Archaeologists work on part of a newly discovered entry corridor that leads to a ceremonial courtyard in the pre-Columbian adobe city of Chan Chan, near Trujillo, Peru, October 22, 2018. Peru's Ministry of Culture presented a series of important archaeological discoveries in the Chan Chan citadel belonging to the ancient Chimu empire who were conquered by the Incas in the late 15th century. Photo by Martin Mejia for AP

Archaeologists study the past through objects that people created, changed, or used.

They learn how people lived in specific times and places. They want to know what their daily lives were like, how they were governed and interacted, and what they believed and valued.

Sometimes, artifacts and features provide the only clues about an ancient community or civilization. Prehistoric civilizations did not leave behind written records.

Archaeologists studying Stonehenge in Great Britain, for instance, do not have ancient manuscripts. They must rely on the enormous stones for clues about why it was built and
Most cultures with writing systems leave written records. For archaeologists, some of the most valuable are everyday items, such as shopping lists and tax forms.

Many ancient civilizations developed writing systems. In some cases, archaeologists and linguists are still working to decipher them. The written system of the Mayan language, for instance, remained a mystery to scholars until the 20th century.

The Maya were one of the most powerful pre-Columbian civilizations in Mesoamerica. As archaeologists understood Mayan writing better, they discovered what their government looked like, what they ate, and what gods they worshipped.

**History Of Archaeology**

The word "archaeology" comes from the Greek word "arkhaios," which means "ancient."

People have dug up monuments and collected artifacts for thousands of years. Often, these people were looters and grave robbers looking to make money or build up their personal collections. Grave robbers have been plundering the tombs of Egypt since the pyramids were built.

In the mid-1800s, an Egyptian man who said he was searching for a lost goat stumbled across the tomb of Pharaoh Ramses I.

Ramses I ruled for a short time in the 1290s B.C. The tomb also held artifacts such as pottery, paintings and sculpture. Looters sold anything from the tomb that could make a profit, including the pharaoh's mummy.

The mummy of Ramses I wound up in a museum in Niagara Falls, Ontario, Canada, where it remained until 1999. The Canadian museum sold it to the Michael C. Carlos Museum in Atlanta, Georgia. Ramses I was returned to Egypt in 2003.

One of the most well-known archaeological finds was the tomb of Pharaoh Tutankhamun, also known as King Tut. Unlike many other Egyptian tombs, grave robbers had never discovered King Tut. It was finally discovered in 1922.

In addition to Tut's mummy, the tomb contained about 5,000 artifacts. Many of them were made out of solid gold and jewels.

Some archaeologists of this time were wealthy adventurers, explorers and merchants. These amateur archaeologists often had a sincere interest in the culture and artifacts they studied. However, now their work is seen differently. They took advantage of the local people and stole their cultural heritage. The Elgin Marbles are an example.

In 1801, Greece was still a part of the Ottoman Empire based in Turkey. At the time, Lord Elgin was the British ambassador to the Ottoman Empire. He removed half the sculptures from the famous Acropolis in Athens, Greece and brought them to London.

The government of Greece has been trying to get them back ever since.

Eventually, archaeology evolved from treasure hunting into a more scientific field. In the 20th century, archaeologists began to look at their impact on the local cultures and environments.
Today, in most countries, archaeological remains become the property of the country where they were found.

In Egypt, for example, archaeological teams must obtain permission from the Egyptian government to excavate. All artifacts become the property of Egypt.

**Disciplines Of Archaeology**

Archaeology is based on the scientific method. Archaeologists ask questions and develop hypotheses, and use evidence to choose a dig site and where on the site to dig. They observe, record, categorize and interpret what they find. Then they share their results with other scientists and the public.

Underwater archaeologists study materials at the bottom of lakes, rivers, and oceans. Shipwrecks are one kind of artifact studied by underwater archaeologists.

In 1985, Robert Ballard helped locate the wreck of RMS Titanic, which sank in the Atlantic in 1912. About 1,500 people lost their lives. By exploring the Titanic using remote-controlled cameras, Ballard found hundreds of artifacts, such as furniture, lighting fixtures, and children's toys.

**Prehistoric And Historic Archaeology**

There are two major areas of archaeology — prehistoric archaeology and historic archaeology. Prehistoric archaeology deals with civilizations that did not develop writing. Artifacts from these societies may provide the only clues we have about their lives.

Archaeologists studying the Clovis people, for instance, have found only arrowheads and stone tools. The arrowheads were first discovered in Clovis, New Mexico.

Archaeologists have dated these Clovis points to 13,000 years ago. This places the Clovis people among the earliest inhabitants of North America.

Another area of archaeology is paleopathology, the study of disease in ancient cultures. Paleopathologists find clues about people's health. By studying the teeth of ancient people, for example, they can deduce what kinds of food they ate, how often they ate, and how healthy the food was.

Historic archaeology uses a lot of written records.

One of the most famous examples of historic archaeology is the Rosetta Stone. The Rosetta Stone is a large slab of marble discovered in Egypt by French archaeologists in 1799. The stone is inscribed with a decree by Pharaoh Ptolemy V. It was written and carved into the stone in three different languages — hieroglyphic, demotic, and Greek. Hieroglyphics are the picture-symbols used for formal documents in ancient Egypt. Demotic was the everyday writing...
system of ancient Egypt. Before the discovery of the Rosetta Stone, Egyptologists did not understand either one.

They could, however, understand Greek. Using the Greek portion of the Rosetta Stone, scientists were able to decipher the hieroglyphs.

Historic archaeology contributes to many fields. Religious studies is one of them.

The Dead Sea Scrolls, for instance, are a collection of about 900 documents. They were found between 1947 and 1956 in caves near Qumran near the Dead Sea. Among the scrolls are texts from the Hebrew Bible, written in Hebrew, Aramaic, and Greek.

The Dead Sea Scrolls are the oldest versions of biblical texts ever found. They dated from between the third century B.C. to the first century A.D.

The scrolls have helped us understand how Judaism and Christianity developed.

**Other Disciplines**

Ethnoarchaeologists study how people use objects today to understand how they used tools in the past.

Archaeologists researching the ancient San culture of southern Africa, study the modern San culture. They study their tools to understand how the ancient San tracked and hunted animals.

Environmental archaeologists help us understand the environmental conditions in the past. These sometimes had a large influence on a people's history.

For instance, about 1,400 years ago, the climate in the Brazilian highlands became wetter. The forest grew, providing more resources like timber, plants and animals. It let the Taquara/Itararé people expand to other areas.

Experimental archaeologists replicate how people made or use objects.

One of the most famous examples is the Kon-Tiki. It was a large raft built by Norwegian explorer Thor Heyerdahl. In 1947, Heyerdahl sailed the Kon-Tiki from South America to Polynesia. He wanted to show that ancient mariners could have crossed the Pacific Ocean.

Forensic archaeologists excavate the remains of murder victims. The Killing Fields are the grave sites of the victims of the Khmer Rouge government in Cambodia. After the fall of the Khmer Rouge in the 1970s, forensic archaeologists studied the remains of the bodies. They discovered how and when the victims died.

Cultural resource management (CRM) architects are usually hired by towns or construction companies. They look and preserve remains on construction sites.

**Where To Dig?**

Most archaeology involves digging.

Winds and floods carry sand, dust and soil, depositing them on top of abandoned features and artifacts. These deposits build up, burying the remains.
Cities and communities also tend to be built in layers. Rome, Italy, has been a city for thousands of years. The streets of downtown Rome are several meters higher than they were 2,000 years ago.

Archaeologists, for example, may be looking for an ancient Roman fortress. First, they may have to excavate a bakery from the 1500s and medieval hospital. Because most artifacts lie underground, scientists have to figure out where they should dig. Sometimes they choose sites based on old stories about where people lived or where events occurred.

The poet Homer wrote about the city of Troy in the eighth century in "The Iliad" and "The Odyssey." For many years, historians thought they were pure works of fiction.

In 1870, German amateur archaeologist Heinrich Schliemann discovered the ruins of the city near the town of Hisarlik, Turkey. He used Homer as his guide. Schliemann helped provide evidence that the Trojan War may have actually taken place, and that "The Iliad" and "The Odyssey" may be based on fact.

Before digging, an archaeological team looks for artifacts on the ground or unusual mounds in the earth. Aerial and satellite images can show patterns that might not be visible from the ground.

Other technologies, like radar and sonar, give clues about what lies under the surface.

Accidental finds can also lead archaeologists to dig sites. In 1974, workers were digging a well in Xian, China. They discovered the remains of an enormous grave for Qin Shi Huangdi, China's first emperor. It included 7,000 life-sized clay soldiers, horses and chariots. They are known as the Terra Cotta Warriors.

Before moving any dirt, archaeologists must map the area and take detailed photographs.

The last step is to divide the site into a grid. Grids help them keep track of where each artifact is found.

Archaeologists always leave some areas untouched for future scientists to study. They may have better tools and techniques than today.

Today, scientists use methods like carbon-dating to determine the age of an artifact. They are able to analyze bone to see what kinds of animals people were using and eating.

**The Big Dig**

Digging is the field work of archaeology. Occasionally, archaeologists might need to move earth with bulldozers and backhoes. Usually, they use tools such as brushes, hand shovels, and even toothbrushes to scrape away the earth around artifacts.

A flat trowel is the most common tool. Archaeologists them to slowly scrape away soil.

For very small or delicate remains, archaeologists might also dig with dental picks or spoons. Often, they will sift dirt through a fine mesh screen to find tiny objects.

Archaeologists take lots of notes and photographs along each step of the process. Global positioning system (GPS) units help them map the location.

When archaeologists find artifacts, they are often broken or damaged. Sunlight, rain, soil, animals and bacteria can cause them to wear away, rust, rot, break and warp.
Sometimes, however, they can help preserve materials. An Alpine glacier preserved the body of a man for more than 5,300 years.

**Uncovered Artifacts**

As artifacts are uncovered, the archaeological team records them through photos, drawings, and notes. Once the artifacts have been completely removed, they are cleaned, labeled and classified. Particularly fragile or damaged artifacts are sent to a conservator. These specialists are trained in preserving and restoring artifacts.

When did people develop tools, and how did they use them? What did they use to make clothing and what did their clothing styles mean? What did they eat? Did they live in large groups or smaller family units? Did they trade with people from other regions? Were they warlike or peaceful? What were their religious practices? Archaeologists ask all of these questions and more.

The scientists write up their findings and publish them in scientific journals. Other scientists can look at the data and argue over the interpretations, which helps us get the most accurate story. The public also learns what scientists discover about our history.

**Fast Facts:**

**The ABCs Of Dating**

Sometimes dates are listed as B.C. or A.D., while other times they show up as BCE or CE.

B.C. stands for Before Christ, and it is used to date events that happened before the birth of Jesus. A.D. refers to Anno Domini. It is Latin for "year of our Lord," and refers to all the years from Jesus' birth.

In the late 20th century, scientists realized they were basing the entire history of the world around Jesus' birth. Many archaeologists now prefer the terms BCE (Before Common Era) and CE (Common Era).

**Ancient Cannibals**

Some ancient humans may have been cannibals. Archaeologists discovered 800,000-year-old remains from an early human species, Homo antecessor, in a Spanish cave. They found human bones with marks on them, which seem to have come from stone tools.

**Trashy Science**

Most archaeologists study the past, but some study people who are still alive. For example, William Rathje uses his archaeological skills to dig through present-day garbage bins and landfills to learn about what Americans consume, discard and waste.

**Sherds And Shards**

Many archaeologists study broken bits of pottery, called potsherds. Sherds can be anything from bits of a broken water jug to a piece of a clay tablet. Shards are broken bits of glass, like fragments of ancient windows, wine bottles and jewelry.