



Maya in the 21st Century

Article

PETÉN, Guatemala (Achieve3000, February 7, 2020). Over 1,500 years ago, when their empire was at its height, the Maya people built vast stone cities. Thousands of homes were arranged around public squares and courtyards. So were palaces, tombs, and temple-pyramids. It was the kind of urban planning that suggests an advanced culture steeped in art, mathematics, and science. But then, in the late 8th and 9th centuries, the Maya abandoned their cities. They left behind a civilization that had flourished for almost six centuries—and a host of unanswered questions.

The Maya empire has long fascinated scientists. And they're continuing to uncover pieces of the Maya's past.

Many ancient Maya architectural wonders still exist. They're in southern Mexico, Guatemala, Belize, Honduras, and El Salvador. For example, stepped, flat-topped pyramids rise throughout this region. But many ruins are still hidden.

New technology is changing that, though. In fact, modern-day archaeologists don't even have to leave home to spot a buried Maya city. All they need is LIDAR (Light Detection and Ranging). It's a game-changing tool in archaeology. LIDAR is light in the form of laser pulses. It's used along with a specialized scanner and GPS receiver. It generates detailed, 3D topographical information about natural and humanmade environments. When placed on an airplane or helicopter, it can scan broad areas of land.

In 2018, archaeologists announced that LIDAR technology had helped them uncover an entire Maya megalopolis in Guatemala. Analysis of the scans revealed previously unidentified Maya structures. There were 61,480 of them. They span over 810 square miles (2,098 square kilometers). Archaeologists have determined that an astounding 7 to 11 million people lived in the area. Many lived in densely packed cities, some in smaller towns, and others in rural zones. A point of reference: Chicago's metropolitan area has about 10 million residents.)

The LIDAR scans also brought to laser-light two other startling discoveries. First, the Maya built about 66 miles (106 kilometers) of causeways. These were within and between cities and towns. This suggests a remarkable degree of connectivity between the various sections of their spread-out megalopolis. And second, they developed a complex agricultural system. It was capable of feeding many millions of people regularly through field irrigation systems.

In October 2019, LIDAR technology struck archaeological gold once again. A total of 27 ceremonial sites dating back 3,000 years were discovered in Mexico. Their construction was of a kind that archaeologists had never seen before. It included low-to-the-ground platforms as long as two-thirds of a mile (1.1 kilometers).

But high-tech lasers aren't responsible for *all* 21st-century Maya archaeological discoveries. Some have been pure luck. Take the Cave of the Jaguar God underneath the Maya city of Chichén Itzá in Mexico, for instance. It was opened by an archaeologist in December 2019. He remembered being inside the cave as a boy in 1966, but it was later sealed. As a man in his 60s, he decided to seek it out. Inside the cave were hundreds of well-preserved Maya artifacts.



Photo credit: AP/Karla Ortega/Mexico's National Institute of Anthropology and History

Archeologists found Maya artifacts in the Cave of the Jaguar God, including bowls, ceramic incense holders, decorated plates, and other items.

So what will the future bring as scientists work to unravel the mysteries of the Maya? No one can know for sure. But based on recent discoveries, it's possible that the greatest archaeological findings have yet to be made.

Video credit: Gustavo Huerta / AFPTV+INAH / AFP

Dictionary

artifact (*noun*) a simple object (such as a tool or weapon) that was made by people in the past

causeway (*noun*) a raised road or path that goes across wet ground or water

megalopolis (*noun*) an area that includes a large city or several large cities

metropolitan (*adjective*) of or relating to a large city and the surrounding cities and towns

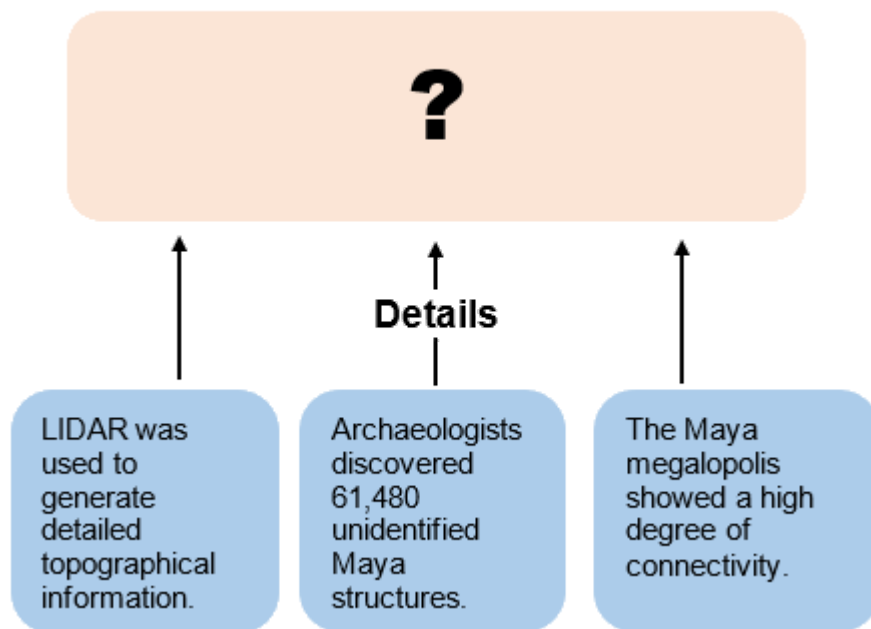
topography (*noun*) the features (such as mountains and rivers) in an area of land

Activity

PART 1

Question 1

Main Idea of the Article



Based on the Article, which best replaces the question mark in the diagram above?

- (A) Judging from the arrangement of the 61,480 recently discovered structures in Guatemala, archaeologists determined that 7 to 11 million people resided in the area.
- (B) LIDAR technology was not responsible for the recent discovery of the Cave of the Jaguar God, which lay sealed up beneath the Maya city of Chichén Itzá in Mexico and included hundreds of well-preserved artifacts.
- (C) Over 1,500 years ago, the Maya developed a complex agricultural system that was capable of feeding many millions of people regularly through field irrigation systems.
- (D) Archaeologists continue to uncover the past about the Maya empire, including a number of recent discoveries that are notable because of the high-tech tools used to locate them and the information they provide.

Question 2

The reader can tell from the Article that _____.

- (A) the recently discovered Maya megalopolis found in Guatemala is not easy to see without the help of technology
- (B) most of the people who inhabited the recently uncovered Guatemalan megalopolis lived in rural areas
- (C) the Cave of the Jaguar God was first discovered by LIDAR and then explored by an archaeologist in his 60s
- (D) archaeologists must be careful when using LIDAR because it is capable of harming ancient sites and artifacts

Question 3

The Article states:

Some [discoveries] have been pure luck. Take the Cave of the Jaguar God underneath the Maya city of Chichén Itzá in Mexico, for instance. It was opened by an archaeologist in December 2019. He remembered being inside the cave as a boy in 1966, but it was later sealed. As a man in his 60s, he decided to seek it out. Inside the cave were hundreds of well-preserved Maya artifacts.

The author's purpose for writing this passage was to _____.

- Ⓐ show that not all of the recent discoveries involving the ancient Maya were the result of the use of advanced technology like LIDAR
- Ⓑ point out why caves are sometimes ignored as possible archaeological sites even though they often contain ancient treasures
- Ⓒ explain how the hundreds of Maya artifacts found in the Cave of the Jaguar God were able to stay so well-preserved
- Ⓓ suggest that most of all of the recent discoveries of ancient Maya sites in Mexico have occurred mainly by accident

Question 4

Which two words are the closest **synonyms**?

Only some of these words are used in the Article.

- Ⓐ flourished and thrived
- Ⓑ region and acre
- Ⓒ architectural and geographical
- Ⓓ centuries and decades

Question 5

Suppose Yu Yan wants to find out about LIDAR. She would find **most** of her information _____.

- Ⓐ on a topographical map showing Chichén Itzá in Mexico
- Ⓑ on a TV program about how the first Maya ruins were discovered
- Ⓒ on a video titled "In Search of the Cave of the Jaguar God"
- Ⓓ on a webpage describing the very latest mapping tools

Question 6

Read this passage from the Article:

So what will the future bring as scientists work to *unravel* the mysteries of the Maya? No one can know for sure. But based on recent discoveries, it's possible that the greatest archaeological findings have yet to be made.

In this passage, the word *unravel* means _____.

- (A) to work together as a team in order to begin a task
- (B) to show great confusion or bewilderment
- (C) to find the correct explanation for something
- (D) to cause some difficulty or problem to occur

Question 7

Based on the Article, the reader can predict that _____.

- (A) more Maya sites will be discovered as the use of LIDAR is expanded to more areas in the region
- (B) the archaeologist who discovered the Cave of the Jaguar God will search for ancient Maya sites in the United States
- (C) the Cave of the Jaguar God will be sealed off permanently so that the treasures found inside will not be damaged or stolen
- (D) archaeologists will come to an agreement that all of the Maya sites in Mexico have been found

Question 8

Which information is **not** in the Article?

- (A) How LIDAR works with other tools to create an accurate topographical map
- (B) Where a recently discovered megalopolis that includes 61,480 structures is located
- (C) How archaeologists discovered a vast Maya community that lay hidden from view
- (D) Why the Maya abandoned the huge megalopolis that was recently discovered