.
- Students will be able to compare and contrast our numerology system to the numerology system used by Maya communities.
- Students will be able to create a glyph representing their name using the Maya syllabary.
- Students will be able to introduce themselves in the target language (Spanish) using the sentence structure “Me llamo _____.”

Unit Essential Questions (what are the most important concepts students should learn from this unit?)

- What can we find out about the Maya people from the mural at Bonampak?
- What would people be able to tell about us from the murals in our school?
- How do different cultures interact with numbers?
- How do different cultures record information?

List of Vocabulary

Vocabulary:

murales

maya

diferencia

similitud

cultura

pinta

los números (1-800)

línea del tiempo

glifos

vocales

silabario

abecedario

ruinas

Curricular Lessons

Lesson One: Murals: Bonampak and Prairie Elementary

Lesson Specific Objectives:

Students will be able to compare and contrast the mural at Bonampak to murals that we have in our school.

Students will be able to describe a portion of the mural at Bonampak.

Lesson Specific Essential Questions:

What can we find out about the Maya people from the mural at Bonampak?

What would people be able to tell about us from the murals in our school?

Lesson Activities with Detailed Instructions (Lessons should include at least one visual and one primary source):

Lesson 1: Murals: Bonampak and Prairie Elementary

Activity 1: Introduction to Object Based Learning Strategies with murals within the school

1. Show photos of murals from around the United States and Mexico. Introduce the word “mural” and write it on the board.
2. Ask “Where have you seen murals in your community?” Write down responses in a word splash on the board.
3. “Today we are going to look at a mural in our school. I will ask you to look at it in different ways and think about it in different ways.”
4. Take students to the mural in the cafeteria of the school and seat them so everyone can see the mural and not be distracted by one another.
5. Show students the illustrated visual card “What do you see?” and ask the question aloud. Students share their ideas of what they see in the mural. Model thinking aloud about what you see.
6. Show students the illustrated visual card “What do you notice?” Model noticing something in the mural. “What is it made of?” Students share their ideas of what they notice in the mural.
7. Show students the illustrated visual card “What do you think about what you see?” Model thinking aloud about your opinions. Students share their opinions.
8. Show students the illustrated visual card “What do you see that makes you think that?” Model making connections and thinking aloud about your reasoning for your opinions. Students share their reasoning.
9. What do we know about the people who created this mural? What did they do in their community? What is important to them? How do you know?
10. Finally, ask students when they think the mural was created, and who they think created the mural. On the wall timeline, add the creation of the school mural as an event at the correct year.

Lesson 1: Murals Bonampak and Prairie Elementary

Activity 2: Object Based Learning Strategies with mural at Bonampak

1. Locate Bonampak on a map of Mexico.
2. Show students the Bonampak Mural

(Hixson photo: <http://www.mesoweb.com/mpa/bonampak/rm1d.html> or Heather Hurst poster of Bonampak)

3. Show students the illustrated visual card “What do you see?” and ask the question aloud. Students share their ideas of what they see in the mural. Model thinking aloud about what you see.
4. Show students the illustrated visual card “What do you notice?” Model noticing something in the mural. “What is it made of?” Students share their ideas of what they notice in the mural.
5. Show students the illustrated visual card “What do you think about what you see?” Model thinking aloud about your opinions. Students share their opinions.
6. Show students the illustrated visual card “What do you see that makes you think that?” Model making connections and thinking aloud about your reasoning for your opinions. Students share their reasoning.
7. Ask students when they think the mural was created, and who they think created the mural.
8. What do we know about the people who created this mural? What did they do in their community? What is important to them? How do you know?

Lesson 1: Murals: Bonampak and Prairie Elementary **Activity 3:** Timeline

1. Have students practice counting in Spanish and ask them to count to 100 together. Time them.
2. While students are counting, point to the timeline on the wall, starting with the current year and going back for each number they count.
3. When students are done counting tell them how long it took them.
4. Ask students to think about how long ago 800 AD was and how long it would take to count all the way back to the date when Bonampak was created. Review hundreds up to 800 all the while motioning back to emphasize how long ago the murals were created.
5. Show students a new timeline that goes that far back and add both the school mural creation date and the event of Bonampak’s creation at 800 AD.

Lesson 1: Murals: Bonampak and Prairie Elementary **Activity 4:** Venn diagram

1. Ask: What do we know about the Maya people who created the Bonampak mural? What do we know about the people in our community who created the Prairie Elementary mural? How do we know?
2. Show a Venn diagram to students with Bonampak Mural on one side and Prairie Elementary Mural on the other
3. Ask students to turn to a partner and remind them how a Venn diagram works.

4. As a class have students complete the Venn diagram, comparing and contrasting the murals. Make sure to guide students to describe what they see going on in the murals, dates of creation of the murals, the people who created the mural, the colors used in the mural, the materials used to create the murals, and the location of the murals.

Methods of Assessment (formative and summative):

Formative assessment: Observation of Object Based Learning participation

Summative assessment: Venn diagram

Handouts:

None

Lesson Two: Maya numerology

Lesson Specific Objectives:

Students will be able to communicate their age in Spanish using the structure “Tengo _____ años.” and visually represent their age with Maya numerals.

Students will be able to compare and contrast our numerology system to the numerology system used by Maya communities.

Lesson Specific Essential Question:

How do different cultures interact with numbers?

Lesson 2: Maya Numerology

Activity 1: Counting en Español

1. Write the numbers 0 to 9 on the board. Point to the numbers as students count aloud together in Spanish.
2. Combine the numerals to create larger number. “What happens when we combine a 1 and a 9? Yes! 19 or 91!” “What happens when we combine 4 and 7? Yes! 47 or 74!” Give several examples.
3. Review the numbers 0-9 one more time. “We use these numerals to create all of our numbers.”

Lesson 2: Maya Numerology

Activity 2: Maya Numbers

1. Ask students to find Bonampak on the map to review.
2. Show various photos of the ruins at Bonampak. “Did the Maya people use the same numbers that we do in English and Spanish to count?... No, the Maya used different numerals to count and keep records.”
3. In the same way that we reviewed 0-9 in Spanish, write the Maya numerals on the board. Write the values that they hold in Spanish next to the numerals.
4. Pass out mini white boards, dry erase markers, and erasers to students. Ask students to practice drawing the numeral for 1 (a dot) with you. Then ask students to practice drawing the numeral equal to 5 (a bar) with you on the white boards.

- Finally model drawing the numeral for 0 (a shell) and have students practice drawing it.
5. Once students have practiced drawing and they have the visual of each numeral on the board, challenge students to write numbers that you say aloud in Maya numerals.
 - a. Model: On the board write the number 4. Say “cuatro.” Sit with them on the carpet and draw four of the 1 numerals to create the number four in Maya. Silently hold up the white board.
 - b. On the board write the number 3 and say “tres.” Watch for students to silently hold up their white boards with the correct numbers.
 - c. As students build confidence, try larger numbers, such as 8, 9, and 12.
 6. Pass out pages 9-13 of Mark Pitts “Maya Numbers and Maya Calendar” packet, translated into Spanish. Review the numbers in these pages together.
 7. Show students picture from Yaxchilan of number glyphs.
 8. Show drawing of glyphs at Yaxchilan and point out which ones are number glyphs (8 and 9 are represented on the lintel).
<http://research.famsi.org/uploads/montgomery/hires/jm01537yaxlin37.jpg>

Lesson 2: Maya Numerology

Activity 3: Communicating age

1. Review Spanish numbers one through 9 again. Show Maya numerals and glyphs for 1-9 on the smartboard while students practice aloud.
2. Review how to say your age. Model: “Tengo 27 años.” “¿Cuántos años tienes?”
3. Students ask the question “¿Cuántos años tienes?” to their classmates in groups of four and practice answering the question.
4. Pass out the graphic organizer with the Maya numerals written at the bottom and the sentence prompt of “Tengo _____ años.” written above a framed blank space (that looks like a stela!). Students write their age into the sentence prompt and draw the Maya numerals that represent their ages on the stela. Students share with the whole group. Collect graphic organizers for assessment.
5. Exit slip: Each group decides on one similarity and one difference between the Spanish number system and Maya number system before they may leave. Small groups share with the whole class.

Methods of Assessment

Formative Assessment: White board practice with Maya numerals

Summative Assessment: “Tengo _____ años.” Graphic Organizer

Handouts

Mark Pitts’ Maya Numbers and the Maya Calendar packet

Lesson Three: Maya Glyphs

Lesson specific goals:

Students will be able to create a glyph representing their name using the Maya syllabary.

Students will be able to introduce themselves in the target language (Spanish) using the sentence structure “Me llamo _____.”

Lesson specific essential questions:

How do different cultures record information?

Lesson 3: Maya Glyphs

Activity 1: Review: Comparing 2 cultures

1. On one side of the board write Maya. On the other side of the board write Waunakee, WI. Draw a line down the middle. Ask students to think about what they've learned about their own culture and Maya culture from comparing murals and comparing number systems.
2. Write students ideas on the board under the appropriate section.
3. Once there are various ideas on the board, in a different color marker draw a line from the ideas on the Maya side that have something in common with the ideas from the Waunakee side. Be sure to think aloud about what the cultures have in common. For example, you can draw a line from “Use dots, bars, and shells to count” to “uses numbers 0-9 to count” and reiterate that they are similar because both cultures have number systems.

Lesson 3: Maya Glyphs

Activity 2: Recording information

1. Show students a collage of photos of words and signage from around their community using Prezi. “How do we record information information in Waunakee? What do we use?”
2. Practice the Spanish alphabet song with the class. Point at each letter on the alphabet poster as students sing. “In Spanish we use an alphabet with letters that we combine to make each word.”
3. Just as students saw a collage of print from their community, show a collage of glyphs from Maya sites using Prezi. “Do the Maya use an alphabet like ours?” “What do they use to communicate information?”
4. Review the Spanish vowels: A, E, I, O U. Recite the vowel poem together. “AEIOU, Arbolito de Perú, Me llamo _____, ¿Cómo te llamas tú?”
5. Show the Maya syllabary and point out that they don't use an alphabet with individual letters, but they use syllables and each syllable is represented with a glyph (or multiple glyphs).
6. Go through the syllabary and point at the glyphs as students repeat the syllables after you.
7. Pass out the Maya Glyphs packet and point out page 28 to discuss how we combine symbols to make meaning. Model with the teacher's name.
 - a. Break the name into syllables on the board.
 - b. Then point out the glyphs and draw them separately on the board.
 - c. Combine the glyphs to create a name glyph on the board.

Lesson 3: Maya Glyphs

Activity 3: Glyph puzzle

1. Break students into groups of four.
2. Give each group a photo of an animal and the name of that animal in Spanish.
3. Ask students to break the name of the animal into syllables. On a piece of paper they write down the syllables.
4. With the syllabary in front of them, give students various glyph puzzle pieces of the individual syllables. Ask students to combine the glyphs (in the same way that we combined the glyphs to create their teacher's name) to write the name of the animal as a Maya glyph. Check group work.
5. When all groups have create glyphs, rotate the animal photos and ask them to repeat the activity until students have made all 6 animal name glyphs.

Lesson 3: Maya Glyphs

Activity 4: Compare/Contrast Review

1. Go back to the comparison chart that the class created at the beginning of class.
2. Ask students to share anything new that they know about Maya culture and the culture of Waunakee.
3. Again, link with a different colored marker the similarities between the two cultures. Be sure to point out that even though we use an alphabet and in Maya communities a syllabary is used, both cultures use forms of written records to tell stories, record important information, and to communicate.

Methods of Assessment

Formative Assessment: Observe group work when students are creating glyphs with the puzzle pieces

Handouts

Mark Pitts' Maya Days Coloring Book

Resource List of Materials Used

Hixson, David R. Mesoamerican Photo Archives. Bonampak Room One. 1997-2010. 6 October 2012. <http://www.mesoweb.com/mpa/bonampak/rm1d.html>.

This photo depicts room one at Bonampak.

Montgomery, John. Yaxchilán, Lintel 37. 2000. 24 July 2012.

<http://research.famsi.org/uploads/montgomery/hires/jm01537yaxlin37.jpg>

This illustration by John Montgomery depicts a lintel from Yaxchilán.

Pitts, Mark. Maya Numbers and the Maya Calendar. 2009. 24 July 2012.

<http://www.famsi.org/research/pitts/MayaGlyphsBook2.pdf>

This packet describes Maya numerals and the Maya calendar in English. Glyphs are depicted to help clearly illustrate how Maya numerals are used and communicate how the Maya number system works.

Pitts, Mark. Names, Places, and Simple Sentences. 2009. 25 July 2012.

<http://www.famsi.org/research/pitts/MayaGlyphsBook1Sect1.pdf>

This packet functions as an introduction to Maya glyphs. Illustrations and photographs are included to help the reader understand the written forms of communication both in their communities and Maya communities.

Additional Resources

Pitts, Mark. Maya Days Coloring Book. 25 July 2012.

<http://www.famsi.org/research/pitts/LosDiasMayasEnglish.pdf>

This packet includes the glyphs for the days. The glyphs are illustrated and the days are also described according to Maya histories.



Mesoamerica across Time: Oaxaca and Chiapas Then and Now

Lisa Sragovicz

Big Ideas:

- Past cultures impact present day cultures.
- The legacy of ancient Mesoamerican cultures on 21st century Mexico exists.

Objectives:

- Students will define culture
- Students will locate Mesoamerica on a map.
- Students will identify common Mesoamerican cultural traits.
- Students will identify ancient and contemporary cultural traditions in Mexico, by looking at two states with strong indigenous cultures, Oaxaca and Chiapas.

1. CLASS DISCUSSION: WHAT IS CULTURE?

- A. Teacher leads a discussion of the following topics: culture, Mesoamerica, Oaxaca, and Chiapas. Students brainstorm aloud as a group and then individually complete the KWL Chart.
- B. Students will watch “Lo que amo y odio de México” (<http://www.youtube.com/watch?v=2WncuCFmuv8>). Teacher pauses video and asks students to describe the following scenes aloud: Guelaguetza, archeological sites, metates, traditional textiles. Students brainstorm in groups about the images they have seen, and discuss their reactions.
- C. Students write short essay in Spanish “Lo que amo y odio de los Estados Unidos.” Students will demonstrate correct use of the present-tense in Spanish.
*Grammar review: present-tense verbs, ser/estar, adjective agreement.
- D. Students will watch John Carolan’s video on YouTube.
<http://www.youtube.com/watch?v=1je1sBPW8uk>

Teacher will lead a discussion regarding whether or not the video visits the most important sites in Oaxaca such as Mitla, Monte Alban, el Zócalo in Oaxaca City, and the Ex Convento Santo Domingo.

Students will then plan a one-day trip for a foreign exchange student that includes visits to their local favorite cultural locations. Students discuss the most important cultural sites and cultural products in their neighborhoods.

*Grammar review: commands, ser and estar and prepositions

2. ANCIENT OAXACA AND CHIAPAS

Students will research ancient Mesoamerica. Students will watch videos, research the web, and have in-class discussions on ancient Mesoamerica, with a focus on Oaxaca and Chiapas.

- A. Students watch Professor David Carrasco discuss Mesoamerican Cosmovision on <http://mesolore.org/scholars/lectures/5/Introduction-to-Mesoamerica-by-David-Carrasco> and complete the attached mind map/graphic organizer.
 - 1. Teacher leads class discussion with a focus on Mesoamerican Cosmovision

- B. Students watch "Maya Blood of Kings" and discuss the following topics as a class:
 - 1. Ball game
 - 2. Mayan calendar
 - 3. Bonampak
 - 4. Lord Pakal
 - 5. Blood sacrifice

- C. Teacher divides the students into six groups. Each group will prepare and present a PowerPoint or Prezi to the class. Students will research a historical site and present information to the class on the cultures and important artifacts of the site.
 - A. Ancient Oaxaca
 - 1. Monte Alban
 - 2. Mitla
 - 3. Yagul

 - B. Ancient Chiapas
 - 1. Palenque
 - 2. Bonampak
 - 3. Toniná

3. MESOAMERICAN LEGACY –DISCUSSION ON CURRENT TOPICS

Mesoamerican cultures and cosmovision have endured through the 21st century, despite many obstacles. There have been genocides and population declines. However, the legacy of ancient Mesoamerica is alive and well in México.

Teacher leads discussion of current topics in Mesoamerica. Teacher presents introductory PowerPoints on Oaxaca and Chiapas. (See the attached PowerPoints by Lisa Sragovicz.) Teacher overview will include a discussion of the following topics: the ancient and contemporary ballgame, religious syncretism, textile production, agricultural traditions, and folklore.

STUDENT RESEARCH PROJECTS –

Students will demonstrate their knowledge of Mesoamerica by researching the legacy of the past in the México of today. Students will research one of the following topics in small groups and create a Glogster, VoiceThread, PowerPoint, Prezi, Online Poster, video, or other presentation tool to present to the class.

A. The Ancient and Contemporary Ball Game. Teacher discusses the ball game and how it has changed over time. Students who choose this topic will complete further research at www.ballgame.org.

B. Religious Syncretism.

1. Students who choose this topic will investigate Día de los muertos in Oaxaca. Students will examine the syncretism of Catholic and Indigenous traditions in Día de los muertos.
2. Students will also address religious syncretism in Zinacantán, Chiapas. Students will examine rituals in Chiapas by referring to Evon Vogt's book [Tortillas for the Gods: A Symbolic Analysis of Zinacanteco Ritual](#).

C. Textile Production.

1. Students who choose this topic will examine the processes of designing and making modern textiles, including making the wool and dyeing the yarn. Students will complete research on the Oaxacan Textile Museum website <http://www.museotextildeoaxaca.org.mx>. Students will also watch a video on making Oaxacan textiles by Gabriela Martínez (<http://www.youtube.com/user/gmevirtual/videos?view=0>.)
2. Students will go to the Facebook pages of Na Balom and Chip Morris for a historical overview of textiles in Zinacantán. Students will also use the following sites as references:

<http://livingtextilesfrommexico.wordpress.com>
<http://www.youtube.com/watch?v=1fsg2MhzSg>
<http://www.museoixchel.org/departamentos/archivo-fotografico/galerias-de-la-fototeca/#>

D. Agricultural Traditions. Students will examine the "three sisters"

method of planting corn, beans, and squash, popular in Mesoamerica and North America. Students will also analyze other issues in food production, such as: chocolate production, GMO crops and Monsanto, and the effects of NAFTA in Mexico

1. Zapotec Farming:

<http://muse.jhu.edu/journals/tech/summary/v043/43.3moon.html>

2. Lacandón Farming: <http://web.mesacc.edu/dept/d10/asb/lacandon>

E. Folklore and folk art Oaxaca. Students who choose this topic will

Watch a video on Nahuales and discuss the concept. Students will watch video by Sonia Rodriguez & Claudia Chavez – called “Naguales Animal Spirit” <http://www.youtube.com/watch?v=shAesPkFDsl>. Other topics in folk art include art found in the pyramids, alebrijes, amate paper, and clay art.

F. Maya in Chiapas. Students who choose to conduct further research on Maya cultures in Chiapas will examine one or more of the following topics: Lacandón Maya, Zapatista uprising, Ecotourism and seed jewelry, Herbalism and remedies found in the rainforest.

1. Students will begin by reading the following web page for a history of the EZLN:

<http://www.mtholyoke.edu/~fzanghi/classweb/polt116/history.html>

2. Students will refer to Chip Morris' links for extensive information on the Maya: http://mayaexploration.com/resources_sites.php Students

G. Oaxacan Celebrations. Students who choose this topic will research the Guelagueta or Noche de rábanos,

http://zedillo.presidencia.gob.mx/welcome/PAGES/culture/note_guelagueta.html

<http://oaxaca.wikispaces.com/Guelagueta>

<http://www3.brccs.wnyric.org/education/components/links/default.php?sectiondetailid=304&parentID=361>

KWL Chart

What do you Know / Want to Learn / Have Learned

1. ¿Qué sabes de la palabra CULTURA?

Lo que yo sé	Me gustaría aprender	Lo que aprendí

2. Mesoamerica

Lo que yo sé	Me gustaría aprender	Lo que aprendí

3. Oaxaca

Lo que yo sé	Me gustaría aprender	Lo que aprendí

4. Chiapas

Lo que yo sé	Me gustaría aprender	Lo que aprendí

From www.famsi.org/maps



<http://mesolore.org/scholars/lectures/5/Introduction-to-Mesoamerica-by-David-Carrasco>

Teacher and students watch a video of Professor David Carrasco speaking about Mesoamerican Cosmovision and answer the following questions:

1. Why study Mesoamerica?
2. How do we study Mesoamerica?
3. What can we learn about Mesoamerican cultures from reading legends like "Sol y Luna?"
4. Draw the heavens/earth as Dr. Carrasco describes them:
5. Define Mesoamerican cosmovision.
6. What are the four cosmic ages?
7. What is sacred time?
8. What does Dr. Carrasco say about eagles?
9. What does he say about jaguars?
10. Would you like to take a class with Dr. Carrasco? Why or Why not?