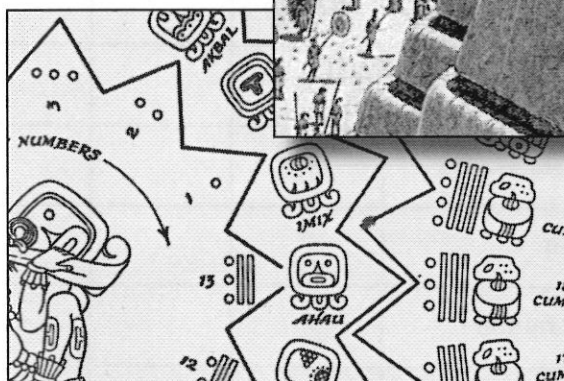
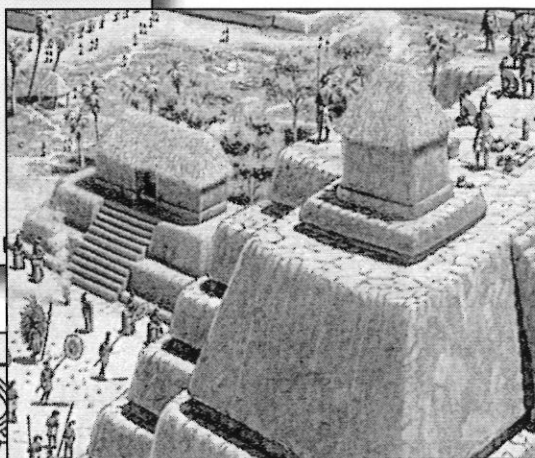
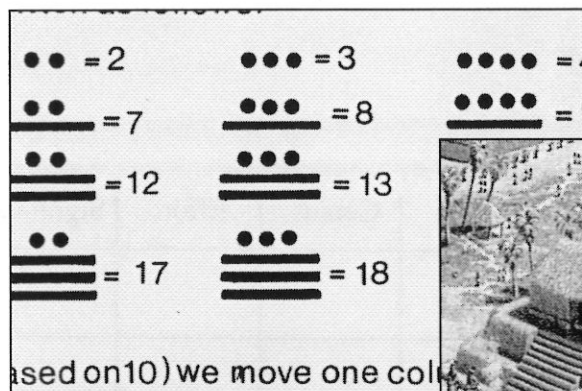


The Maya: What Was Their Most Remarkable Achievement?

EV



Overview: The Maya flourished over a thousand years ago in the rainforests of Mesoamerica. Their intellectual and technical mastery in many areas has intrigued and amazed those who have studied them. This Mini-Q asks you to examine the Mayan civilization and decide which of its accomplishments was the most impressive.

The Documents:

- Document A: The Mayan Trade Network (map)
- Document B: Building Cities
- Document C: The Mayan Number System
- Document D: The Mayan Calendar

A Mini Document Based Question (Mini-Q)

Hook Exercise: What Makes an Achievement “Remarkable”?

Directions: The word “remarkable” is fuzzy when it is used as a measuring stick. What do we mean when we say, “Willie made a remarkable catch in center field,” or “That concert was the most remarkable I’ve ever been to,” or “It is pretty remarkable that Copernicus figured out that the earth orbits around the sun.”? Indeed, what exactly is it that makes each of these accomplishments remarkable?

Task One: Below is a list of eight human achievements. Next to each are four criteria for judging remarkableness. Your job is to select those *one* or *two* criteria that best explain why each achievement is remarkable.

Criteria:

scale = size

genius = brilliance; cutting-edge thinking

effort = physical or mental

significance = impact on a society or the world

| Achievement | Scale | Genius | Effort | Significance |
|--|-------|--------|--------|--------------|
| Putting a man on the moon | | | | |
| Painting the Mona Lisa | | | | |
| Inventing the computer | | | | |
| Discovering penicillin | | | | |
| Defeating Nazi Germany in World War II | | | | |
| Writing the plays of Shakespeare | | | | |
| Setting a world record in the marathon | | | | |
| Building the Great Walls of China | | | | |

Task Two: Of the eight achievements listed above, which is the most remarkable? Be able to defend your answer in terms of the four listed criteria.

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History is rich with stories of great human achievement. Consider the Egyptians, who built the pyramids; the Greeks, who invented and practiced democracy; the Chinese, who conceived and constructed the Great Wall. In the Western Hemisphere, no early culture was more remarkable than the Maya.

Mesoamerica is that part of modern-day Central America that includes southern Mexico, Belize, Guatemala, and Honduras. This region has been the Mayan home for 3,000 years. Until 500 years ago, the Maya lived in isolation from the rest of the world, practicing **slash-and-burn agriculture** and raising crops such as corn,

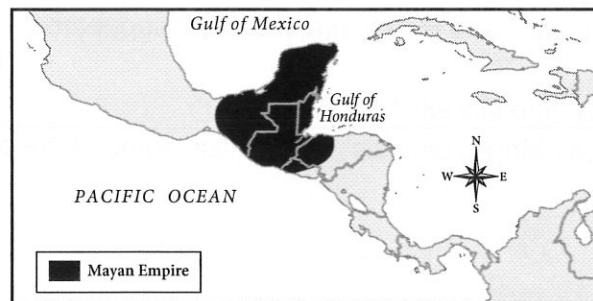
beans, and squash. They also hunted animals in the surrounding rainforest. As their culture developed, especially during the **classic** period of 250 to 900 CE, the Maya built magnificent cities with stone plazas, royal palaces, ball courts, and temple-topped pyramids. Unfortunately, Mayan **city-states** often warred against each other, and alliances constantly shifted. As a result, the Mayan people were never unified under a single government the way many other ancient societies were.

Despite this conflict, the various Mayan groups shared cultural similarities. They used a common writing system and organized their lives around a complex calendar that tracked religious ceremonies honoring the many Mayan gods. In one of their most important **rituals**, religious and political leaders – including the king – would pierce themselves with stone knives and offer their blood to feed the gods. Like the Aztecs, who flourished centuries later, the Maya practiced human sacrifice and torture as a way to keep the gods satisfied.

Sometime around the year 900 CE, the Maya abandoned many of their cities and moved to the highlands of modern-day Central America.

Scholars still don't know why this happened; it may have been because of overpopulation, overuse of the land, disease, or warfare. Whatever the reason, jungle soon covered the thousands of Mayan buildings and farms left behind. A great society appeared to go silent. When the Spanish arrived 600 years later, they did make some effort to preserve the surviving Mayan languages in dictionaries, but did little else to save the ancient culture.

It is important to say that the people never did disappear. About five million Mayans still live in Mesoamerica, speaking more than two dozen dialects of the Mayan language and



practicing some of the old ways. Though the ancient Maya long remained a nearly-forgotten, mysterious people, in more recent years ignorance and neglect of the culture have changed to

keen interest. Archaeologists have done much to find and uncover ancient temples and tombs, farmlands and town sites. Artists and experts in ancient language have managed to crack the code of Mayan writing. Armed with their new ability to read ancient **glyphs**, historians are bringing the lost Maya to life. For so long a mystery, the ancient Maya are emerging as a real, full-blooded people.

What follows are several documents showing Mayan accomplishment. To measure these accomplishments, and to help make your thinking more precise, pay special attention to four criteria for judging remarkableness:

Scale: how big was the accomplishment?

Genius: how brilliant or cutting-edge was it?

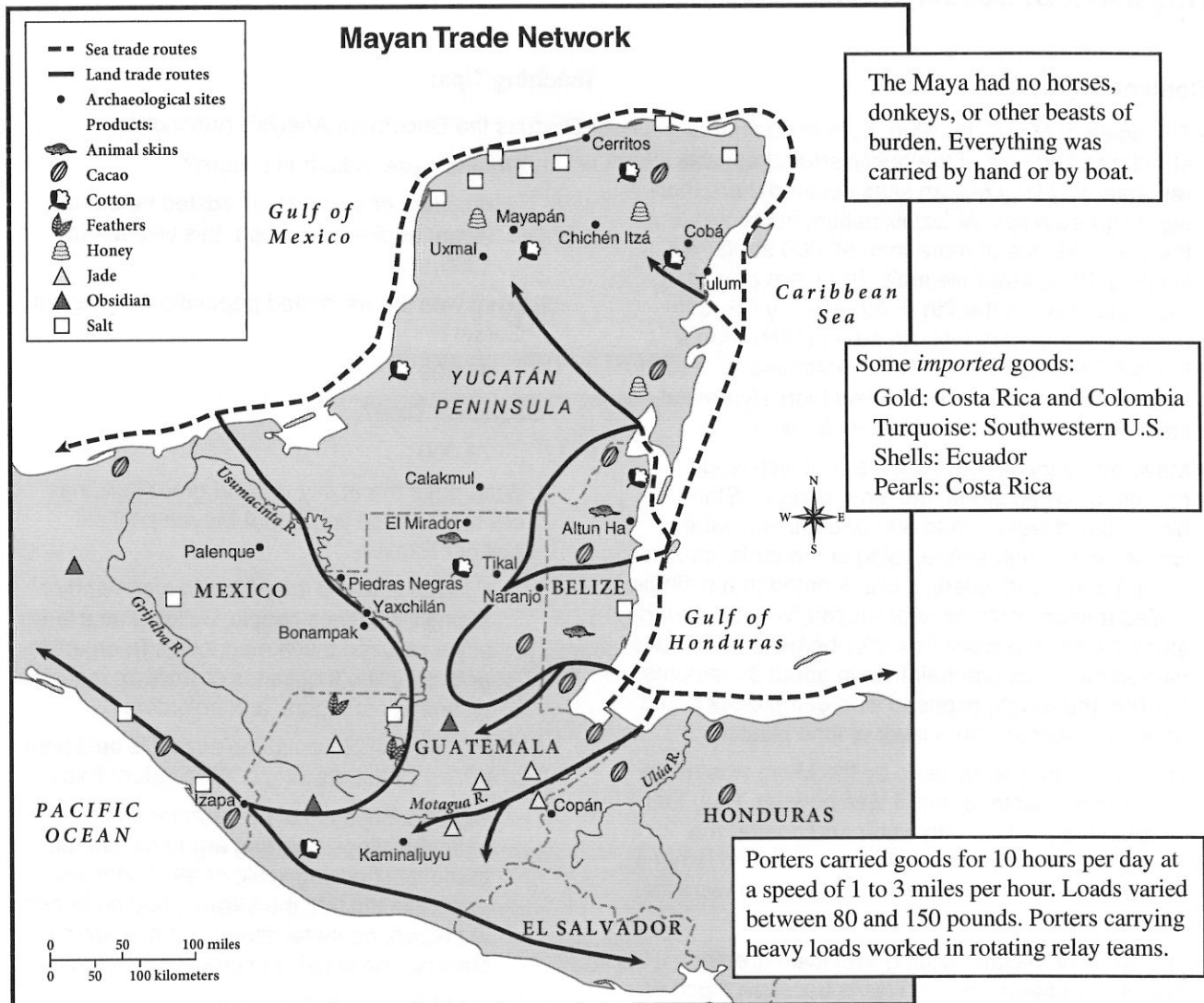
Effort: how hard was it physically or intellectually?

Significance: what was its impact on society?

Then, using these criteria, answer the question posed by this Mini-Q: *The Maya: What was their most remarkable achievement?*

Document A

Source: Map created from various sources.



EV

Document Analysis

1. Where did most of the salt come from? What reason explains that?
2. We know that the Maya widely cultivated maize, or corn. Why do you suppose it is not listed as a trade item on this map?
3. If the people of Cerritos traded with the people of Mayapán, what goods might they exchange? How about the people of Copán and the people of El Mirador?
4. How would the trade shown on this map improve life for people across the Mayan region?
5. Using at least two measuring sticks – scale, genius, physical effort and significance – describe what is remarkable about the Mayan trade network.

Document B

EV

Source: Lynn V. Foster, *Handbook to Life in the Ancient Maya World*, Facts on File, Inc., New York, NY, 2002.

Archaeologists have argued that civilization requires urban centers and that the measure of a civilization can be made by the architecture of its cities.... Based on its architectural remains, Maya civilization ranks as one of the great pre-industrial cultures of the world.

... By 1975, archaeologists had catalogued more than 2,500 Maya locations of varying size and date with some stone construction. Numerous cities with populations in the tens of thousands have left a monumental record in the preconquest* era.

... Masonry architecture required central organization, craft specialization, and political power to command a large workforce.... The Maya were able to organize the labor ... of masons, plasterers, and supervising architects to build and maintain their cities of immense stone pyramids, stone palaces, and temples, ball courts, and other ritual buildings. For the single home of



The Mayan City of El Mirador

a Copán** nobleman, it has been estimated that at least 80 to 130 workers would have been employed fulltime to finish it in two to three months. The densest urban core of a city such as Tikal*** covered six square kilometers (more than two square miles), so the number of workers involved in construction and reconstruction must have been immense.

*Before the Spanish arrived (around 1524 CE)

**Mayan city of about 25,000 in Honduras

***One of largest Mayan cities, with population of 70,000

Document Analysis

1. What is a pre-industrial culture?
2. What was the estimated population of ancient Copán? Of ancient Tikal?
3. What does the ability to build great buildings out of stone tell you about Mayan political power? Explain.
4. Which criterion of “remarkableness” is best demonstrated by the drawing of El Mirador? Explain.
5. Using at least two of our working criteria – scale, genius, effort, and significance – what was remarkable about Mayan architecture?

Document C

Source: Ralph Whitlock, *Everyday Life of the Maya*, Hippocrene Books, 1987.

Note: We write numbers using a system in which the value of each digit depends on its position within the number. The digit furthest to the right stands for ones, the next digit to the left stands for tens, and so on. This type of system cannot work without a symbol for zero to show when a position is empty. The Maya used a positional system based on the number 20, rather than the number 10, and they were one of the first cultures in the world to develop the idea of the zero.

THE MAYAN NUMBER SYSTEM

The Maya used only three signs: the dot, ● (1), the bar, — (5), and the shell, ☉ (0).

The first nineteen numerals were written as follows:

| | | | | |
|------------|-----------------|------------------|-------------------|--------------------|
| ☉ = 0 | ● = 1 | ●● = 2 | ●●● = 3 | ●●●● = 4 |
| — = 5 | ● — = 6 | ●● — = 7 | ●●● — = 8 | ●●●● — = 9 |
| — — = 10 | ● — — = 11 | ●● — — = 12 | ●●● — — = 13 | ●●●● — — = 14 |
| — — — = 15 | ● — — — = 16 | ●● — — — = 17 | ●●● — — — = 18 | ●●●● — — — = 19 |

Just as with our decimal system (based on 10) we move one column to the left when we reach 10, so with the Mayan vigesimal system (based on 20) they moved one rung upwards when they reached 20.

The numbers 21 to 25 were written as follows:

| | | | | | |
|-------------|--------------|---------------|----------------|-------------|-------------|
| ● ● = 21 | ● ●● = 22 | ● ●●● = 23 | ● ●●●● = 24 | ● — = 25 | ● ☉ = 20 |
|-------------|--------------|---------------|----------------|-------------|-------------|

Some examples:

| | | |
|-----------------------|-----------------------|-----------------------------|
| ●● ☉ = 2 × 20 = 40 | — ☉ = 5 × 20 = 100 | — ● = (5 × 20) + 1 = 101 |
|-----------------------|-----------------------|-----------------------------|

In our decimal system, we move a further column to the left when we reach 10 × 10 = 100. In the same way the Maya moved a further rung upwards (to make three rungs) when they reached 20 × 20 = 400.

Some examples:

| | |
|-----------------------|---------------|
| ●● (2 × 400) | ●●● (3 × 400) |
| ●● + (2 × 20) | — + (5 × 20) |
| ●● — + 5 + 2 = 847 | ●● + 2 = 1302 |

EV

Document Analysis

1. On what number was the Mayan number system based?
2. What symbol did the Maya use for zero? What symbols did they use for one and for five?
3. How did the Maya write: a. zero b. 7 c. 26 d. 60 e. 401?
4. Why is it important to have a symbol for zero?
5. Using at least two measuring sticks – scale, genius, effort and significance – describe what was remarkable about the Mayan system of mathematics.

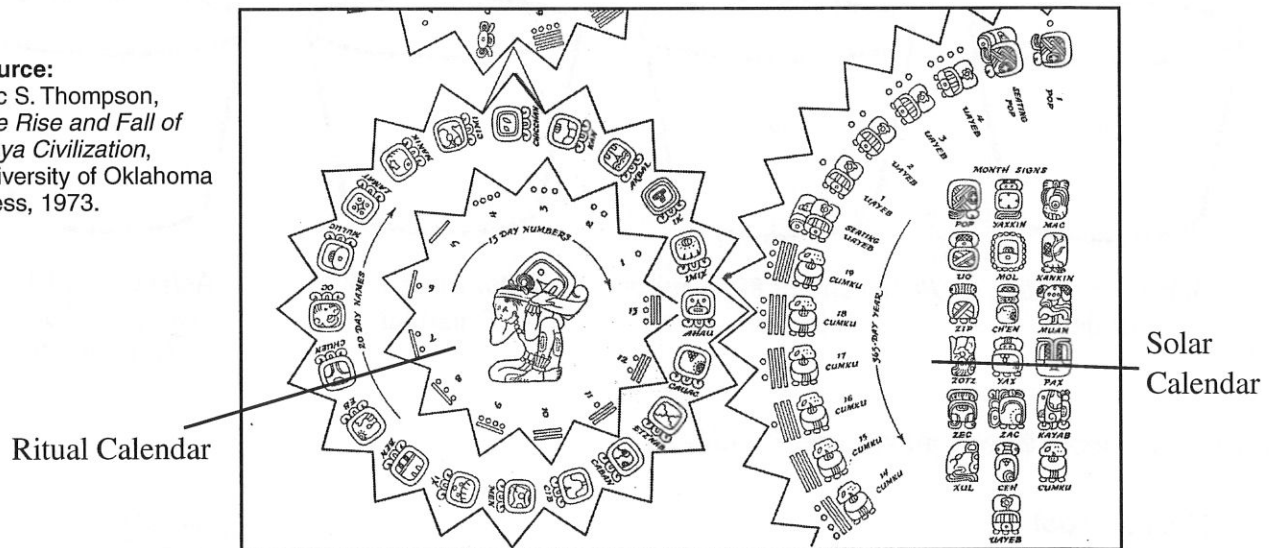
Document D

Source: Barbara L. Beck, *The Ancient Maya*, Franklin Watts, 1983.

The Maya had two main calendars. One was the sacred or ritual calendar, called tzolkin. It was a cycle of 260 days, and it marked the ceremonial life of the people. They also had a civil calendar, based on the solar year. This calendar had eighteen months of twenty days each, adding up to 360 days in all. To this were added five unlucky days, called Uayeb, to make a total of 365 days as in our calendar. This solar calendar was called haab.... The two calendar cycles were used together. They were like two cogged wheels, revolving alongside each other, with the cogs (days) meshing as the wheels turned.

... The Maya ... developed the calendar further than any other New World people, and their calendar was more accurate than any other of their time. They were masters of the science of time measurement Observatories were built, at Chichén Itzá and other cities, to use in studying the movements of the sun and the moon, planets such as Venus and Mars, and the stars. The Maya priest-astronomers collected information over many years in order to make their predictions and develop their systems. So great was their knowledge that they could predict eclipses of the moon....

Source:
Eric S. Thompson,
*The Rise and Fall of
Maya Civilization*,
University of Oklahoma
Press, 1973.



Note: In addition to their ritual and solar calendars, the Maya kept a long count cycle that began in 3114 BCE and was scheduled to end 5,200 years later on December 20, 2012.

Document Analysis

1. What were the names of the three Mayan calendars? (Hint: See note also.)
2. What probably explains why the Maya used 20-day segments in their ritual calendar and 20-day months in their solar calendar?
3. Which calendar was used to keep track of religious days? Explain.
4. Which calendar would have been most useful in predicting the beginning of rainy seasons? Why?
5. Using at least one measuring stick – scale, genius, effort, or significance – describe what was remarkable about the Maya's development of their calendar.