

Mayan Puzzle: Tikal























Source: Kim Copeland

Mayas: Mathematics

Name: _____ Date: _____

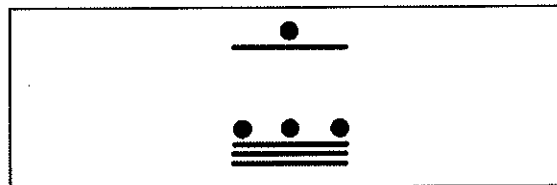
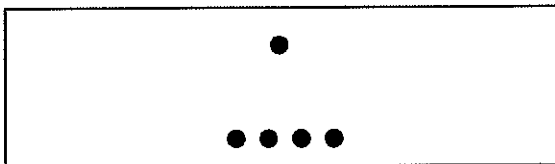
Directions: Read the text below, then follow the directions. When you are finished, show your answers to your teacher to earn a puzzle piece.

The Mayas had a very advanced system of mathematics, which was way ahead of mathematics in Europe. Instead of counting by tens, as we do, the Mayas used a system of numbers based on 20. Here is how the Mayas counted from zero to 19.


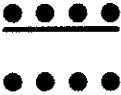




0		1		2		3		4	
5		6		7		8		9	
10		11		12		13		14	
15		16		17		18		19	

When the Mayas reached 20, they added another row. Here is how a Maya would write the number 24. The one dot is for 20 and the four dots are for 4.

Below is how Mayas would write the number 133. There are six 20s and thirteen ones.



Directions: Write the correct modern number below each of these Mayan numbers.

					
1.	2.	3.	4.	5.	6.

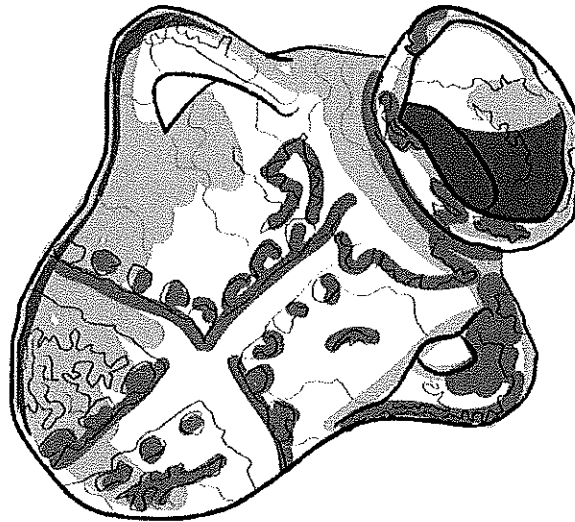
Mayas: Pottery

Name: _____ Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your art to your teacher to earn a puzzle piece.

Pottery made from clay was important to the Mayan people for art and for everyday use. First, the Maya collected clay from riverbeds. Then, they mixed this clay with temper (pieces of ash or sand) and formed the clay into pottery by piecing together slabs or by making long coils of clay and winding them. The Maya didn't use the pottery wheel. Once the pottery had dried to the consistency of leather, the Maya painted it with yellow, purple, red, and orange dyes, called *slips*.

Mayan artists were educated and rich, and most of their art shows kings and queens. The example on the left shows a king accepting the gift of a necklace from a merchant. The pottery on the right was most likely made by someone in the farming class. It would have used for storing grains.



Directions: Work with a partner or in a group of three. Choose one of these items to recreate. Instead of clay and temper, you will use flour and salt. Mix four parts flour with one part salt (for example, four cups of flour and one cup of salt), and add just enough water to make it mushy. If someone else has completed this task, this step might already be done for you and you may use their extra dough. Use this dough to make your pottery. Leave it to dry overnight, and then decorate it with pens or paints.

Mayas: Religion

Name: _____

Date: _____

Directions: Read the text below, then follow the directions. When you are finished, show your poster to your teacher to earn a puzzle piece.

The Mayan priests lived in temple cities such as Tikal. There peasants brought them food and the priests were able to spend all day studying the heavens. Unfortunately, priests were also an important part of sacrifices. Mayas believed the earth needed human blood in order to make crops grow. It was the priests' job to cut themselves and spill their own blood on the earth. The more important the priest, the more blood he was required to give.

It wasn't until later years that the Mayas actually adopted the practice of human sacrifice. The Mayas would drown volunteers who believed that by being sacrificed, they would go to heaven.

The Mayan sacred book, called the *Popol Vuh*, tells that the first man and woman were created from cornmeal.

Directions: Work individually or with a partner to make a poster showing some aspects of Mayan religion. Your poster needs to be colorful and needs to include as much written information as possible from the description above. Look at the pictures below to get ideas.



Source: Corel

Mayas: Milpa

Name: _____ Date: _____

Directions: Answer the three questions. When you are finished, show your answers to your teacher to earn a puzzle piece.

Because of all the plants and animals in the rain forest, you might think the soil would be full of nutrients and it would be easy to grow things. Actually, there are so many trees and plants that almost all of the nutrients have already been sucked up, so it's hard to grow things in the rain forest.

The Mayas used a farming technique they called *milpa*. Today, this is called slash-and-burn farming. In *milpa*, the Mayas cut down a section of the rain forest and burned it so that the ash would provide fertilizer for their crops. After two to four years, all the fertilizer would be used up.

1. Why did the Mayas need to use *milpa* farming?

2. List three disadvantages to *milpa* farming.

3. To make a living, the Mayas needed to spend 220 days per year farming. How do you think Mayan society would have been different if it had been easier to grow food?

Mayas: Calendar

Name: _____ Date: _____

Directions: Answer all four questions. When you are finished, show your work to your teacher to earn a puzzle piece. This is the hardest sheet in the entire activity! Make sure you read the questions slowly and do your best!

The Mayas used different calendars to keep track of different kinds of time. The main calendars were the *tzolkin* (zol-KIN) and the *haab*. The *tzolkin* measured the religious year, and the *haab* measured the solar year. The *haab* was like our calendar. A *tzolkin* calendar is shown on the next page.

1. The Mayas had 20 different names for days (like our seven named days), which you can see in the chart below. Look at the *tzolkin* and the glyph of the water lily at the top, labeled *Imix*. This is day number one and the days continue anticlockwise. Using the chart, label the other 19 glyphs on the *tzolkin*.

Imix	water lily	Chuwen	monkey
Ik	wind	Eb	tooth
Ak'bal	night	Ben	reed
K'an	corn	Ix	jaguar
Chikchan	snake	Men	eagle
Kimi	death head	Kib	soul
Manik	hand	Kaban	Earth
Lamat	venus	Etz'nab	flint
Muluk	water	Kawak	storm cloud
Ok	dog	Ahaw	lord

2. The Mayas also had 13 numbers for their days. The Mayas counted the day names and numbers in order, using two discs as shown on the next page. If you rolled the inside disc like a gear, what number would *Lamat* be?
3. When the Mayas rolled the small disc all the way around, they started over, so the first *Imix* would be *Imix-1*. If there are 20 named days and 13 numbered days, how many total days were there in the *tzolkin* calendar? (How many days until you would come to *Imix-1*, again?)
4. In the *haab* calendar, there were 18 months of 20 days each, and five unlucky days that were not named. How many total days were there in the *haab* calendar?