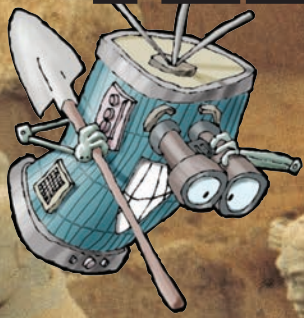


SKELETONS ON WALL \$TREET?

**KIDS  
DISCOVER**

# Archaeology



**SATELLITES  
DIG FROM  
THE SKY**



**EXPOSED!**  
**THE WORLD'S LARGEST  
UNDERGROUND ARMY**

**THE ICEMAN COMETH**



IN PARTNERSHIP WITH  
**Houghton Mifflin Harcourt.**



# What Is Archaeology?

Who cares about stuff that's old, broken, half-rotted, and falling apart? Who likes to pick through garbage dumps?

Archaeologists do, because archaeology (ar-kee-AH-luh-gee) is the study of the material remains of past peoples. An archaeologist's goal is to learn about people who have been dead for a long time but left things behind.

Finding artifacts, or objects made by humans, is the first step. Archaeologists have to recover these artifacts, preserve them, and unlock their secrets: How were they made? Why were they made? Who used them?

Step by step, archaeologists piece together a tale of human history. It's a story that changes each time new artifacts are found, and it's never finished. Many artifacts are lost forever. And many human activities leave no objects behind. But this account is the best picture we have of people and places from long ago.

► **In 1991, GERMAN** hikers accidentally discovered Ötzi the Iceman, who is named for the area in the Alps where he was found. Tests showed that he froze to death 5,300

years ago. He was so well preserved that scientists were able to study the contents of his stomach. His last meal was goat meat and cooked grain.



▲ **MARY LEAKEY WAS** a well-known paleontologist (a person who studies past geological periods through fossils). In 1978 in Tanzania, Africa, she followed a trail of fossilized footprints belonging to hominins, humanlike species that walked upright. The prints date from 3 million to 3.7 million years ago. Two adults and possibly a child made them. The prints show a well-developed foot arch and a striding gait.



► **A GARBAGE DUMP** from the 1960s is a treasure chest, full of "valuables" like corn on the cob, old newspapers, and other things people toss out. These items reveal a lot about

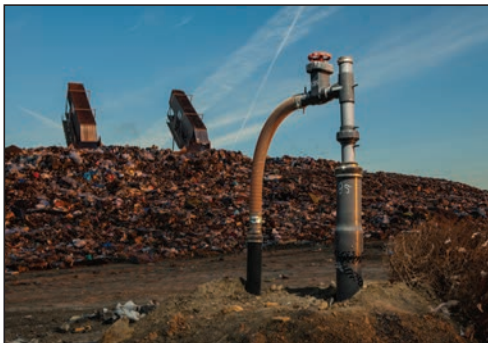
the lifestyle not just of the '60s, but of many earlier decades. Landfills used to preserve garbage instead of letting it rot. Landfills were improved in the 1990s.





**ARCHAEOLOGY IS A** very young science. In the 18th and 19th centuries, the people who dug up artifacts were mostly treasure seekers, not scientists. They were “still attracted by pretty things, rather than by real knowledge,”\* wrote one scientist in 1904. Sometimes they even blasted sites open with dynamite, which could damage the artifacts inside. This engraving shows a discovery of mummies in Egypt in 1860.

\*From *Methods and Aims in Archaeology* by Sir William Matthew Flinders Petrie. Macmillan & Co., 1904.



## Archaeology Hat Trick

If you want to be an archaeologist, consider learning a second skill or trade, because archaeologists have to wear several hats to get their job done.



# Where Do Archaeologists Dig?

Earth is so huge that artifacts can be almost anywhere – on the ocean floor, inside caves, or buried underground. So how do archaeologists know where to look? Sometimes they get lucky, as when a worker digging a new basement finds a 2,000-year-old bowl. Usually, though, archaeologists can't rely on pure luck. Instead, they have to use science and history to pinpoint promising sites.

Historical records, such as maps of battlefields, help to narrow the search. Poking around under modern cities or towns is an-

other good way to search, because many were built on the remains of older cities. Checking out areas near rivers and other water sources is another smart thing to do. Humans have always settled near water.

Archaeologists also look for strange land features, using planes, radar, and a trained eye. Take a flat rain forest, for example. If there are unusual mounds amid dense jungle, ruins of human-made structures may be hidden within them. Any hills or holes that don't seem natural may contain buildings – or even entire cities!



◀ **NEW YORK**  
City's Wall Street is home to the stock market and skyscrapers. But historical maps show that in the 17th and 18th centuries, it was an African graveyard. It may have held the bodies of up to 20,000 enslaved persons and other poor people. Archaeologists removed 419 skeletons and more

than 500 artifacts. The African Burial Ground National Monument is a memorial to the enslaved and free Africans buried there.



## Egypt, Africa (1922) Tutankhamen's Tomb

In life, he was a lesser king. But in death, King Tut is the world's most famous mummy. While other royal tombs were looted, both Tut's body and the treasures buried with him remained almost intact for 3,245 years.



**GREAT FINDS**

➤ **NATURAL-DISASTER**  
sites are often great places to find artifacts. People either die or flee suddenly, leaving everything behind. In the 7th century, ash from a volcano buried the ancient Maya town of Joya de Cerén (HOY-a day say-RAYN), now in El Salvador. The people were able to escape, but their town was frozen in time, just as they had left it. Archaeologists found

crops still standing under lava, and even found cooked beans that the fleeing residents had no time to eat.





◀ **CAN YOU SEE THE** ancient Roman camp in this aerial photo? Here's a hint: It's pretty rare to find floor plans with rooms, walls, and doors in a wheat field. The underground ruins make the soil different depths, where the wheat grows darker or paler. That's why the outline of the camp is so visible. These ruins are in Austria, which used to be part of the Roman Empire.

▶ **ARCHAEOLOGISTS** of the future may wonder who is buried here. It's the tomb of U.S. president Ulysses S. Grant and his wife, Julia.



▲ **FULL OF TALL,** new buildings, Tarragona is a modern Spanish city, but it's rich

with ancient ruins. The legacy of the vast Roman Empire can still be seen in the remains of

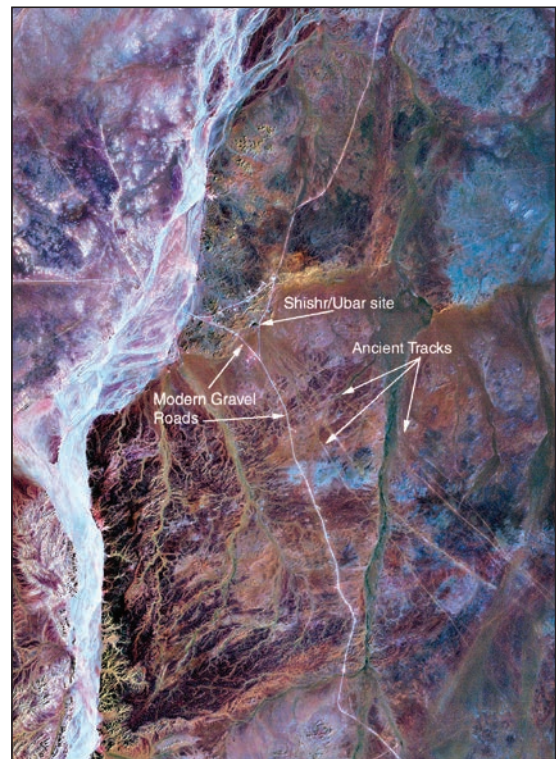
a public meeting place, arenas, and other structures left by the long-ago rulers.



### THINK PIECE!

Imagine you are a future archaeologist excavating a giant landfill where we have dumped our garbage. You're excited that there's so much to sort through, but it makes you wonder: Why did we produce so much trash?

▶ **ARCHAEOLOGISTS HAVE MANY FRIENDS IN HIGH** places. Satellites and equipment on a space shuttle spotted faint trails in the vast Arabian desert. Countless camels and people had worn those trails down. Archaeologists followed the trails to where they all met, and they found the ruins of a legendary, 5,000-year-old city called Ubar. Its 10-foot walls enclosed a once-busy trading center, which had been active from around 2800 BCE to about 300 CE.



# Uncovering the Terra-Cotta Army

Shi Huangdi became China's first emperor in 221 BCE. He ruled China until his death, 11 years later. The empire survived much longer – until 1912. But Shi Huangdi's army has lasted longest of all.

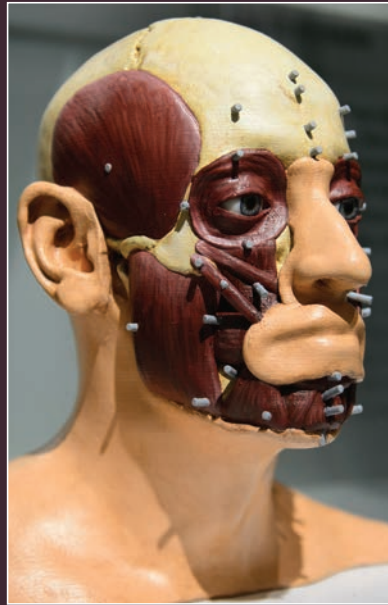
Artisans (craftspeople) of the emperor's day created an army of life-size soldiers out of terra-cotta clay. Rows and rows of foot soldiers, crossbow shooters, chariot drivers, and other figures still stand guard in Shi Huangdi's massive tomb. It was discovered in 1974, near the city of Xi'an in central China, where local farmers were drilling for water. The tomb is still being uncovered, but up to 8,000 terra-cotta soldiers are believed to be inside it. Many statues of horses and chariots have also been found. In addition, the tomb contains the remains of a palace, storehouses, and stables.

How do archaeologists recover and keep records of so many artifacts? What do they learn from all these things? Excavating (digging up) an army-size site requires, first of all, an army-size crew.

➤ **1 FIRST**, archaeologists map the site. The map shows walls, doorways, underground chambers, wells, and anything else that's left. It also includes large natural objects, such as boulders.



➤ **2 ARCHAEOLOGISTS** make a grid over the site with strings held by stakes. The grid helps archaeologists keep track of where artifacts are found. Each square of the grid is numbered to identify its location. A second number indicates the level, or depth in the ground, where each artifact is found.



◀ **FORENSIC** scientists are experts at collecting and understanding evidence. Some specialize in human remains and can put together a skeleton, filling in missing parts. They may even use the skull bones to create a realistic likeness of the person.



▲ **SOME COMPUTER** scanners can actually "see" inside a sarcophagus, or outer coffin. This

image of a 3,000-year-old Egyptian mummy was made without opening its sar-

cophagus and disturbing it. Scientists were able to "unwrap" the mummy's body.

▼ **4 DYNAMITE AND** gunpowder can move lots of rock in a hurry. But to safeguard artifacts, a lighter touch is needed. Diggers use dental picks, paintbrushes, toothbrushes, trowels, small shovels, and other small tools to free artifacts from rubble.





**4 DIGGERS STRIP** the top layer of soil and rock, which is the most recent layer. Next, they strip off a second layer, then a third layer, and so on. The deeper they go, the older the layer is. The digging stops when they hit bedrock (solid rock) or when they stop finding artifacts.



**5 SCREENERS SIFT** buckets of dirt for small, overlooked artifacts. A nail, a button, or even a peach pit may provide important information.



**6 LARGER** artifacts are drawn or photographed exactly as they lie. A ruler is often included in photos to show an object's size.

#### TRY THIS!

Archaeologists find tiny buttons, nails, and bullets buried in dirt. See what you can find in your local area. Find a colander or strainer you can use. Spread out newspapers and gather some dirt. Sift the dirt through the colander onto the papers and see what's left in the colander. How would you sift out even smaller things?



**GREAT FINDS**



#### Altamira, northern Spain (1879) Cave Art

At first sight, archaeologists and other experts thought these painted figures seemed too modern. Could early humans have drawn them 20,000 years ago? Later, 300 similar caves were discovered. The answer became a definite yes.

**7 RESTORING** broken artifacts is a slow, precise process. Here, a scientist completes the reconstruction of a shattered sculpture, creating a priceless artifact.



# Shipwrecks and Ruins

The name Edward Teach sounds friendly enough. But when American colonists heard Teach's other name – Blackbeard – they shivered in fear. Blackbeard was a pirate in the early 18th century. With his long, full black beard, he purposely looked fierce to scare people, so they wouldn't fight back when he robbed them. Before British forces killed him in 1718, Blackbeard had looted dozens of ships.

In 2011, archaeologists confirmed that a wreck found off the coast of North Carolina in 1995 was Blackbeard's ship. A sunken pirate ship might contain fantastic booty, like gold, jewels, and even a toothpick! A toothpick? Yes, because to an archaeologist, any clue to the past is a treasure, no matter how dull it might seem.



▲ **MOST SHIPWRECKS** are found in shallow water – often less than 50 feet deep. Over time, waves and currents break up and scatter parts of these vessels. As much as 30 feet of

sand can bury them. A machine called a prop-wash (sort of like a vacuum cleaner in reverse) blows away the loose sand and mud to reveal the underwater finds.



## Try This!

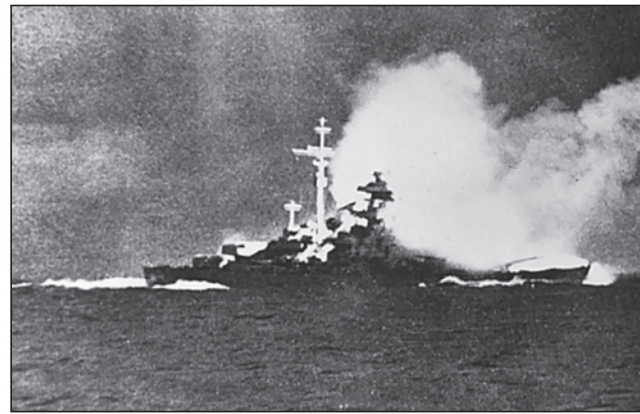


Deep wrecks are usually better preserved than shallow ones are, but those deeper wrecks are difficult to explore.

Remote-control robots have to do much of the work. To see why divers don't do it, try this experiment. Hold a plastic bag tightly over one hand, then put that hand in a bucket of water. Do you feel the pressure? The deeper a diver goes, the greater the pressure becomes. Way down deep, it will crush a human.

◀ **AIR IS LIGHTER** than water, so balloons head for the surface when they are inflated underwater. That tendency to rise is called

buoyancy. In this recovery, divers use buoyancy balloons to lift ancient pottery from the seafloor to the surface.



## GREAT FINDS



### Ethiopia, Africa (1974) **Lucy, Breakthrough Humanlike Skeleton**

Although skeletons older than Lucy's 3.2 million years have since been found, Lucy's is the most famous by far. Other skeletons are dated as "before Lucy" or "after Lucy."



► **WOOD ROTS** quickly in water. Coins, gold bars, iron cannons, cookware, and other metal objects last longer. A metal detector can locate these objects, even when they're hidden by coral. A device called a magnetometer can find steel and iron from a ship's hull.







◀ **In May 1941**, two British aircraft carriers, 19 battleships and cruisers, 21 destroyers, and six submarines joined forces to sink one German battleship named the *Bismarck*. The *Bismarck* tried to escape, but the British warships blasted it to bits. Half a century afterward, scientists found the battered remains 600 miles west of Brest, France, in waters 15,700 feet deep.



◀ **CARIBBEAN** coasts are dotted with shipwrecks, marked on this map with Xs. Why did so many ships sink? Early sailors didn't have accurate maps, so they hugged the coastline. Plus, they needed to resupply their ships on land. As a result, many 16th- and 17th-century ships struck coral, rocks, or sandbars and sank. Hurricanes and storms took countless others. Out of 36 ships in a fleet that sailed from Spain in 1552, only two made it back home.

◀ **UNDERWATER** archaeology is the excavation, or exposure, of shipwrecks and other sunken sites. The ocean isn't a natural place for humans, so working underwater creates many problems.



**FIRST**, the archaeologists must become expert scuba divers.



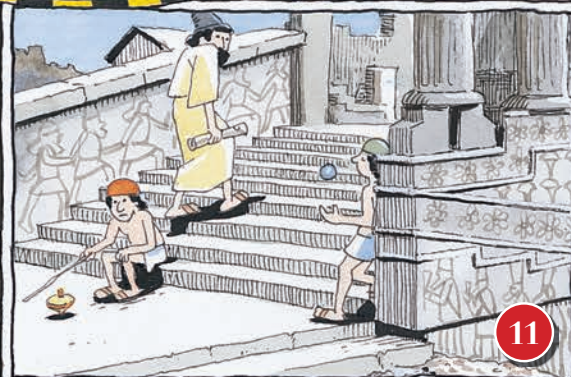
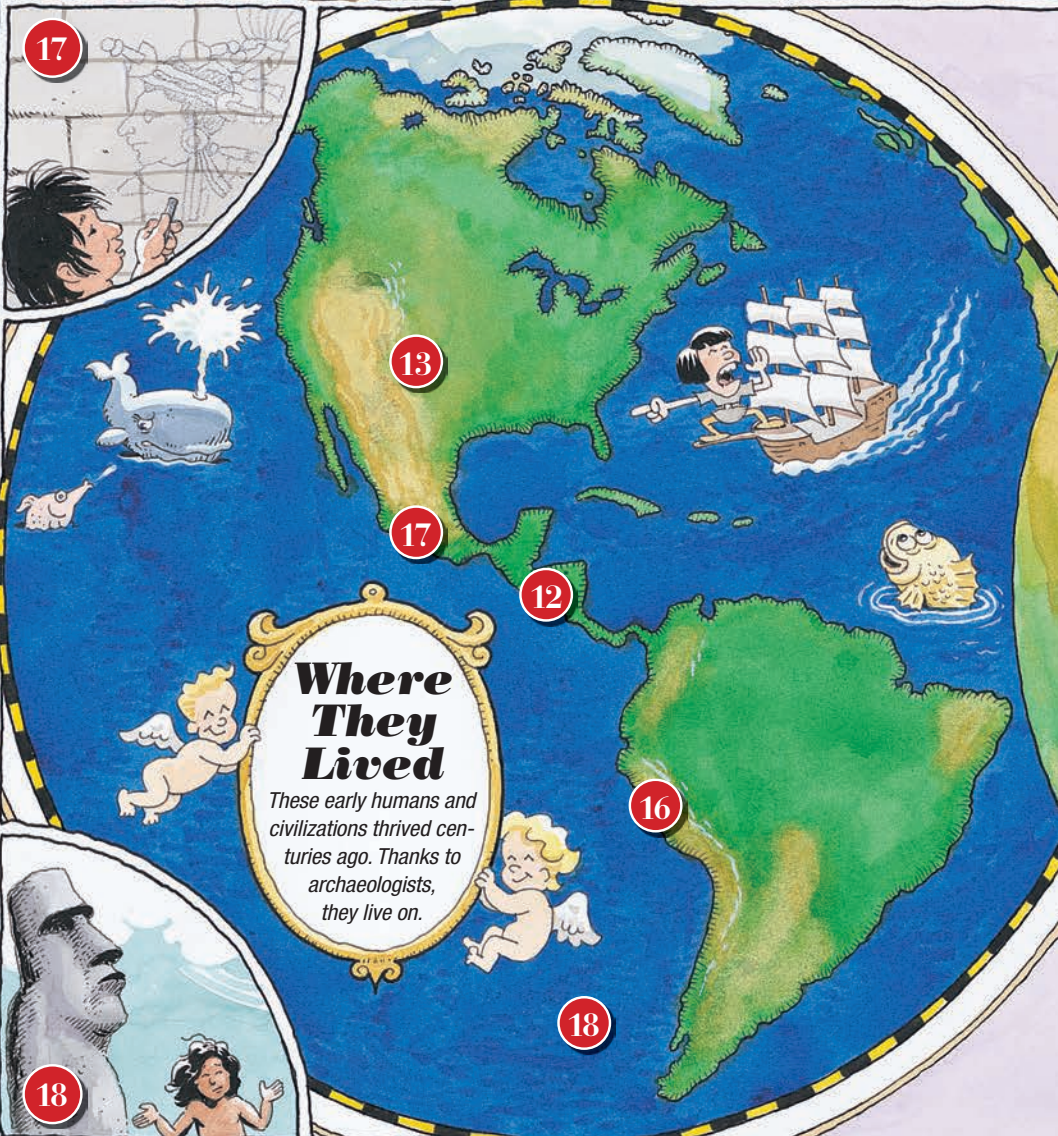
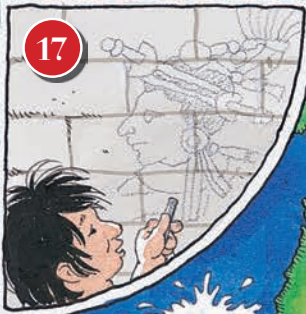
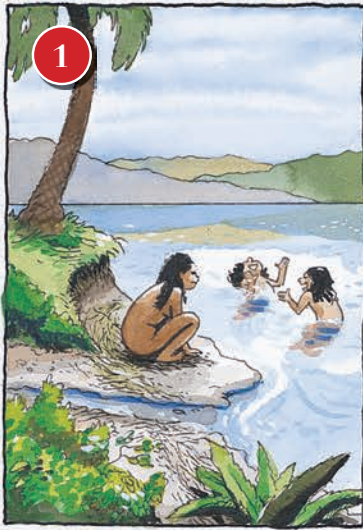
**SECOND**, they have to get used to spending limited time underwater in not very comfortable situations.



**THIRD**, they must spend a great sum of money on a ship, a crew, and equipment. Of course, the rewards are great too. Underwater archaeologists have recovered vessels ranging from ancient trading ships to World War II battleships.

**THINK PIECE!**

Shipwrecks can be underwater graveyards. Do you think it's right to disturb them?





4



5



- 1. Early hominins: 6 million to 1.8 million years ago
- 2. Neanderthals: 400,000 to 28,000 years ago
- 3. Cro-Magnon man: 40,000 to 10,000 years ago
- 4. Ancient China: 5000 BCE to 1600 BCE  
Chinese dynasties: 1600 BCE to 1912 CE
- 5. Mesopotamia: 5000 BCE to 500 BCE
- 6. Ancient Egypt: 4500 BCE to 30 BCE
- 7. Megalithic civilizations: 5000 BCE to 1500 BCE
- 8. Ancient India: 4000 BCE to 1500 BCE
- 9. Ancient Greece: 1200 BCE to 323 BCE
- 10. Ancient Rome: 753 BCE to 476 CE
- 11. Persian Empire: 550 BCE to 642 CE
- 12. Maya: 1500 BCE to 1697 CE
- 13. Mogollon, Anasazi, and Hohokam: 100 CE to 1600 CE
- 14. Mongolian Empire: 1206 CE to 1380 CE
- 15. Byzantium and Ottoman Empire: 330 CE to 1922 CE
- 16. Inca: 1200 CE to 1532 CE
- 17. Aztec: 1345 CE to 1521 CE
- 18. Easter Island: 700 CE to 1700s CE



15



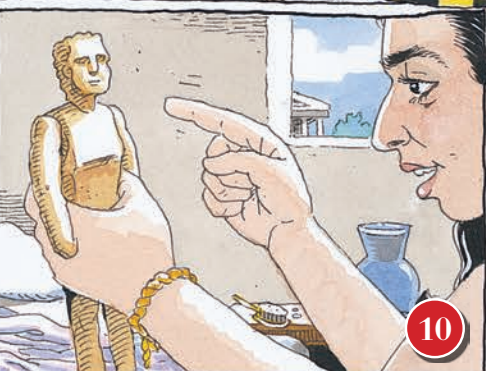
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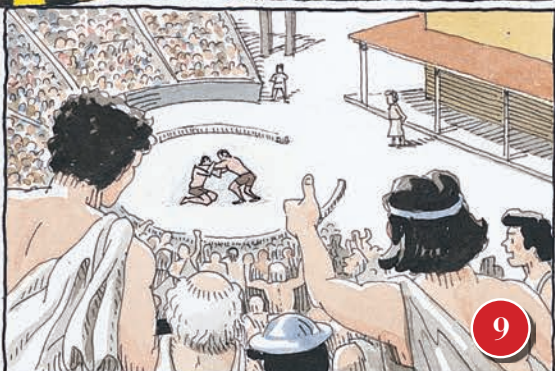
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8

# Some Facts about Artifacts

The saying “You are what you eat” often rings true in archaeology. The daily diet of a people shows how healthy and wealthy the society was. It may be revealed by food-related remains such as seeds, pollen (plant spores), animal bones, campfire sites, and cooking tools.

The royal tombs of ancient Egypt were filled with the richest foods available. Egyptians believed that the dead needed food in the afterlife. The land in Egypt was one of the most fertile and productive areas in ancient times. As their tombs reveal, most people there ate well, and royalty ate very, very well.

But food-related items aren’t the only clues we can use to discover the truths of past cultures. Three other rules also apply: You are what you wear, you are what you own, and you are what you live in. Look at what you eat, own, wear, and live in. What if you were frozen in time, and archaeologists of the 23rd century wanted to figure out how you lived? What *wrong* ideas – and right ideas – might they get from studying artifacts of your existence?



▲ **STONE AGE PEOPLE** worldwide made axes, spears, scrapers, and other

stone tools. Some knives made of flint (a stone that flakes easily) are as sharp as a modern surgeon’s knife. This skull underwent brain surgery 4,000 years ago. The holes in the head had begun to heal, which means the patient survived, at least for a while.



▲ **WHICH IS BETTER** for cutting down trees: a stone ax or a bronze ax? Archaeologists hacked down trees

with both kinds of axes and found that it makes no difference. Only



**GREAT FINDS**

## Honduras (1830s–1840s)

### Maya Civilizations

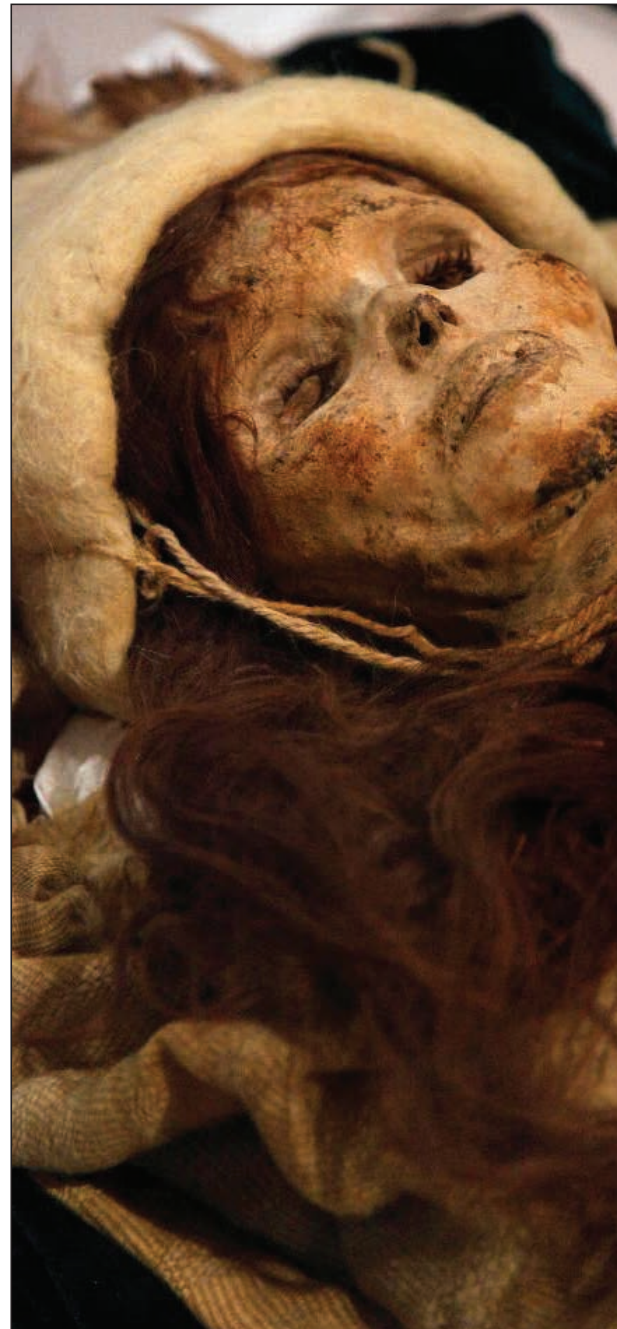
For centuries, dense jungle hid the massive ruins of great cities built by the Maya. In 1839, archaeologists discovered Copán (ko-PAN), Honduras, and then found dozens of other long-lost sites.

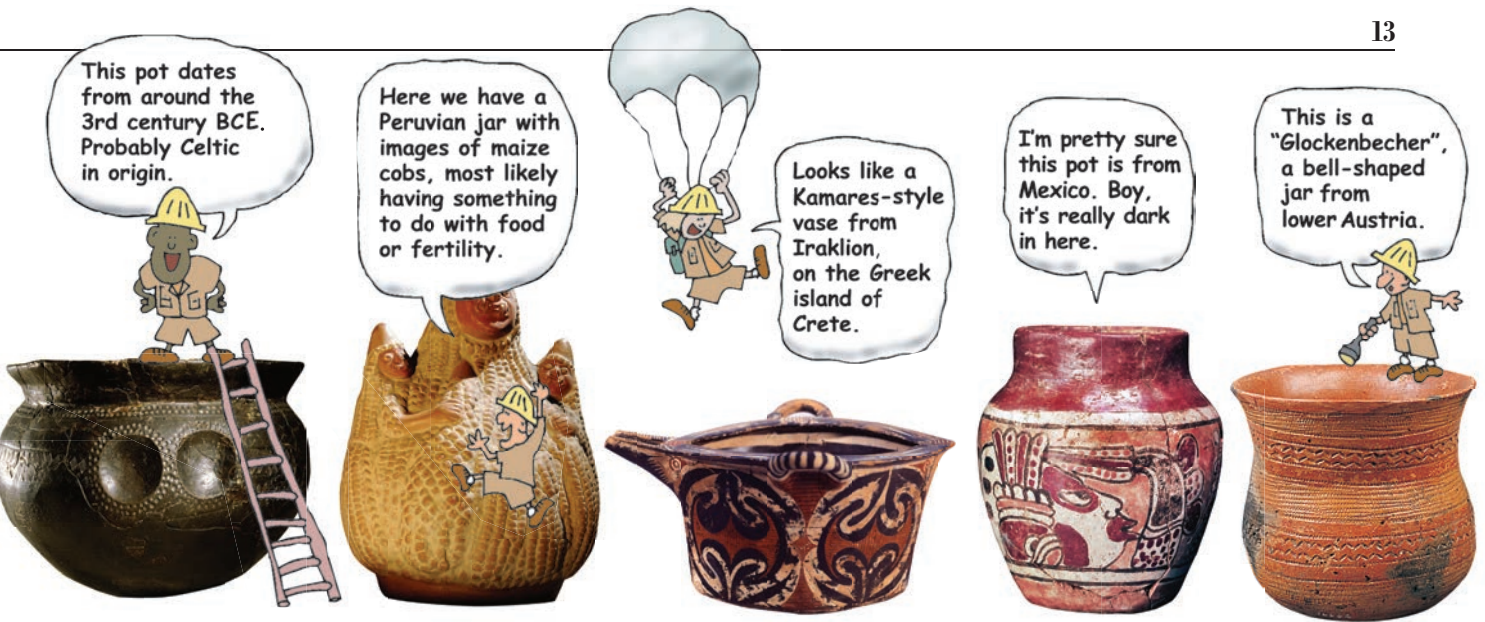
iron (shown), which became available after the Stone Age and the Bronze Age, makes the job go faster.

► **POTTERY** – whether broken or intact – is the most commonly found artifact. Each culture has a distinct style, and the material, design, and colors may reflect the people’s ideas and beliefs. Or they may simply show what there was to work with at the time and place.



This is a type of amphora, or two-handled vase.





This pot dates from around the 3rd century BCE. Probably Celtic in origin.

Here we have a Peruvian jar with images of maize cobs, most likely having something to do with food or fertility.

Looks like a Kamares-style vase from Iraklion, on the Greek island of Crete.

I'm pretty sure this pot is from Mexico. Boy, it's really dark in here.

This is a "Glockenbecher", a bell-shaped jar from lower Austria.

## TARIM BASIN MYSTERY

◀ **TODAY, CLOTHES** can be giveaways to a person's origins. The same was true more than 3,800 years ago. In western China's Tarim Basin, archaeologists found mummies with hair and clothes intact, all preserved naturally by the dry air and freezing winters. The wool garments they wore featured a northern European weave called twill, and the skeletons had European features. What were these blonds and redheads doing in China, and what happened to their descendants?



► **TYPICALLY,** archaeologists are able to use ancient writings and art to understand dead civilizations. But that works only if they can read the messages in these artifacts. The Voynich manuscript (right), found in Italy, is about 600 years old, and it still has not been read. It's written in Latin, but the words are in code, and they make no sense. Why would someone want to encode a book about plants?



◀ **PLAYERS OF THE** game of Ur took the rules to their graves 4,500 years ago. (Ur was a city in Sumer, in modern-day Iraq.) We may never know how to play the world's oldest-known board game. Archaeologists have tried to figure it out by pondering questions like these:

▼ **WHO OWNS** artifacts like this pottery vessel? In 1990, the U.S. government passed the Native American Graves Protection and Repatriation Act. It requires all museums to examine their collections of Native American objects and human remains.



Do the game pieces look like any modern ones?

How many different kinds of pieces does this game use?

Based on the pieces, how many players could participate in a game?

Is the board a track, and if so, where does it start and end?

What could the designs on the board mean?

Each Native American nation must be notified if the museum has any of the nation's ancestors' material. A lot of this material has been returned to the correct peoples, especially human remains and sacred artifacts or objects used in funeral ceremonies.

# Challenges Faced by Archaeologists

Archaeologists have to deal with many challenges, including forces that attack and destroy artifacts. Most are microscopic, like bacteria, and some are invisible, like wind and earthquakes. The elements that cause rust are both! Of course, humans can be a problem too. Looters and vandals have been ruining sites since at least the time of ancient Egypt.

Luckily, planet Earth has a few “safe houses” – places where artifacts have lasted for thousands of years. Bacteria are not a problem because the safe house is too hot, too cold, or too dry. The objects are sheltered from wind and waves. Earthquakes, volcanoes, and hurricanes can’t get at them – and neither can destructive humans. Where are these safe havens?

► **DECOMPOSERS ARE** organisms that break down dead plants and animals. Bacteria and mold are two good examples of things that cause rot. Artifacts survive best in places that decomposers don’t like. If an area is too hot, cold, dry, acidic, or oxygen-poor, artifacts do well. Outer space is a perfect place



to store things, but here on Earth, mountaintops, caves, deserts, and polar regions are good choices.

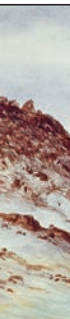
◀ **DON'T WORRY** – bog people aren’t creatures in a horror movie. They’re 1,000-year-old northern Europeans. Many were strangled, stabbed, or hanged (see the cord around this one’s neck?). The bogs they were thrown into preserved them so well, some still have their hair. The acid in the bogs killed decomposers, so the bodies didn’t rot away.



▲ **THE LIVELY TOWN** of Port Royal, Jamaica, attracted pirates in the 17th century. Now it attracts fish and archaeologists.

Two-thirds of Port Royal sank into the sea after a 1692 earthquake. Its size and submerged locale make it hard to explore. A tav-

ern, a shoemaker’s shop, a carpenter’s shop, and other buildings could take a century to excavate and study.





◀ **VEGETATION** grows fast in the rain forest, so an abandoned city doesn't stand a chance. Rampant jungle growth can bury buildings, roads, and other ruins in just a few decades. Plus, the roots, weight, and moisture of all that growth can damage structures. Here are some of the ruins in Cambodia's ancient city of Angkor.



◀ **ROBERT FALCON** Scott and his crew reached the South Pole in 1912, soon after Roald Amundsen beat them to it. Unfortunately, the Scott party didn't make it back. Just 11 miles from safety, they starved and froze to death on the ice. The freezing cold preserved their bodies and their cabin. But now, Antarctic glaciers (moving rivers of ice) are slowly carrying what's left of the Scott expedition out to sea.



▲ **THE EGYPTIAN** pyramids were built starting around 2630 BCE. Dry desert air preserved the mummified bodies and other contents of the tombs. The pyramids quickly became tourist sites, and eventually they were

looted. But grave robbing isn't a modern invention — many tombs were raided more than 1,000 years before Cleopatra was born!



◀ **FROM THE 1ST** to the 8th centuries CE, the Moche people lived in what is now Peru. Modern-day grave robbers found Moche tombs filled with gold. Starting in 1987, archaeologists rescued some tombs' artifacts, but some were already gone.



**GREAT FINDS**

### Egypt, Africa (1799) The Rosetta Stone

Egyptian hieroglyphs are picture symbols used in an ancient written language. For centuries, they had remained a mystery, until Napoleon Bonaparte's soldiers found this tablet. The Rosetta Stone shows one message written in three languages. French scholar Jean-François Champollion decoded it in 1822. He used the Greek text, which he could read, to figure out the two unknown Egyptian hieroglyphic scripts.



## Make a time capsule

for future archaeologists. Include things that last a long time—metal, plastic, and glass are good bets.



So is a recent invention—something that didn't exist two years ago.



Try adding something with the current date on it.



Find an out-of-the-way spot. Get permission to put your time capsule there.



Make a map of its location. Store the map in a safe place.



# Unsolved Histories

Archaeologists don't have all the answers, and sometimes the answers they do have turn out to be wrong. Unsolved histories go beyond just a few confusing artifacts.

Scientists are still trying to solve centuries-old murder mysteries, such as: Who killed the Iron Age European bog people and tossed them into bogs? And why? What happened to the Anasazi people of the southwestern



▲ **IN THE SOUTHEASTERN** and midwestern U.S. are ancient earthen mounds. They served as religious sites, temples, defenses against enemies, and tombs.

Several Native American cultures built them from 3000 BCE to 1000 CE. When Europeans found the mounds, some didn't want to believe that native

peoples had made them. In the 19th century, someone put fake texts into a mound, hoping to convince people that early Europeans were the mound builders.

▼ **HUNDREDS OF** Anasazi lived in Chaco Canyon (now New Mexico) around 1,200 years ago. It seems that life was good to them. The cliffs protected them

from enemies and from wind, rain, and other forces of nature. We can see by their network of roads that they traded with other cultures. That much is all clear,

but we don't know why the Anasazi disappeared. Was it because of over-farming or drought? Did an enemy drive them away? Or was it something else?



**America Bound**

▲ **PREHISTORIC** peoples came to America about 15,000 years ago. They left a skimpy but very real trail of artifacts behind. The first Europeans known to arrive were Vikings, who beat Columbus by 500 years. Archaeologists found

clear evidence of this in the form of a Viking village in eastern Canada (above).



▼ **DID AN IRISH MONK** named Saint Brendan beat the Vikings to America by 500 years? Leg-

## Qumran, West Bank, near the Dead Sea (1947)

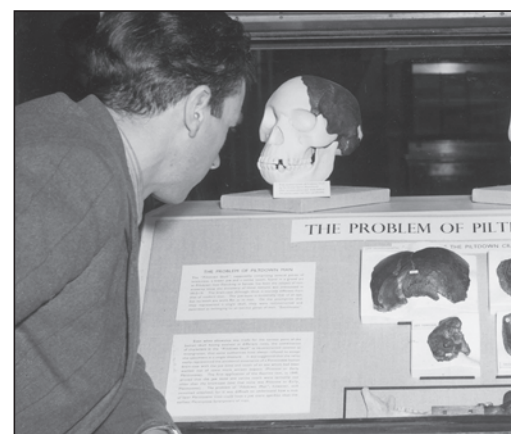
### The Dead Sea Scrolls

Looking for his goat, a boy walked into a cave and found the Dead Sea Scrolls hidden in clay jars. The scrolls are 2,000-year-old religious writings. They tell the story of the Jewish people under Roman rule in the 1st century CE.



**GREAT FINDS**

end says the trip took seven years in an ox-hide boat. But that same legend says Saint Brendan stared down "sea-cats," giant sheep, and talking birds. Iceland is the closest place to America where evidence of 6th-century Irish monks has been found.

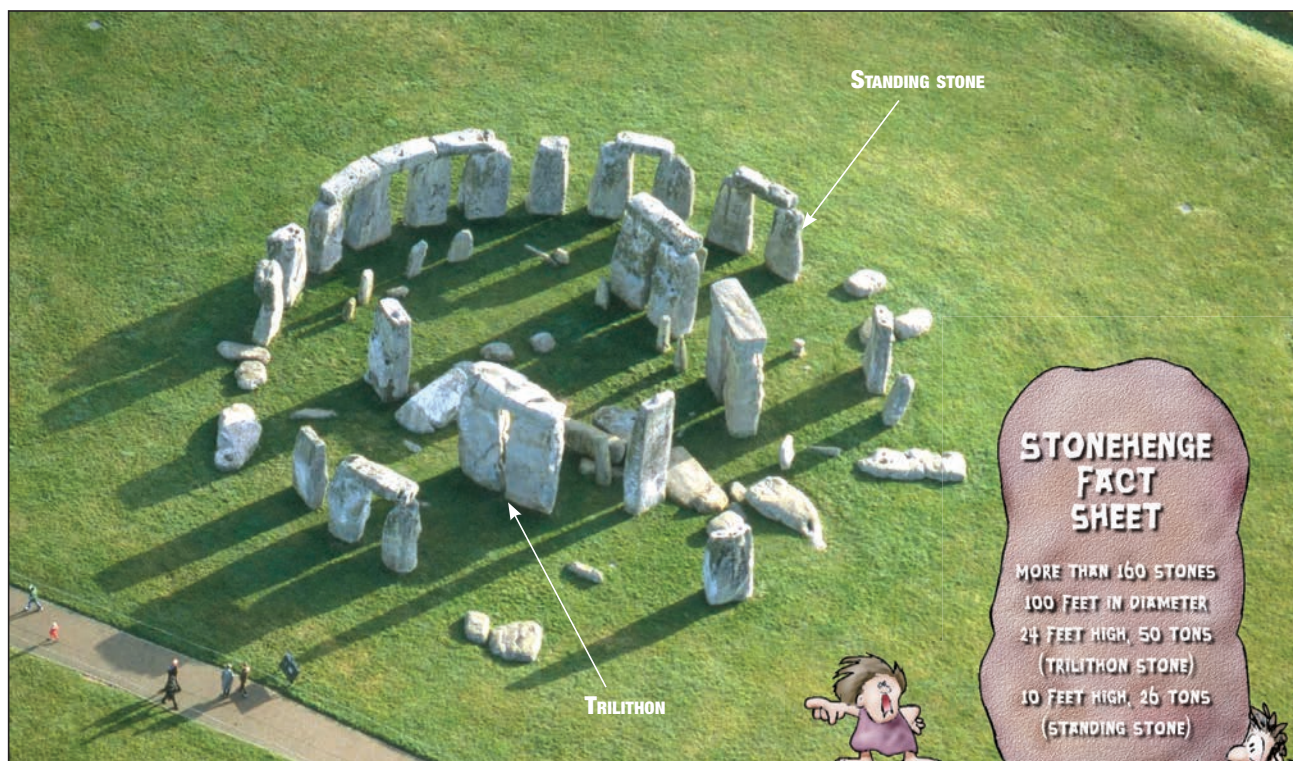




United States, who carved pueblos (villages) out of cliffs and then suddenly abandoned them?

The biggest mysteries of history raise questions about whole continents. For example, who was the first

European explorer to set foot on American soil? It definitely was not Christopher Columbus, no matter what archaeologists used to think and history used to teach.



▲ **HOW DID PEOPLE** in 3100 BCE move megaliths (giant stones) to Stonehenge in England? It's one of history's most celebrated mysteries, thanks to the site's popularity. Archaeologists de-

termined in 2015 that many of the stones were taken from quarries in Wales, about 180 miles away! Stonehenge was used for burials starting around 2500 BCE. As new burials were

made at the site, others were re-arranged, and new megaliths were added. The site is designed to showcase astronomical events, so it may have been used as an observatory.



◀ **WHEN MYSTERIES** can't be solved easily (or ever) some people start to reach for far-out answers – very far out, as in outer space. For example, some people say that aliens created Stonehenge, the pyramids, and this huge petroglyph (rock drawing) in Colorado. But there's no good evidence to support these spacey ideas. Most archaeologists will tell you that ancient earthlings had enough know-how to create these amazing things.



**THE NAME PILTDOWN MAN** HAS ALMOST come to mean "hoax." From 1912 to 1954, top scientists believed the Piltdown Man skull showed evidence of a previously unknown hominin from human prehistory. Piltdown Man appeared to have the jaw of an ape and the braincase of a modern human. The hoaxer who created this phony skull was never caught.

▼ **DID STONEHENGE-**era Europeans build these stone houses in New England 3,500 years ago? If so, there should be some Stonehenge-era garbage around

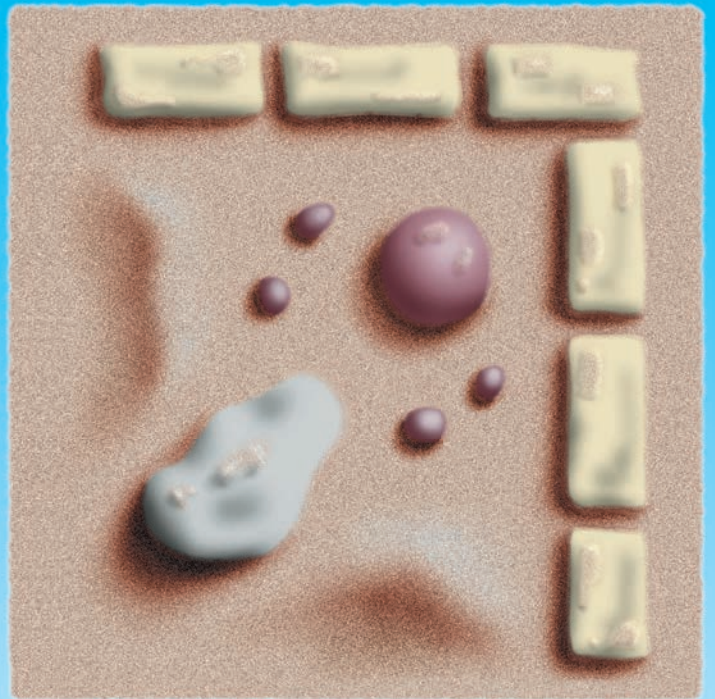
them, but none has been found. It's more likely that 18th-century European colonists built the houses using old methods.



# Activities

## MAKE A SCALE DRAWING

As you learned in the magazine, archaeologists document a site by placing a large grid over an area. Then they draw what is in each square of the grid in a square of graph paper. In that way, they make a scale drawing. Make a scale drawing of the site shown here. Use graph paper with at least half-inch squares. Copy the content of each square of the site into the corresponding square on the graph paper.

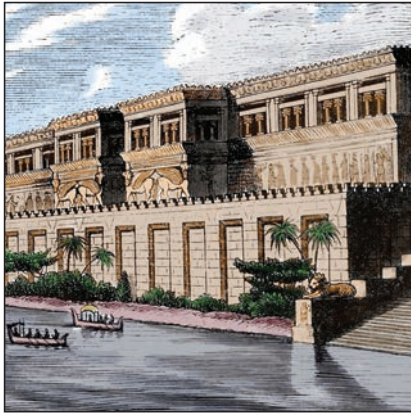


## WRITE A JOURNAL ENTRY

Suppose you were a member of the team of archaeologists who made one of the discoveries described in this magazine. Pick one of the discoveries to write about. Imagine how you felt when you made the discovery. Think about the work you did to reach that moment. Write a journal entry about the experience. In your journal entry, explain the process of making the discovery. Tell about the excitement you felt when you made the discovery.



## MAKE CONNECTIONS WITH THESE RELATED TITLES



### Mesopotamia

Ever wonder when the first written records appeared, when the wheel was invented, or where our modern counting system came from? Believe it or not, these and many other innovations – like glass, farming, complex legal systems, and basic astronomy – came from one civilization, the very first: Mesopotamia.



### Ancient Egypt

Pyramids, pharaohs, mummies, and gods: This once-powerful civilization left behind breathtaking monuments and priceless treasures. Discover the people and practices that make Ancient Egypt so alluring to the historians who have uncovered the mysteries of this long-ago civilization.



### Language

Language is more than just the words and sounds we use to communicate. The study of language helps us understand our past. From ancient hieroglyphs and the first papyrus scrolls to sign language and computer programming, language has long been at the center of human society.



## LEARN MORE ONLINE!

- British paleontologist Mary Leakey (above) wasn't respected as a scientist at first. Her groundbreaking discovery of a prehistoric hominin in 1959, however, changed all that.
- Archaeology often involves studying ancient burial sites. By studying objects found in graves, and how the deceased people were buried, archaeologists can learn about ancient social status and inequality.
- For thousands of years as they migrated across continents, prehistoric humans were foragers – hunters and gatherers of food. But by 8000 BCE, in Mesopotamia (the Fertile Crescent) in the Middle East, some foragers began to settle down in the region.



## CALIFORNIA STANDARDS

**HSS 6.1** Students describe what is known through archaeological studies of the early physical and cultural development of humankind from the Paleolithic era to the agricultural revolution.

**6.1.2** Identify the locations of human communities that populated the major regions of the world and describe how humans adapted to a variety of environments.

### Historical and Social Sciences Analysis Skills:

#### Research, Evidence, and Point of View

**1.** Students frame questions that can be answered by historical study and research.



# KIDS DISCOVER



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Leopold Nekula/Sygma: p.2 lower right (mummified man discovered in the Otztal Alps); Mark Thiessen: p.3 bottom left (landfill generating liquified natural gas); De Agostini: pp.2-3 (mummy discovery), pp.14-15 center (Robert Falcon Scott's hut), p.13 top center (Kamarese vase); Hulton-Deutsch Collection: p.4 bottom center (King Tut excavation); Bill Hatcher/National Geographic Magazines: p.5 bottom left (locals walk through the ruins of Ubar); Xavier ROSSI/Gamma-Rapho: p.6 top right (mapping the site); Katie Deits/Photolibary: pp.6-7 top (Grid); DESHAKALYAN CHOWDHURY/AFP: p.7 upper right (stripping soil); TOM MCHUGH/Science Source: p.6 bottom right (digging with tools); MENAHEM KAHANA/AFP: pp.6-7 center (sifting); Gordon Wiltzie/National Geographic Magazines: p.7 (drawing artifacts); LEON NEAL/AFP: p.6 center (forensic facial reconstruction); WILLIAM WEST/AFP: p.6 bottom center (computer view into sarcophagus); Lcemage/Corbis Historical: p.7 bottom left (cave art); Michael Nicholson/Corbis Historical: p.8 lower center (Lucy skull); JOHN READER/Science Photo Library: p.8 lower center (Lucy, humanlike skeleton); Arne Hodalic/Corbis Historical: p.8 top center (prop-wash); Jonathan Blair/Corbis Documentary: p.8 center (buoyancy balloons); ullstein bild: p.8 lower right (*Bismarck*); Jonathan Kingston/National Geographic: pp.8-9 (working underwater); Science & Society Picture Library: p.12 lower left (ancient surgery); Werner Forman/Universal Images Group: p.12 top right (Celtic pot), p.13 top left (Peruvian jar), p.14 bottom left (bog people); mj0007: p.13 top right (Mexican pot); Nathan Benn/Corbis Historical: pp.14-15 bottom (Moche artifacts); Reg Speller/Picture Post: pp.16-17 bottom (Piltown Man); Bettmann: p.19 bottom (Dr. Mary Leakey). **Granger:** p.14 lower left (mummy); Sarin Images: p.16 top left (American Indian mounds), p.16 bottom left (Irish monks). **iStock:** seraficus: pp.2-3 bottom (old landfill); EvalCo: p.4 lower right (skeleton); demerzel21: p.5 middle right (Grant's Tomb, New York City); Robert\_Ford: p.12 lower center (Maya civilization); Nikada: pp.14-15 (Angkor growth); ivanmateev: p.15 top center (Angkor growth); NikkosDaskalakis: p.16 upper right (Chaco Canyon). **NASA/USGS:** p.5 bottom right (satellite image of Ubar, Oman). **Photo Researchers, Inc.:** Georg Gerster: pp.4-5 top (ancient Roman camp). **Science Source:** John Reader: p.2 upper right (hominin footprints), John Reader: p.2 center (single adult fossilized hominin footprint); Jeff Rotman: p.8 bottom right (metal detector). **Shutterstock:** Jaroslav Moravcik: p.4 lower left (Tutankhamen mask); M.V. Photography: p.5 top right (Tarragona columns); nikiteev\_konstantin: p.18 bottom (journal); Vladimir Zhogag: p.19 top right (Japanese hieroglyphs); JJ\_SNIPER: p.19 top center (ancient Egyptian statue). [www.stonchengeusa.com](http://www.stonchengeusa.com): America's Stonehenge: p.17 bottom (stone houses).

## GRADE 6 TITLES

World's Early People	Ancient India
Mesopotamia	Indian Empires
Ancient Egypt	Ancient China
<b>Archaeology</b>	Early Romans
Language	Roman Empire
Ancient Hebrews	Christianity and Rome's Legacies
Early Greeks	Olmec and Maya
Greece's Golden Age	Civil Rights
Ancient Persia	

**ON THE COVER:** Warriors and horses from the tomb of Chinese emperor Shi Huangdi.  
**Science Source:** Pacific Press.

**PICTURE CREDITS:** Alamy: Stan Tess: p.4 center (African Burial Ground National Monument); David Hilbert: p.7 bottom right (restoring broken artifacts); INTERFOTO: p.12 bottom left (ancient iron ax); Photo12: p.12 top right (amphora); Peter Barritt: p.13 middle left (Ur); World History Archive: p.13 lower center (Voynich manuscript); B.A.E. Inc.: p.13 lower right (Native American pot); Superstock: p.15 bottom center (Rosetta Stone); ENRIQUE CASTRO-MENDIVIL/Reuters: pp.14-15 bottom (Moche grave); Kelley Stanley: p.15 center (Egyptian pyramids); Bill Brooks: p.16 lower left (Viking village site); NPS Photo: p.17 lower center (rock drawing); Lanmas: p.19 top left (Assyrian palace). **AP Images:** Matt Rourke: p.12 right (Tarim Basin mummy). **Art Resource:** Erich Lessing: p.13 top right (Austrian pot). **Getty Images:** Luis Marden/National Geographic: p.14 lower right (Port Royal, Jamaica); LAWRENCE MIGDALE/Science Source: p.17 (Stonehenge); Three Lions: p.16 right (studying Dead Sea Scrolls);

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