

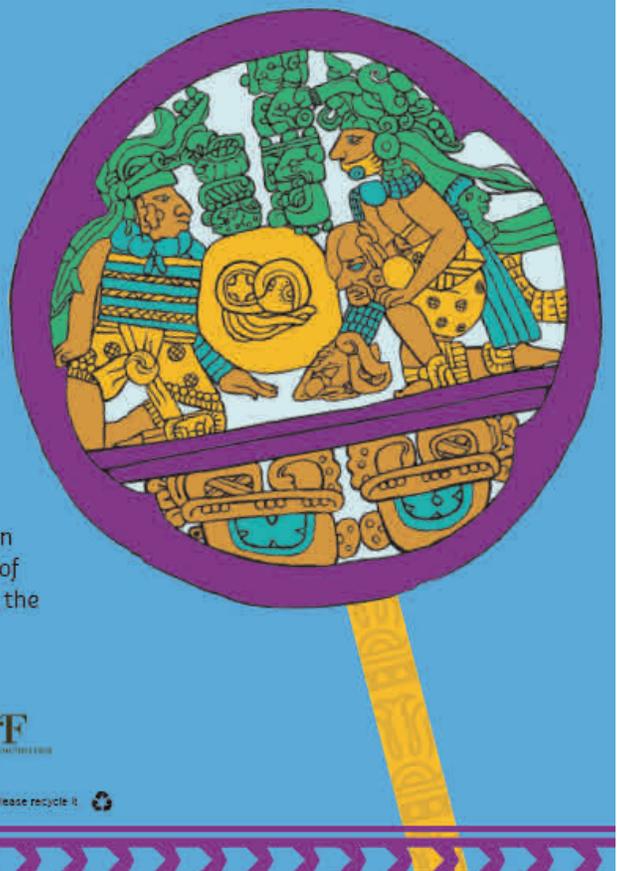
THE AMAZING TWINNS

ANCIENT MAYA TALES FROM THE POPOL WUJ

Resources for K-12 Teachers

These resources were created as a companion to *The Amazing Twins: Ancient Maya Tales from the Popol Wuj*, a puppet show created by Vanderbilt's Center for Latin American Studies and the Nashville Public Library. The show follows the adventures of twin gods Junajpu and X'balanke, whose triumphs against powerful forces make way for the creation of man from corn.

Written in the Western Highlands of Guatemala around 1550, and translated into Spanish in the 18th century by Friar Francisco Ximénez, the *Popol Wuj* is one of the most important indigenous texts of the New World. This collection of myths and legends was most likely written by members of the K'iche' Maya, who dominated the Western Highlands at the time of the Spanish conquest.



Center for Latin
American Studies



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The Amazing Twins



Themes to build on from the story

Creation Stories

The Ancient Maya

Modern Life of the Maya

Glyphs and Symbolic Writing

Archeology

Maya Architecture

Clothing and Culture

Weaving

Class and the Structures of Society

History of Food

Folktales and Mythology

Maya Ball Games

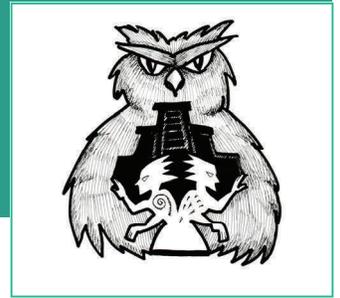
Numeration and Maya Math

Illustrations/Artwork

Storytelling

Puppets and Puppetry

Books from the Nashville Public Library



Allan, Tony	<i>Gods of Sun and Sacrifice: Aztec & Maya Myth</i>	j299.792 A418g
Ancona, George	<i>Mayeros: A Yucatec Maya Family</i>	j972.6 A54m
Brill, Marlene Targ	<i>Journey for Peace</i>	JB M536b
Cameron, Ann	<i>Colibri</i>	Spanish YA Fiction Cameron
Coulter, Laurie	<i>Secrets in Stone</i>	j497.415 C85526s
Crandell, Rachel	<i>Hands of the Maya: Villagers at Work and Play</i>	j972.83 C8912h
Crosher, Judith	<i>Technology in the Time of the Maya</i>	j609.72 C94t
Day, Nancy	<i>Your Travel Guide to Ancient Maya Civilization</i>	j972.81016 D2747y
Eboch, Chris	<i>Life Among the Maya</i> <i>The Well of Sacrifice</i>	j972.81 E167L JUV Fiction Eboch
Fisher, Leonard E.	<i>Gods and Goddesses of the Ancient Maya</i>	j299.73 F5348g
Gerson, Mary-Joan	<i>People of Corn: A Mayan Story</i>	j398.2 G38p
Harris, Nathaniel	<i>Ancient Maya</i>	j972.801 H3154n
Hermes, Jules	<i>Children of Guatamala</i>	j972.81 H55c
Kirwan, Anna	<i>Lady of Palenque: Flower of Bacal</i>	Juv Seriiies Kirwan Royal
Lieurance, Suzanne	<i>The Ancient Maya</i>	j972.81 L721a
Mann, Elizabeth	<i>Tikal: The Center of the Maya World</i>	j972.81016 M2814t
Matthews, Rupert	<i>You Wouldn't Want to Be a Mayan Soothsayer!</i>	j299.88323 M441y
McKissack, Patricia	<i>The Maya</i>	j792.8 M15m
Menchú, Rigoberta	<i>The Girl from Chimel</i> <i>The Honey Jar</i>	j868.703 M536g j398.2 M536h
Montejo, Victor	<i>Popol Vuh: A Sacred Book of the Maya</i>	j299.78415 M775p
Meyer, Carolyn	<i>The Mystery of the Ancient Maya</i>	j972.81 M61m
Miller, Mary	<i>Courtly Art of the Ancient Maya</i>	709.7 M6492c

Mora, Pat	<i>The Race of Toad and Deer</i>	j398.2 M82r
Palacios, Argentina	<i>The Hummingbird King</i>	j398.2 P1535h CIEC
Perl, Lila	<i>The Ancient Maya</i>	j972.81016 P4513a
Price, Mara	<i>Grandma's Chocolate</i>	E Price
Rhoads, Dorothy	<i>The Corn Grows Ripe</i>	Juv Fiction Rhoads
Schele, Linda	<i>Hidden Faces of the Maya</i>	709.72 S3221h
Scieszka, Jon	<i>Me oh Maya!</i>	Juv Fiction Scieszka
Schuman, Michael A	<i>Mayan and Aztec Mythology</i>	j299.72 S3925m
Shaw, Nancy	<i>Elena's story</i>	j398.2 P1535h CIEC
Shuter, Jane	<i>The Maya</i>	j972.81016 S5628m
Sola, Michelle	<i>Angela Weaves a Dream</i>	j746.14 S68a
Somervill, Barbara	<i>Ancient Maya</i>	j972.6 S6961a
Wagner, Heather	<i>Rigoberta Menchú Tum</i>	jB M536w
Wisniewski, David	<i>Rain Player</i>	E Wisniew

DVDs:

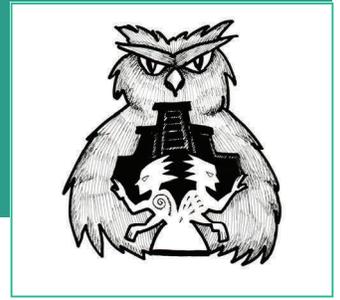
Nova: Cracking the Mayan Code DVD 497.42 C8838mW
Manuela & Esperanza: The Art of Maya Weaving; Endangered Threads Documentaries, 2009

Web links:

<http://youtu.be/99foDilswZA?t=30s> Lost Kingdoms of the Maya /National Geographic
<http://maya.nmai.si.edu/resources> Living Maya Time: Sun, Corn and The Calendar
<http://www.learner.org/courses/worldlit/popul-vuh/watch/> Annenberg Learner on Popol Wuj
<http://www.folkart.com/folktale/>
<http://ngm.nationalgeographic.com/2007/08/maya-rise-fall/maya-quiz-interactive>
<http://www.pbs.org/programs/quest-lost-maya/> Lost Maya of the Yucatan
<http://www.youtube.com/playlist?list=PL3E26CFE718F5DF5D> Animated Popol Wuj

Note: *The Maya* by Patricia McKissack; *People of Corn* by Mary Joan Gerson; and *Hands of the Maya* by Rachel Crandell; and *The Maya* by Jane Schuter are lower lexile level books for struggling readers.

The Maya Ancient and Modern



The Maya are native peoples who live in parts of Mexico, Belize, Guatemala, Honduras, and El Salvador. Archaeologists divide the period before the Spanish conquest in the 1520's into several periods.

The Pre-Classic period began as early as 1800 BCE (Before Common Era). During this time, the Maya began to live in villages and cities, and around 300 BCE to develop a Maya writing system.

In the Classic period (250 CE to 900 CE) the Maya expanded their settlements into great cities with large temple complexes, which were controlled by kings. These cities such as Tikal, Chichen Itzá, and Palenque, were comparable to or larger in size than European cities of that time. The Maya developed a sophisticated writing system using glyphs, as well as a unique number system that used a combination of bars and dots to create large numbers. Maya mathematics included the concept of zero.

By around 900 CE, many Maya cities such as Tikal and Palenque had fallen into decline. The reason for this decline is not known; theories include disease, warfare, or climate change. The Spanish Conquest in the early 16th century brought devastation and upheaval to the Maya people. As the Spanish crown established its own administration Maya people had to leave their homes and were relocated into newly founded Spanish cities. In the 1820ies Central American States like Guatemala gained independences from Spain.

While Maya civilization is often remembered for these Classic Era accomplishments, Maya culture did not end with the so-called collapse in 900 CE. Today there are over six million Maya people living throughout Central America—and many living as immigrants in the U.S.. Half the population of Guatemala are Maya. The Modern Maya show remarkable cultural resilience despite suffering from land equality and severe poverty. There are twenty-three Mayan languages spoken in Guatemala today and the Maya maintain traditions of dress and religion that can be traced back to the peak of Classic Maya civilization.

- Present a history timeline of Maya civilization. Compare the Maya timeline to other Ancient cultural timelines. History Standard 5.08; 6.5.spi.1; 6.5.spi.7; 6.5.spi.10;CCSS Writing7,8, 9.
- Examine what the Maya say about their contact with the Spanish in the *Chilam Balam of Chumayel* (see page 40) which is a history transcribed by a priest in the 1500's. What conclusions might you draw about what happened to the Maya, their towns and to their civilization? History Standard 5.13; Social Studies Standard 6.1.04; 6.5.tpi 9; 6.6.spi.1; CCSS.ELA-Literacy.RH.6-8.1; CCSS.ELA-Literacy.RH 6-8.3.

Discussion questions

How did the Maya interpret their encounters with Spanish conquistadors?

How accurately can we know what happened?

How does your own ethnic heritage influence your response to these accounts? What questions would you ask the narrators? The recorders?

Life Among the Maya



The majority of Maya were farmers. The main staple of their diet was maize or corn, which was sacred to their people. Other crops were beans, squash, avocado, sweet potato, guava, chili peppers, cocoa beans, vanilla beans, papaya and tomatoes.

The Maya grew most plants for food, although plants were also grown to make dyes for clothing and chewing gum from the Sapodilla tree. Maya people used plants to make medicine.

The people cultivated their fields as a community, planting seeds in holes made with a pointed wood stick. Fields were planted on steep mountain slopes, on plains, and in raised fields, on river beds, and also in swamps and bajos (wetlands). Over the last few decades we have learned that the ancient Maya practiced strategies as diverse as terracing, drained fields, raised fields, canals, continuous cultivation involving crop rotation and household gardens.

In addition to farming, the Maya raised dogs, turkeys and ducks for food, using the feathers from turkeys and ducks to decorate their clothing. They raised bees to make honey and, in the wild, they hunted deer, rabbits, boar, armadillos, fish, turtles, iguanas and insects. They used every part of the animal for food, clothing and tools and nothing was ever wasted.

Extended family all lived together in one compound. Maya houses were built on low platforms around an open patio. Each family's compound included: single room houses for each family, a well, a latrine, a place for food storage, a garden and a rustic-roofed batea (laundry room).

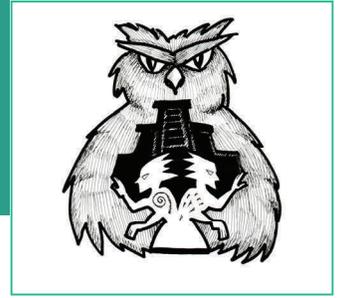
Each individual house was one rectangular room with rounded corners, no windows, and one central door built to face east. Sometimes there was another door that led to a second hut, or kitchen. In the traditional kitchens, women cook over fire on a clay griddle set over three rocks on the floor. When the hammocks were hung, the main, single-room house was converted into a dormitory.

The men farmed and hunted, and women were cooks and weavers. Children helped out with the chores and only went to school if they came from a noble family.

There was a class system in Maya culture with nobles, priests and commoners. The King was the most powerful person, and royal position was hereditary, which means that the oldest son would become the King when he died. The next most powerful were the priests who helped the king and lead religious ceremonies. The next strata of people were the commoners, who were mostly farmers. At the lowest level of society were the slaves, who were often captives from wars with other tribes or cities, or those labeled as criminals.

- For more information about ancient Maya life, read *Technology in the time of the Maya* by Judith Crosher; *The Mayas* by Delores Gassos; or *The Ancient Maya* by Lila Perl; *Tikal: The Center of the Maya World* by Elizabeth Mann.
- More recent stories of modern Maya life can be found in *The Girl from Chimel* by Rigoberta Menchu; *Hands of the Maya* by Rachel Crandell; *Children of Guatemala* by Jules Hermes; *Mayeros: A Yucatec Maya Family* by George Ancona; *Elena's Story* by Nancy Shaw; and *The Corn Grows Ripe* by Dorothy Rhoads.

Research Questions and Activities



- Research the social class system of the ancient Maya. Compare the social hierarchy in Maya society to that of Ancient Egypt. Make a presentation to the class and site your sources for information.

Social Studies Standards 6.4.01d; 6.4.02c; 5.03; 6.5.spi.11; 4.03

- The political relationship between classic Maya city-states has been likened to the relationships between city-states in classical Greece and renaissance Italy. Research the city-state in each of those eras and compare societies. Produce a chart that compares the economic and political realities of each time period, or write a paper on how the city-state developed in different parts of the world.

Social Studies Standards 1.05; 4.02; 6.4.01.b; 2.02; 6.02.01a & b; 6.2.tpi.2; 3.04

- Research farming practices, hunting techniques and foods that were important to the Maya. Did any of these foods travel back to Europe? Discuss which of the foods they valued that are still commonly used today?

Social Studies Standard 5.01; 6.5.04; 6.3.tpi.2; 6.1.04 b; 6.1.04c; 6.01.06c

- Write a paper about the history of chocolate or corn.

Social Studies Standard 6.2.tpi.1

- Write a story about the daily life of a Maya person, either ancient or modern. Describe what they wear, where they live, what activities they do each day, etc. Illustrate the story if you like.

Social Studies Standard 6.3.tpi.4

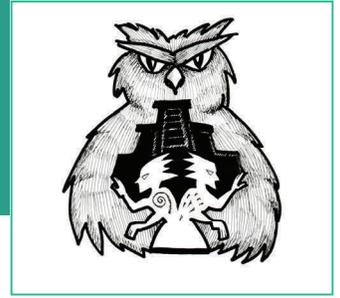
- How does the historical treatment of Maya communities affect who they are today? Cite specific examples from ancient and modern history.

Social Studies Standard 6.6.tpi.8

- Research a Maya menu and put together a feast of foods of the Ancient Maya for your class to enjoy.

Social Studies Standard 6.1.tpi.2

Maya Religion



Religion was central to the Maya. Nature was seen as alive, with spirits and deities, and religious stories were used to explain how gods created and sustained the world.

The Maya believed that reality was made up of an upper world and underworld. They were linked together by a giant tree, which had its branches in the heavens, and its roots in the underworld. Another Maya explanation was that the world was carried on the back of a giant turtle and that gods lived in the sky and heavens with a watery world below that eventually become the earth. People communicated with the gods through prayers, sacrifices and visions.

Maya gods were often seen as forces of nature, and since the people were farmers; many of their gods were agricultural. Chac was the god who would bring rain, a most important deity to an agricultural people. Chac was often represented in art with a reptile face and fangs and he carried a lightning ax.

Itzamna was the lord of both day and night. The Maya thought of him as their first priest, the inventor of writing, and the god of medicine. Yum Kaax (pronounced Yoom K'ash) was the god of corn and one of the most important gods to the Maya farmers. He was the father of the Hero Twins whose story is told in the Popol Wuj (pronounced Po-pol Wooh). Ix Chel (Ish-Tshel) was a rainbow goddess, who was associated with healing, childbirth, and foretelling the future.

Many Maya would have an animal spirit guide, but powerful shamans could have more than one guide, and were believed to have the power to transform into an animal. Royalty was often accompanied by a jaguar. Kings were depicted in art as wearing jaguar helmets.

The Maya made sacrifices to their gods, often offerings of food harvests or animals. On high religious holidays, however, people, often captives from war, might be sacrificed. Because they believed that blood nourished the gods, and helped people to connect with animal spirits, the Maya practiced bloodletting. This practice involved cutting a person to make them bleed in a ceremony.

The Kings were not only the rulers of the people, but also direct conduits who could communicate with the gods. The Kings would perform many of the rituals for the people so that the gods would be happy with them. The King was often seen as the embodiment of the world tree that connected the people to the gods.

- Read the creation story of *The Popol Vuh* by Victor Montejo and write a paper, comparing and contrasting a creation story from another Native American culture. Social Studies Standards 6.1.spi.4; 6.1.tpi.12; 6.1.tpi.8; 6.1.spi.7
- Write a book report on one of the following books: *Gods and Goddesses of the Ancient Maya* by Leonard Everett Fisher; *Gods of Sun and Sacrifice* by Tony Allan and Tom Lowenstein; or *Maya and Aztec Mythology* by Michael A. Schuman. Standard 6.1.tpi.7
- Read contemporary versions of Maya creation stories in *The Honey Jar* by Rigoberta Menchu or *The People of the Corn* by Mary-Joan Gerson. Social Studies Standard 6.1.tpi.7
- Read aloud to your class sections of *You Wouldn't Want to be a Maya Soothsayer! Fortunes you'd rather not tell.* by Rupert Matthews; Social Studies Standard 6.4.02.c

In its heyday from A.D. 250 to 900, the Maya civilization boasted hundreds of cities across a vast swath of Central America. Now archeological sites, these once-flourishing cities were ceremonial centers where Priests and Kings practiced a complex religion based on a host of gods, a unique calendar, and ceremonies that featured a ball game and human sacrifice. The ancient Maya also mastered astronomy, mathematics, art and architecture, and a glyph system of writing on stone, ceramics, and bark paper.

You will find ***Dig it!: Discovering Archaeology*** a study guide containing three wonderful lessons that provide an introduction to Archeology created by the Haffenreffer Museum of Anthropology at Brown University. The following is their web address:

<http://www.brown.edu/Facilities/Haffenreffer/documents/DigItteacherpacket--Final.pdf>

More Archeology Activities by Allyson Ordnung and Emily Green-Cain

- As a project, invite a group to make a visual, or interactive, map of known ancient Maya sites with visual references of famous ruins of temples and other civic structures.

Standards 6.3.02.c; 6.03.spi.3;

- Find out what is involved in a full scale “dig”. Make a presentation to the class about a famous archeological discovery in Mexico or Guatemala; include pictures, details, step-by-step process. You will find details about many discoveries of Maya sites, in the book *Ancient Maya* by Nathaniel Harris or *The Mystery of the Ancient Maya* by Carolyn Meyer.

Standard 6.1.spi.2;

- View some ancient treasures archeologists have found in *The Courtly Art of the Ancient Maya* by Mary Miller and Simon Martin; or in *Hidden Faces of the Maya* by Linda Schele. Make a slide show in Power Point to share some of these with your class.

Standard 6.1.tpi.6

- Research a large frieze that was discovered in June of 2013 by Guatemalan archaeologist Francisco Estrada-Belli, a professor at Tulane University's Anthropology Department, and his team in the Northern Province of Peten. Explain to your class what they found, and why the discovery is important.

Standard 6.1.tpi.4

K'iche' Mayan Language



The K'iche' Mayan language, the language of the Popol Wuj, is the largest of over 20 Maya languages in Guatemala. It is spoken by about 1 million people who live in the central highland of Guatemala

Many children learn K'iche' first from their parents before they learn Spanish in school. Younger K'iche' Maya are bilingual and switch back and forth depending on the situation: K'iche' is spoken in the homes and in many smaller towns, Spanish is the language of government, education and public life. There is a movement to include bi-lingual education into schools, so that children who come to school without any knowledge of Spanish will be able to learn quickly.

To hear an example of spoken K'iche', take a look at this YouTube video, in which the Guatemalan town of Nahuala is announcing the opening of a library:

<http://www.youtube.com/watch?v=CpaApRq6Ju8>

Here are a few sounds and phrases from K'iche'

Pronunciation guide

<u>Maya</u>	<u>English</u>
x	sh
q	like k pronounced in the very back of your throat
a,e,i,o,u	like Spanish vowels a,e,i,o,u
j	like a strong h as in <i>hat</i>
b'	similar to b
tz	ts as in <i>cats</i>
ch	tsh as in <i>choo-choo</i>
'	glottal stop, like the sound that separates the two parts in <i>uh -oh</i> stress falls on last syllable

Phrases in K'iche'

Jas ab'i'?	What is your name?
Nub'i' Mareike	My name is Mareike
Maltyox	Thank you
Saqarik! La utz awach	Good morning. How are you?
Utz maltyox. La utz awach at?	Very well, thank you. How about you?
Utz maltyox.	Very well, thank you



K'iche Mayan words for counting to ten

(see pronunciation guide on preceding page)

Jun	1
Keb'	2
Oxib'	3
Kajib'	4
Jo'ob'	5
Waqib'	6
Wuqib'	7
Wajxaqib'	8
B'elejeb'	9
Lajuj	10

Language and Art: “Go Down in History”



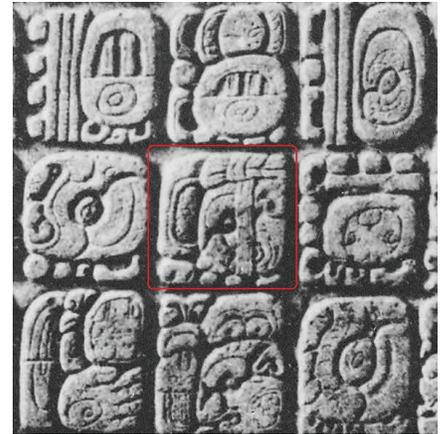
Activity by Valeria Loera; Standard 6.1.tpi.3; 6.5.spi.4

Read about Maya hieroglyphs in *Secrets in Stone, All About Maya Hieroglyphs* by Laurie Coulter. Make a record of your life on a roll of paper (this represents your “stele” or memory stone), using Maya glyphs to tell about yourself. Include the following information on your memory stone:

Name

Birthday

One interesting fact about yourself



Some names/letters do not have a corresponding sound in the Maya language. Here are substitutions if you can't find your letter sounds on the chart:

Consonant Substitutions:

C (soft as in Cindy) - Use S+vowel (i.e. sa, se, si, so, or su)

C (hard as in Cathy) - Use K+vowel

D Use T+vowel

F Use P+vowel

G (soft as in George) - Use Ch+vowel or T+vowel

G (hard as in Gary) - Use K+vowel

J Use Ch+vowel or T+vowel

Ph Use P+vowel

Q Use Ku+W+vowel [Ex. qua=ku+wa and qui=ku+wi]

R Use L+vowel

Sh Use X+vowel [X is pronounced as 'sh']

St Use Tz+vowel [Ex. Kristy = Ka-li-si-ti]

Th Use T+vowel or X+vowel

V Use W+vowel

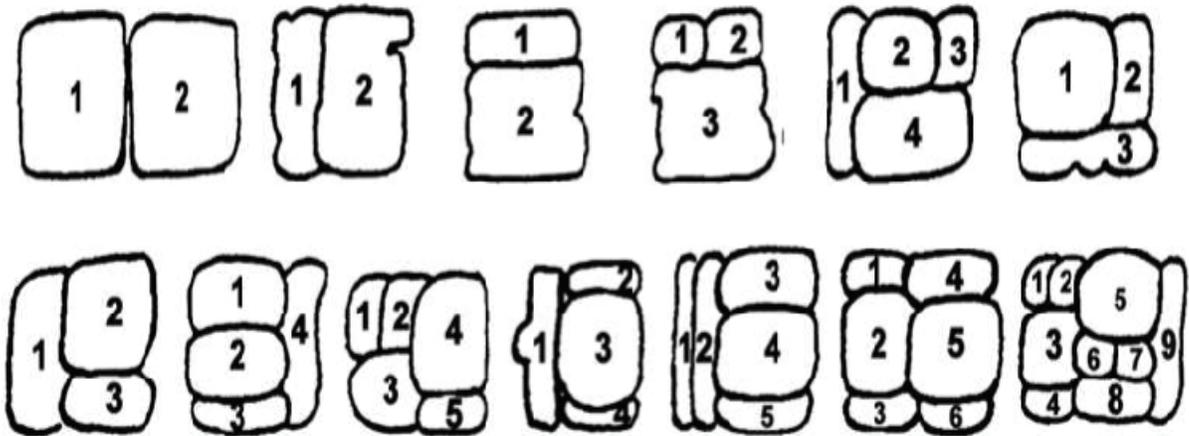
Z Use Tz+vowel

Come up with a strategy for fitting the sounds of your name into glyphs, even if they are not directly on the chart. Be able to explain the strategy you used.

Language and Art: “Go Down in History”



When writing your name you can use the formats below depending on how many symbols you use in your name.



Read more about glyphs and Maya writing in *Secrets in Stone: All About Maya Hieroglyphs* by Laurie Coulter.

More glyph and language projects! From Allyson Ordnung

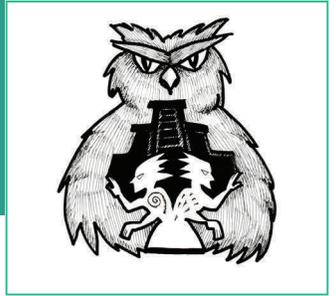
- As a class, create a “wall hanging” of a school motto or catchphrase on butcher block paper to hang in school commons area, sharing with entire student body. 6.1.tpi.3;
- Design an Ancient Maya T-shirt. What would it say? Get some old T-shirts and paint pens and draw your design. 6.1.tpi.3
- Research the Madrid Codex or the Dresden Codex (<http://www.mayacodices.org/>). Group project. Create almanac pages in leaf, accordion-style, as realistically as possible (your research will explain what I mean). Use existing, authentic glyphs from archeological discoveries with “Maya math” dates. Share your research with class. 6.1.tpi.10; 6.1.tpi.3; 6.5.spi.3; 6.5.spi.4; 6.5.tpi.2.
- Create a Maya glyph coloring book to teach preschoolers about this culture. You may also write your own Popol Wuj “story book” using this kind of art as illustrations. 6.1.tpi.13

Glyph Chart



	a	e	i	o	u
b'					
ch					
ch'					
j					
k					
k'					
l					
m					

Glyph Chart



	a	e	i	o	u
n					
p					
s					
t					
k					
k'					
w					
x					
y					

Maya Math: counting, adding and subtracting



\SPI 0606.1.3; SPI 0606.3.4

Our math is based on a count of 10. Maya Math is based on a count of 20. Study the following chart of numbers from 1 – 20 in Maya notation. What do you notice about the symbols? How are the bars and dots used to help you calculate easily?

Instead of the numbers 0 to 9, Maya Math uses three symbols:

	A dot represents the number 1		A stick represents the number 5		A shell represents the number 0
---	-------------------------------	---	---------------------------------	---	---------------------------------

Numbers 1 -20

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

Addition of Maya numerals, like in base 10, involves adding symbols, and carrying to the next place value when the previous one contains more than it can hold. We can simply add lines to lines; and dots to dots. Talk through this equation with your class. This type of addition is easier to visualize with sets of sticks and small markers such as glass beads or stones.

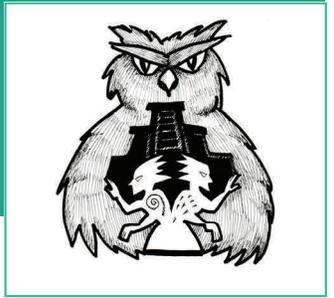
$$\begin{array}{c} \cdot \\ | \end{array} + \begin{array}{c} \cdot \\ \cdot \\ | \end{array} = \begin{array}{c} \cdot \\ \cdot \\ \cdot \\ | \end{array} = \begin{array}{c} \cdot \\ | \\ | \end{array}$$

(Notice how the six dots in this equation become a line represent 5 and 1 dot)

When subtracting we must also look at how many dots and lines we have in each position. But in order to subtract we may need to make some lines into dots. For example:

$$\begin{array}{c} | \\ | \\ | \end{array} - \begin{array}{c} \cdot \\ | \end{array} = \begin{array}{c} \cdot \\ \cdot \\ | \end{array} - \begin{array}{c} \cdot \\ | \end{array} = \begin{array}{c} | \\ | \\ | \end{array}$$

Maya Numbers: Worksheet 1



Section 1

Directions: Using the Mayan Number Chart, identify each of the following numbers:

- 1)  = _____ 6)  = _____
- 2)  = _____ 7)  = _____
- 3)  = _____ 8)  = _____
- 4)  = _____ 9)  = _____
- 5)  = _____ 10)  = _____

Section 2

Directions: Convert and draw the Mayan numerical symbol for each number:

- 11) 12 = _____ 16) 19 = _____
- 12) 17 = _____ 17) 6 = _____
- 13) 4 = _____ 18) 13 = _____
- 14) 11 = _____ 19) 9 = _____
- 15) 10 = _____ 20) 0 = _____

Maya Math: counting, adding and subtracting



As the Maya number system is based on a count of 20, each level is based on the number of 20's (starting at the bottom with 1's) . This could continue building like a tower to calculate huge numbers.

5
4
3
2
1

Fifth level $20 \times 20 \times 20 \times 20 = 160,000$ (20 to the 4th power)

Forth level $20 \times 20 \times 20 = 8,000$ (20 to third power)

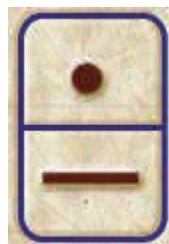
Third level $20 \times 20 = 400$ or (20 squared)

Second level 20's

First level 1's

Notice that the number 20 begins another level of counting. You have one 20 and 0 ones.

The number 25



$$1 \times 20 = 20$$

$$5 \times 1 = 5$$

is written this way:

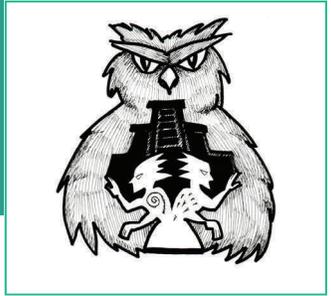
As a class...

Watch a demonstration of Maya addition and subtraction using small and large numbers, then gather sticks, stones and shells to do your own Maya math activity: <http://www.jaguarstones.com/VideoMath.html> SPI 0606.1.3

On your own...

Take the Maya Math Challenge online from the Smithsonian Museum of the American Indian to see if you identify and translate Maya numbers. <http://maya.nmai.si.edu/maya-sun/maya-math-game> SPI 0606.1.3

Maya Math: Worksheet 2



Name: _____

Directions: Complete the following charts, using the example as a guide.

Power of 20	Mayan Number	Meaning	Value
8000's	● ●	8000×2	16,000
400's	● ● ● ●	400×4	1,600
20's	● ● ●	20×3	60
1's	██████████	1×5	5

Total = 17,665

Power of 20	Mayan Number	Meaning	Value
8000's		8000×6	
400's		400×16	
20's		20×5	
1's		1×18	

Total =

Power of 20	Mayan Number	Meaning	Value
8000's	●		
400's	██████████		
20's	██████████ ██████████		
1's	██████████ ██████████ ██████████		

Total =

Power of 20	Mayan Number	Meaning	Value
8000's	●		
400's	● ● ● ●		
20's	██████████ ██████████		
1's	██████████ ██████████ ██████████		

Total =

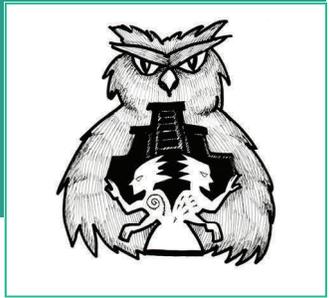
Power of 20	Mayan Number	Meaning	Value
8000's		8000×4	
400's		400×5	
20's		20×8	
1's		1×16	

Total =

Power of 20	Mayan Number	Meaning	Value
8000's	██████████		
400's	██████████		
20's	██████████ ██████████		
1's	● ●		

Total =

Maya Math: Worksheet 3



Directions: Using the Mayan numerical system, compute each problem. Be sure the final answer is in Mayan numerical symbols.

Name: _____

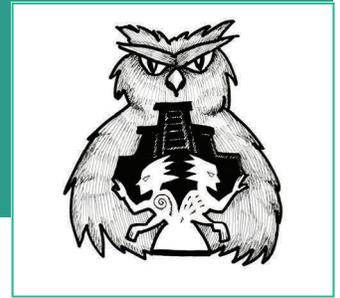
+		Total =	

-		Total =	

×		Total =	

÷		Total =	

Math Worksheet 1: Answer Key



Section 1

Directions: Using the Mayan Number Chart, identify each of the following numbers:

- | | |
|-------|-------|
| 1. 5 | 6. 4 |
| 2. 7 | 7. 9 |
| 3. 15 | 8. 5 |
| 4. 11 | 9. 6 |
| 5. 16 | 10. 0 |

Section 2

Directions: Convert and draw the Mayan numerical symbol for each number:

- | | |
|--|--|
| 11) 12 =  | 16) 19 =  |
| 12) 17 =  | 17) 6 =  |
| 13) 4 =  | 18) 13 =  |
| 14) 11 =  | 19) 9 =  |
| 15) 10 =  | 20) 0 =  |

Maya Math: Worksheet 2 Key



Power of 20	Mayan Number	Meaning	Value
8000's	● ●	8000×2	16,000
400's	● ● ● ●	400×4	1,600
20's	● ● ●	20×3	60
1's	▬	1×5	5

Total = 17,665

Power of 20	Mayan Number	Meaning	Value
8000's	● ▬	8000×6	16,000
400's	● ▬ ▬	400×16	6,400
20's	▬	20×5	100
1's	● ● ● ▬ ▬	1×18	18

Total = 54,518

Power of 20	Mayan Number	Meaning	Value
8000's	●	8000×1	8,000
400's	▬	400×5	2,000
20's	▬ ▬	20×10	200
1's	▬ ▬ ▬	1×15	15

Total = 10,215

Power of 20	Mayan Number	Meaning	Value
8000's	●	8000×1	8,000
400's	● ● ● ●	400×4	1,600
20's	▬ ▬	20×10	200
1's	▬ ▬ ▬	1×15	15

Total = 9,815

Power of 20	Mayan Number	Meaning	Value
8000's	● ● ● ●	8000×4	32,000
400's	▬	400×5	2,000
20's	● ● ● ▬	20×8	160
1's	● ▬ ▬	1×16	16

Total = 34,176

Power of 20	Mayan Number	Meaning	Value
8000's	▬	8000×5	40,000
400's	▬	400×5	2,000
20's	▬ ▬	20×10	200
1's	● ●	1×2	2

Total = 42,202

Maya Math: Worksheet 3 Key



 11,346	+	 11,006	8000×2 400×15 20×17 1×12 Total =	$16,000$ $6,000$ 340 12 <hr/> $22,352$
------------	---	------------	--	--

Add across each line first. Check your answer by adding the two complete numbers.

 11,346	-	 11,006	8000×4 400×6 20×5 1×3 Total =	$32,000$ $2,400$ 100 12 <hr/> $34,503$
------------	---	------------	---	--

Subtract across each line first. Check your answer by subtracting the two complete numbers.

 90,915	×	 42,022	Total =	$3,820,430,130$
------------	---	------------	---------	-----------------

 18	÷	 6	Total =	3
--------	---	-------	---------	-----

Document Your Birthday



The solar year is called Haab (sometimes also spelled Jaab'), and consisted of a year of 360 days and five in-between days, which were sometimes called unlucky days. On these days they fasted and made sacrifices and didn't do any work they didn't need to do. This Haab' year is divided into 18 months of 20 days each. The months names are represented by glyphs, and the days of each months are counted off with the numbers 0 through 19.

Maya months



Pop



Wo



Sip



Zotz'



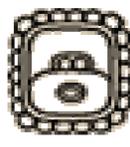
Sek



Xul



Yaxk'in



Mol



Ch'en



Yax



Sak



Kej



Mak



K'ank'in



Muwan



Pax



K'ayab'



Kumk'u



Wayeb'

Document Your Birthday



Maya day names



Imix



Ik



Akbal



Kan



Chicchan



Cimi



Manik



Lamat



Muluc



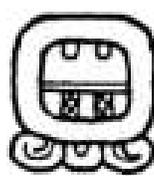
Oc



Chuen



Eb



Ben



Ix



Men



Cib



Caban



Etz'nab



Cauac



Ahau

Document Your Birthday



The Long Count

The Maya counted days and years from a zero point as well. This count is called the Long Count. Texts which recount historical events often begin with a long count to identify exactly when the event took place. The zero point of the Maya corresponds to the day August 11th, 3114 B.C/BCE in our calendar system. The days were counted in units of twenty, with the exception of unit Tun which had only 18 units of Uinal in it. This way the Tun (360 days) is close in number to the solar year of 365 days (see below):

Scholars write long count number also in the following way, the units separated by a period, beginning with the highest unit: The long Count 13.0.0.11.3 describes the number of days that have passed since August 8, 3114 to reach August 1, 2013

3 times Kin (or 1 day)	=	3
0 times Uinal (or 20 days)	=	0
0 times Tun (or 360 days)	=	0
11 times Katun (or 7200)	=	79,200
13 times Baktun (or 144.000)	=	1,872,000
Added together	=	1,951,203 days have passed since August 8, 3114 BC to reach August 1, 2013

Go to this website <http://www.diagnosis2012.co.uk/mlink.htm> and enter your birth month, day and year in the Gregorian calendar on the left hand side, then hit calculate.

Find your day name: Do the calculation as given on the website, but let only the Tzolkin day (from the 260 day calendar) name count. The students then can make name tags with that glyph name for themselves.

Calculate your full birthdate in Maya, using the Long Count, Tzolkin, Haab. For example:

June 5, 1968 corresponds to 12.17.17.14.14.10 (days that have passed since August 8, 3114)

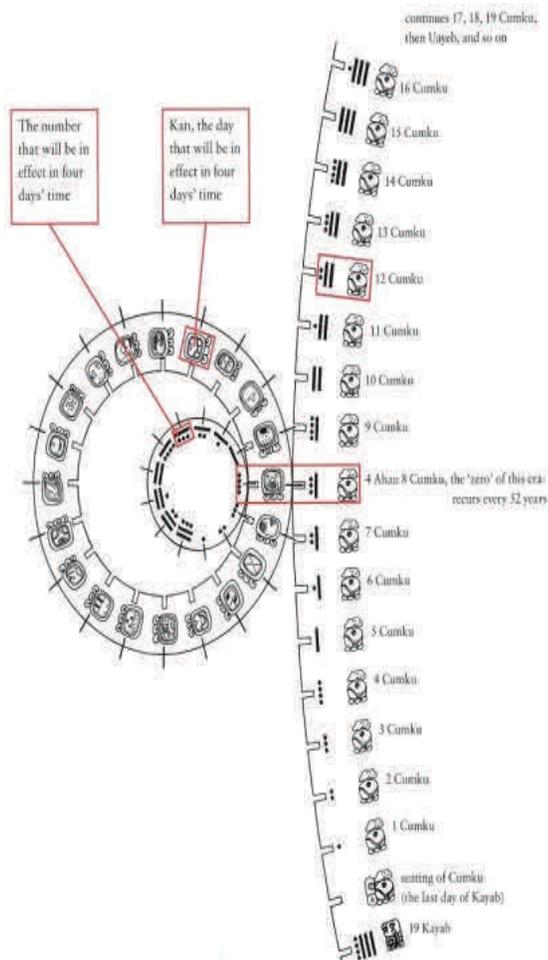
13 Cib 10 Oc

Math Standard 6.5.spi.6.

The Maya Calendar



Standard 6.1.tpi.11



Source: Robinson, Andrew. (2007) 'How the Maya Calendar Works'. New York: Thames & Hudson

What Maya called days were *Kins*.

1 day = 1 Kin

20 Kin = 1 Uinal (20 Days)

18 Uinals = 1 Tun (360 Days)

20 Tuns = 1 Katun (7,200 Days)

20 Katuns = 1 Baktun (144,000 Days)

20 Baktuns = 1 Pictun (2,880,000 Days)

The Maya had a very sophisticated calendar system. It consisted of two calendars: the Tzolkin which was 260 days long, and the Haab, a 365 day solar calendar similar to ours.

Parallel to the solar calendar round, the Maya used, and still use today, is a 260-day calendar (or Tzolkin). This calendar consists of 20 days which are continually combined with the numbers 1 through 13: 1 Imix, 2 Akbal, 3 Ik..... 13 Ben, 1 Ix, 2 Men etc. After 260 days every combination of day name and number has been used one time, and the cycle begins again. Each day has a specific character and is used to set religious celebrations, agricultural events, could determine the name of a new born child and might set his or her fate for the future.

The diagram above shows how the Haab and the Tzolkin calendar rounds work together. The right wheel shows the solar year round (Haab), the left wheel contains the day names in combination with their numbers (Tzolkin). A Maya date was expressed by the expressions from the Haab and Tzolkin: 3 Ahau 8 Cumku, where 3 Ahau represents the Tzolkin, 8 Cumku the Haab. Every 52 years the same combination of Haab and Tzolkin appears again.

Maya Huípiles



A **huipil** (we-peel) is a hand-woven blouse worn by Highland Maya women in Guatemala. A huipil consists of a rectangular piece of cloth with a hole in the center for one's head. A design is woven onto the portions of the cloth that are visible when the huipil is worn. The huipil is tucked into a wrap-around skirt (*corte*) and secured with a belt. Women weave huipiles for themselves and their family, and to sell them in the market.



Huipil from The Haffenreffer Museum of Anthropology's collection; photograph by Sarah Philbrick

Huipiles are made out of cotton. In the past, the Highland Maya grew and harvested the cotton themselves, then spun and dyed the thread to prepare it for weaving. Today, Maya women purchase factory spun cotton yarn. Huipiles are woven on a backstrap loom.

In a backstrap loom the *warp* (threads running lengthwise) is stretched out between two sticks, one of which is attached to a post or a tree, while the other one is strapped to the weaver's back. To make a piece of cloth, the *weft* (threads running horizontally) is inserted in the warp. To lock the weft into place, the warp threads are lifted and crossed with the help of a *heddle* on every row. The heddle consists of a series of string loops attached to a stick with which the warp threads can be separated to insert the weft thread. A *batten*, also called or beater or sword is a heavy flat piece of wood, which is used to beat down the just woven row to create a dense and firm fabric.

The designs of a huipil are inserted together with the weft. They can be a very intricate and show the weaver's skill. Some huipiles may take several months to complete. Since the loom produces a narrow strip of cloth, women must weave two strips and sew them together to complete the garment. The position of weaver is an honored one in the community, and the girls who are honored in the community for their skill are often invited to join the master weaver's guild.



photographs by Margot Schevill

Each community has its own specific huipil designs. Without saying a word, a woman's huipil could tell you which community she came from. Designs can include geometric shapes, stars and suns, and natural objects such as flowers, birds, and butterflies. Since the highland Maya make their living by farming, natural symbols like the sun are very important to them.

The huipil designs may have religious meaning as well. The head hole may represent the sun and the center of the universe. When a woman puts on her huipil, she places herself in the center of that universe, surrounded by symbols of her family and community — in short, the symbols that are important to her and to her culture.

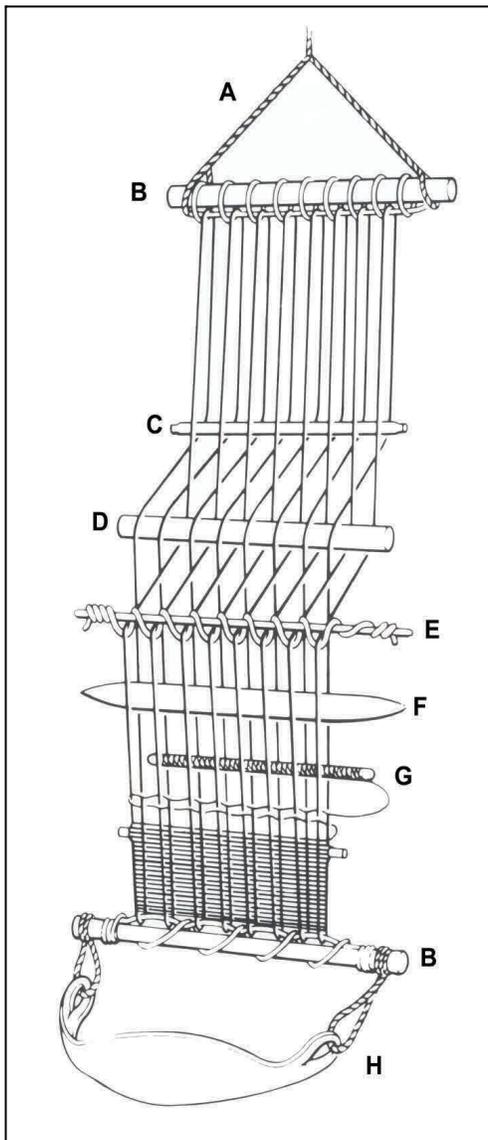
Thousands of Highland Maya people were affected by the civil wars in Guatemala that lasted from 1960 to 1996. The Guatemalan army killed many Maya people who were thought to be helping the rebels. In the 1980s, the army targeted women wearing *huipiles* with symbols that associated them with communities where the army thought rebels were based. To protect themselves, many Maya women disguised the symbols on their *huipiles* so that the army could not tell which communities they were from.

Highland Maya women continue to make and wear huipiles and other traditional clothes today, even with the availability of European-style clothing. Here is a beginning weaver's prayer, spoken to Santa Rosario, the weaver's patron saint, from the book *Angela Weaves a Dream: The Story of a Young Maya Artist* by Michele Sola.

Give me three graces
Give me three *battens*
Give me three *heddles*
So I may weave my cloth
So I may weave my sampler
So I may one day weave my own huipil

(A *batten* is a straight stick that holds the long warp threads to keep them from getting tangled. A *heddle* is a flat wide stick that is used to push the rows of weaving into place. See diagram on page 31.)

Clothing as Culture



Draw the outline of a *huipil* on a sheet of paper. Make one photocopy for each student making a *huipil*. Have students research some of the designs on traditional Maya *huipiles* in the book *Angela Weaves a Dream* by Michele Sola, or on the internet. Using paper and markers, invite students to draw their own *huipil* designs based on their research. Students can also create their own symbols for a personal huipil design. Standard 6.1.tpi.10

Discuss how identity plays a role in the designs, symbolism, media, and colors used in each object. Invite your students to bring or wear an article of clothing that they feel expresses their culture or identity. Ask them to show the example to the class or a small group and describe why it is important to them. Standard 6.1.05a.

Invite students to discuss ways in which they record their history or stories, i.e. journals, diaries, letters to friends, blogs, twitters, or through painting, drawing, or sketching, etc. Standard 6.01.01.b;

Read one of these books about Maya weaving: *Abuela's Weave* by Omar Castaneda; *Hands of the Maya: Villagers at Work and Play* by Rachel Crandell; or *Angela Weaves a Dream* by Michelle Sola

Key to diagram:

A = A cord or rope is used to tie the loom to a tree or post.

B = End bars are used to hold the warp (vertical threads) to the upper and lower ends of the loom.

C and D = Shed rods maintain the crossing of the warp's threads.

E = The heddle rod lifts alternate threads of the warp.

F = The batten helps to separate alternate threads of the warp to allow the bobbin (G) to pass through them. The batten can also be used to tighten the weft (horizontal threads) as they are woven.

G = The bobbin, containing the thread of the weft, passes from side to side between the warp.

H = This belt is worn around the weaver's back and connects her to the loom. The weaver controls the tension on the warp by leaning backward or forward.

[Pg 55 from the following publication: *Schevill, Margot and Christopher Lutz, 1993 Maya Textiles of Guatemala*. The Gustav A. Eisen Collection. University of Texas Press]

Maya Figurines



On the island of Jaina, off the coast of the Yucatan Peninsula, hundreds of clay figurines were found in the tombs. These figurines are replicas of Maya dress and life ranging from courtiers, warriors and priests; to entertainers, ball players and prisoners of war. These figurines were small (6 – 8 inches tall) and highly detailed.

- Create a slide show of figurines from the Maya culture and discuss what they are wearing and what class they represent. Standard 6.1.tpi.13; 6.5.tpi,2; 6.5.spi.3.
- Make a replica of a Maya figurine from clay. Make a people-shaped form from aluminum foil and pose it how you like, then build with air dry clay on top of it. Look at pictures or statues of Maya dress. Make a priest, or a ball player, or a townsman. Standard 6.1.05a.
- Create a paper cut illustration of a Maya figurine in the style of David Wisniewski in the book *Rain Player*. You will need bright color papers, a mat knife (*use only with adult supervision*) and a cutting board.

See images of Maya figurines in the books *The Maya* by Jane Shuter; *Hidden Faces of the Maya* by Linda Schele; *The Maya Indians* by Victoria Sherrow; *Courtly Art of the Ancient Maya* by Mary Miller.

The Maya Ball Game



The Maya played a game that was a distant ancestor to soccer, basketball and volleyball. Although we are not sure about the exact rules of the game, here are some possible basic rules:

- The object of the game is to get the most points
- You hit the ball through a hanging stone ring to score
- Hands can only touch the ball if it is “out of bounds”.
- The ball is “out” if it touches the ground
- There are two teams playing
- Both teams wear padding

The Ball Game, called ***pok-a-tok*** was sacred to the Maya. It was an extension of their religion, and involved a great deal of ceremony. The game may have been a reenactment of the Maya myth of the Hero Twins. In the myth, the hero twins had to battle the gods of death from the underworld by playing a ball game.

The ball is believed to represent the moon and the sun and the court represents the earth. The ball was kept in the air, just as the sun and the moon were always in the sky. Many warriors and kings played the game fiercely.

Casual games were dedicated to the lesser gods and were friendly affairs. However, periodically there were large games dedicated to the major gods. In these games, the losers would be killed, and would have their heads displayed in front of the court.

The game would be played in an “I” shaped court, approximately 25 feet wide, by 75 feet long with a flat court and walls that sloped outward. The ball was six inches in diameter and made of solid rubber. Teams consisted of 2 to 11 players who would try to hit/bounce the ball through a small hoop that was about twenty-seven feet off of the ground.

The players would have to keep the ball in motion using parts of their bodies like hips, thighs and fore-arms, but the use of hands and feet was not allowed. The players would wear heavy arm and hip armor while playing, to protect themselves.

It was extremely difficult to get the ball through the hoop. Because of this, when a player was successful, the spectators would be expected to give him their clothing and jewelry. As a result, once the ball went through the hoop the spectators would leave quickly to avoid giving the player a reward.

To view a modern day enactment of a Maya Ball Game watch these YouTube videos:
<http://youtu.be/J-RW4JJZvDs> or <http://youtu.be/jKvQjgC9sIY>

- Why do you think the Ball Game central to the story of The Hero Twins? Who traditionally played the Ball Game? What purposes do such games play in a culture? Do we have games that carry that much importance? Compare a game you know to the Maya Ball Game using a Venn Diagram. Standards 6.5.tpi.9; 6.1.tpi.6
- The Maya Ball Game gave us an invention that we still use today – the rubber ball. Research how the Maya made their rubber balls, and how they were used in the Maya Ball Games. 6.1.05.a ; 6.01.06b

Literature and Story



- Research the story of “Popol Wuj,” comparing and contrasting other creation stories from the Americas. Students can write, illustrate and dramatize their own version, using technology like storyboard and movie maker. – Allyson Ordnung Standard 6.1.tpi.12;

No technology available? Simply divide the class into small groups and give each group a large piece of poster board and a number of large index cards. Invite the students to create a story board of one of the scenes from the story. A storyboard is like a scene in a comic book or manga...where you tell the story by using pictures.

Most commonly, storyboards are drawn in pen or pencil. If you don't like to draw you can also take photos, cut out pictures from magazines, or use a computer to make your storyboards. Keep in mind that your drawings don't have to be fancy! In fact, you want to spend just a few minutes drawing each frame. Use basic shapes, stick figures, and simple backgrounds. If you draw your storyboard frames on index cards, you can rearrange them to move parts of the story around.

Important questions when making a storyboard: *Who is in the scene? What are they doing? Where are they?* The storyboard should move characters from one action to the next.

- Invite your students to create a stage for shadow puppets using a science fair board with a square cut out and covered with thin white paper, or a bit of fabric from a white sheet or T-shirt. Light your shadow puppet theatre with a clip-on lamp from a hardware store, or a lamp from home. Watch a shadow puppet character by linking to a video by Australian puppeteer Richard Bradshaw: <http://www.youtube.com/watch?v=8BjFkxooFRY>
- Make a sequence of animal shadow puppets cut from heavy cardstock that will swallow each other like the story. You can use metal brats to hinge moving parts like mouths, legs and wings. Make a louse, a toad, a snake and an eagle. Each one will need to be big enough to swallow the one before, so start small! CCSS Writing 3; Speaking and Listening 2, 4 & 5
- Research the Maya Ball Game and create a puppet show to interpret a game with hand puppets and a ball (glued onto the end of a flexible, strong wire), relating the social significance of the game and how society viewed the players and ritual as a part of your skit. CCSS Writing 3; Speaking and Listening 2, 4 & 5
- Create an illustration, a poem, a dance or work of art inspired by the Maya creation story. Social Studies 6.1.tpi.13; CCSS Speaking and Listening 2, 4 & 5
- Read other Maya folktales like *The Hummingbird King* adapted by Argentina Palacios; *The Race of Toad and Deer* by Pat Mora & Domi, or stories from *The Honey Jar* by Rigoberta Menchu. 6.1.tpi.7; 6.5.spi.17;

Part One: The Creation Story



From the Puppet Show: *The Amazing Twins*

At the beginning of time...there was nothing.

No fish, no birds, no animals, no people.

No meadows, fields, forests, valleys, mountains.

No seas. No lakes. No streams.

First, the heavens appeared, and those who lived within. From the heavens came Tepew and Q'uk'umatz – they were creators and makers

By the will of the Heart of the Heavens,

Tepew and Q'uk'umatz created the earth.

Tepew and Q'uk'umatz commanded the birds and animals to cry out and sing, each according to who you are. Invoking the names of the Creators and Makers and thanking the Heart of Heaven, who is also the Heart of Earth.

Then the Heart of Heaven instructed the Makers to create people who will honor them and will govern over the world and its creatures.

They formed a man out of clay, but the clay could not hold. In the rain, it melted away. So, they tried to make a human out of wood. At first, the wooden people were good, but they had no souls or any reason. They wandered aimlessly, forgetting about the Creators and the Heart of Heaven. They were heartless and rigid with no expression or feelings. So the Heart of Heaven brought forth a flood and wiped them all away.

Finally, they made people out of yellow and white corn. Their skin was light and dark and they spoke many languages. They were people who lived in the forest and had no homes. Their numbers grew and many nations were created.

And in this new world was good and evil - heroes and villains - those who lived above and those who lived below.

Questions for Part One



Who does the text refer to?

- Who were the Creators and the Makers?
- Where did they come from?
- What is meant by the phrase the “will of the heart of heaven”?

What does the text say that the gods ask of the animals and birds?

- When they commanded the birds and animals to sing, what do they ask them to do in the next sentence?
- What does it mean to “invoke the name”? What are they asking the birds and the animals to do?

How were people formed?

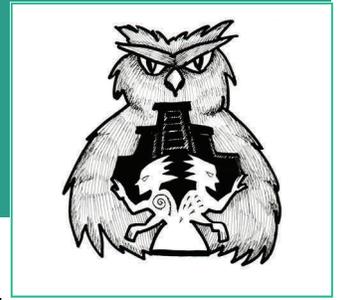
- Who formed people? Who ask them to do it?
- Site in the text what experiments they tried to form people. How did those experiments fail? How did they get rid of their failed experiments?
- What experiment finally worked? How do you know it worked?

The world ends up divided.

- What were the divisions that resulted from creation? Who lived above, and who lived below? Justify what you think from the text.

Part Two: The Amazing Twins

from *The Honey Jar* by Rigoberta Menchu



In ancient times, when there were no clocks and time passed without passing, *Jun aj Pu* and *Ix B'alam Kej*, the sacred twins, the founders of the universe, would play ball.

Thump! Thump! Thump, went the ball as it bounced off their knees and shoulders and the walls of the ball court. *Thump*, as they gave it a header.

Underground, the Lords of Evil Heard the *Thump! Thump! Thump* of the ball. Many, many years earlier they had defeated the twins' father in that same game. "Someone is playing above us on Mother Earth," they said. "It must be the twins, *Jun aj Pu* and *Ix B'alam Kej*. We'll challenge them to a game, just as we did their fathers."

And so they sent a louse with the message to come down at once to the kingdom of the Lords of the Underworld to play ball.

As if by magic, the louse fell onto the lap of the twins' grandmother. "Grandmother," the louse said. "I come from the Lords of the Underworld with a message for *Jun aj Pu* and *Ix B'alam Kej*. They must appear within a week to play ball against them."

The grandmother replied, "But how can I tell them? Their court is very far away and I can barely walk?"

"Don't worry," the louse answered. "I'll tell them myself."

And the louse flew off toward the field where the twins were playing. But he was a tiny louse and he could only fly ten yards an hour. "I'll never get there in time," he thought.

Just then he bumped into a toad who said, "Where are you going, louse, so eagerly and so quickly?"

"I'm going to the ball court with a message for the twins. But at my speed, I'll never get there," he explained, all aflutter.

"Don't worry," the toad answered. "I'll give you a hand." And *Gulp!* Out flashed his long tongue and he swallowed the louse.

The toad began to run – back then he had four very normal legs. Still, after an hour, he had only gone a hundred yards and the ball court was very far away. "I'll never get there in time," he thought.

Just then he bumped into a huge snake. In those days, toads and snakes were good friends, and they'd spent the afternoons chatting away.

"Where are you going in such a hurry?" the snake asked.

"I have a message for *Jun aj Pu* and *Ix B'alam Kej*," said the toad, "but no matter how fast I run, it's not fast enough."

“Don’t worry,” the snake answered. “I’ll give you a hand. And, *Gulp!* He swallowed the toad.

The snake slithered away making a racket like the wind blowing through the leaves. He was crossing a field when an eagle flying in the sky spotted him.

“I wonder where the snake is going so quickly?” he asked himself. He shot down to the field like an arrow and landed in front of the snake. “What’s wrong, snake? What’s your hurry?”

“I have an urgent message for the twins, who are playing ball, but at this speed, I won’t get there in time!” the snake lamented.

“Don’t worry,” the eagle told him. “I’ll give you a hand. With that, he swallowed, *Gulp!* And the snake ended up in the eagle’s belly. The eagle rose into the air and was soon flying over the field where the boys were playing.

But the twins, who were great hunters, saw the eagle and weren’t going to let their chance escape. *Bock! Bock! Bock!* They shot him down with their blowguns.

“Oh, my eye!” the eagle cried. “I have a message for you,” he said to the twins, “but if you don’t heal my eye, I won’t give it to you.”

Curious to hear what he had to say, the twins magically healed the eagle’s eye. “Now give us the message.”

“I have it here in my belly,” he said. And *burp*, he coughed up the snake.

The twins asked the snake, “What’s the message you’re bringing us?”

“I have it here in my belly,” The snake said. And *burp*, the snake coughed up the toad.

The twins asked the toad, “What’s the message?”

But the toad couldn’t speak because the louse was stuck between his teeth. He could only say “*Burp, burp, burp.*”

The twins got angry, because they thought he was making fun of them. And without thinking twice, they threw a rock at the toad and broke his legs. This is why toads hop along the ground today.

But the blow forced the toad to spit out the louse who finally gave the twins the message: “The Lords of the Underworld are waiting for you in their kingdom under Mother Earth.”

And so the twins went to play ball with the Lords of the Underworld. And from then on it was established that toads eat insects, snakes eat toads and eagles eat snakes. That’s how things happened in that time without time.

Questions for Part Two



- When does this story happen?
- Who was playing ball? Who heard them playing and how did they feel about it? What was their plan to get them to stop?
- Who calls the twins to go into the underworld?
- How does the character of the Grandmother function in the story? What does she do?
- Why did the twin have to go when they were summoned? Could they skip out, if they wanted?
- See if you can identify the sequence of messengers who carried the news to the twins. Why do you think that these particular creatures and animals were chosen? What is the pattern in their order?
- Which messengers were injured by the twins? Why were they injured? What does that tell us about the character of the twins?
- What happened when the toad couldn't talk?

Part Three: The Trip into the Underworld

(loosely retold by Lin Donn, edited by Emily Green-Cain)



The boys packed carefully for their trip. When the boys arrived at the house of the Lords, the Lords had made a false wooden figure to greet them. "Good morning," a voice said.

"We are not about to say good morning to a wooden dummy," they announced loudly. The real Lords came out from where they had been hiding. "You passed the test," smiled one of the Lords. "Take a seat," he said warmly, pointing at a cozy looking bench, which was really red hot metal.

"No hot seat for us," said the twins politely. "We'll stand here, thanks."

"You passed the second test," beamed one of the Lords. He sounded delighted about it. The twins were not fooled. They were challenged to more tests. They were sent to the Dark House. They did not light the cigars the Lords had given them to "light their way." Instead, they attached fireflies to the end of their cigars and got out that way.

They were sent to the Razor House. Sharp blades were supposed to cut them to ribbons. They escaped as a rat would, by crawling under the blades. They were sent to the Jaguar House. They escaped by feeding the Jaguars the bones they had brought along, just in case. The twins knew there would be test after test, until finally they died. When a Lord said, "Let us see if you can jump over this bonfire", the boys jumped into the fire instead and died.

The Lords scattered their ashes in the river. The life giving water cooled the fire. Magically, the Hero Twins came back to life, first as catfish, and finally, they turned back into their normal selves.

Not only were they still alive, the Hero Twins discovered quite by accident that they had picked up magical powers. They could cut themselves up and come back to life again, over and over. They could burn a house down and then restore it to its original shape. The Hero Twins traveled from town to town, performing tricks for a living.

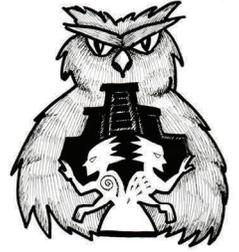
The Lords of Death heard of their amazing act. They sent the twins an invitation to the Underworld, not knowing that they were inviting the very twins they had killed so recently. When the twins performed their act, the Lords were delighted.

"Do me next," one Lord cried. "Chop me up and put me back together again!" The twins were delighted to chop him up. Only, *they did not* put the Lord back together again. The other Lords knew they had been defeated. Rather than risk losing any more, they sent the twins back to earth.

The gods of the heavens, who had lent a hand in all this, and who had provided a great deal of the magic, honored the courage and cleverness of the Hero Twins by making them rulers of the earth.

The rulers of the earth honored their parents and the other gods of the sky by giving them the best present they could think of. They built ball courts in every town in the world. And every game played, for the rest of time, was played in honor of their fathers and their fathers before them.

Questions for Part Three



The twins are called the Hero Twins, and they take what Joseph Campbell identified as “the hero’s journey” where one is called away from things *as they are*, and must descend into the underworld, undergoing many trials and challenges until the hero dies and is reborn.

- Identify the tricks that the Evil Lords tried to play on the Hero Twins in this section of text.
- How did the twins pass the tests? What caused them to fail when they jumped into the fire? Why did they jump in?
- What was the magical power of the hero twins when they came back to life.
- Who had a hand in the success of the twins, and provided the magic for them to succeed?
- From the text, point out one of the reasons that the ball game is considered sacred?
- How does the story of the twins follow Joseph Campbell’s description of the hero’s journey?

Things to Notice:

- What began Part Two, and ended Part Three? What does this tell you about what place the ball game had in the Maya society?
- What was the importance of the animals in this story?
- Do you think the Maya believed in an afterlife? What in the text supports your answer?

Mayan Account of the Spanish Conquest: Chilam Balam of Chumayel

EXCERPTS (1540-1546)

The Chilam Balam are sacred texts of the Yucatan Maya that record history, myth, religion, prophecies, medicine, and calendars. Each town compiled its own texts; the excerpts here are from the town of Chumayel.

La ix u katunil	That then was the <i>katun</i> period *
Yax hulci ob <i>español</i> lessob	When the Spaniards first arrived
Uay	Here
Tac lumil lae	In these lands.
T u uuc pis tun	On the seventh measured <i>tun</i>
Buluc ahau	Of 11 <i>Ahau</i>
U katunil	Was also the <i>katun</i> period that began
Ti ix hop'i <i>xpnoil</i> lae	Christianity,
T u habil <i>quinientos dies y nuebe años Do</i> 1519. . . .	In the year of our lord fifteen nineteen, 1519 V [by our calendar 1546]. . .
T u kin y an sulim chan	At that time there was Zulim Chan #;
T u kin y an chikin putun	At that time there were western Chontal
Uiilnom che	Hungering were the trees;
Uiilnom tunich	Hungering were the rocks ^
Ah satal uiil	The destroyer hunger
Ychil ah buluuc ahau katun	Was during the <i>katun</i> of the lord
Buluuc ahau u hop'ol u xocol	11 Ahau.
Y oklal lay katun y an ca uli tz'ulob	11 Ahau was the beginning of the count
Ti u talel ob	Because this was the <i>katun</i> when the foreigners
Ti likin ca uli ob e	arrived.
Ti ix hop'i <i>christianoil</i> xan i	When they came,
Ti lakin u tz'oc than	They arrived from the east.
Ych can si hoo	When Christianity began also,
U hetz' katun	In the east was its word completed.
He u kahlay uchc i	Heaven Born Merida **
Bal t u mentah ob . . .	Was the seat of the <i>katun</i> .
Ca oci num ya	This is the account of what occurred,
Ca oci <i>christianoil</i>	Of what they did. . . .
T u men lay hach <i>christianoob</i>	When misery came,
	When Christianity came
	From these many Christians

*katun: a period of 72 00 days (around twenty years). Tun: 360 days. 11 Alau: cycle beginning in 1539.

The rain god

^ A serious draught afflicted the northern Yucatan during this period.

** Merida: Maya city captured and named by the Spanish in 1541.

Ti ul i
 Y etel hahal ku
 Hahal *Ds*
 He uac u chun num ya
 T oon
 U chun patan
 U chun *limosna*
 U chun hoc mucuuc tza
 U chun tz'on bacal tza
 U chun cumtan tza
 U chun tocluksah
 U chun tz'al pach p'ax
 U chun pak pach p'ax
 U chun caca tza
 U chun numzah ya
 U chun tocluksah
 U chun u meyahtabal *españolesob*
 Y etel ah kinob
 U meyahtabal ba tabob
 U meyahtabal camsahob
 U meyahtabal *fiscalob*
 T u men mehen palalob
 U palil cahob
 Ta muk uchac numzah ti ya
 Ah num zahob
 Lay hach otzilob e
 Lay hach otzilob ma likul ob i
 Ti lic u mentic
 Cij u tz'aal pach
 Lay u *antachristoil*
 Y okol cabob lae
 Uh cab cohil cahob
 U chamacil cahob
 Uh picil cahob
 Y ah tz'utz'il otzil *maseualob* lae
 He uac bini to kuchuc
 T u kin u kuchul
 Y alil u u ichob
 Y icnal ca
 Ca yumil
 Ti *Ds*.
 Emon u *justisia* ca yumil
 Ti *Ds*.
 Hun yuk
 Ti bal cah
 Hach likul Ti *Ds*.
 Bin tal bal
 Ah kan tenal
 Yx puc y ol a
 U tz'utannilob
 Y okol cab lae.

Who arrived
 With the true divinity,
 The True God.
 For this indeed was the beginning of misery for
 us,
 The beginning of tribute,
 The beginning of tithes,
 The beginning of strife over purse snatching,
 The beginning of strife with blowguns,
 The beginning of strife over promotions,
 The beginning of the creation of many factions,
 The beginning of forced seizure for debts,
 The beginning of forced imprisonment for debts,
 The beginning of village strife,
 The beginning of misery and affliction,
 The beginning of forcible separation,
 The beginning of forced labor for the Spaniards
 And the sun priests,
 Forced labor for the town chiefs,
 Forced labor for the teachers,
 Forced labor for the public prosecutors,
 By the boys,
 The youths of the towns,
 While the force of great suffering
 Afflicted the suffering people.
 These were the very poor,
 These were the very poor who did not rebel
 At the oppression
 That was inflicted on them.
 This was the Antichrist
 Here on earth,
 The Earth Lions of the towns,
 The Foxes of the towns,
 The Bedbugs of the towns
 Are the bloodsuckers of the poor peasants here.
 For indeed the time is coming soon
 Of the day of the coming
 Of tears to the eyes
 And the presence
 Of our Lord
 Who is God.
 The justice of our Lord
 God will descend
 Everywhere
 In the world.
 God will be very angry
 And something will come
 From Yellow Death
 And the Destroying Spirit,
 The oppressors
 On the face of this earth.

Questions about the Chilam Balam of Chumayel



- Look in the text for the dates that the Spanish arrived in the Yucatan Peninsula...identify the dates by the Maya calendar, and by our calendar.
- What is meant by the phrases “Hungering were the trees” and “Hungering were the rocks”? What else does it say about hunger?
- What Mayan city does the text identify as the seat of Spanish domination?
- Can you tell what transpired from the list of beginnings? What changed in the economy of the Maya? What changed in their health?
- Which of the classes (royalty, priests, warriors, craftsmen, workers) suffered the most? What in the text informs your choice?
- What are some of the metaphors the text uses to describe the Spanish conquistadors? What names are the Spanish called?
- What hopes do the authors of the text have?
- When they refer to God at the end...which God do you think they mean? The Christian God? Or the God of the Maya? What in the text supports your idea?