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Aii Language Center
A Mengly J. Quach Education School

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QUIZ 1

Reading Explorer 5 Unit 1 Lesson B

DIRECTION: Choose the best answer for each question.

The Collapse of Angkor

After rising to sublime[1] heights, the sacred city may have engineered its own downfall.

An Empire's Fall

[A] Almost hidden amid the forests of northern Cambodia is the scene of one of the greatest vanishing acts of all time. This was once the heart of the Khmer kingdom. At its height, the Khmer Empire dominated much of Southeast Asia, from Myanmar (Burma) in the west to Vietnam in the east. As many as 750,000 people lived in Angkor, its magnificent capital. The most extensive urban complex of the preindustrial world, Angkor stretched across an area the size of New York City. Its greatest temple, Angkor Wat, is the world's largest religious monument even today.

[B] Yet when the first European missionaries arrived in Angkor in the late 16th century, they found a city that was already dying. Scholars have come up with a list of suspected causes for Angkor's decline, including foreign invaders, a religious change of heart, and a shift to maritime trade. But it's mostly guesswork: Roughly 1,300 inscriptions survive on temple doors and monuments, but the people of Angkor left not a single word explaining their kingdom's collapse.

[C] Some scholars assume that Angkor died the way it lived: by the sword. The historical records of Ayutthaya, a neighboring state, claim that warriors from that kingdom "took" Angkor in 1431. If so, their motive is not difficult to guess. No doubt Angkor would have been a rich prize - inscriptions boast that its temple towers were covered with gold. After its rediscovery by Western travelers just over a century ago, historians deduced from Angkor's ruins that the city had been looted[2] by invaders from Ayutthaya.

[D] Roland Fletcher, co-director of a research effort called the Greater Angkor Project, is not convinced. Some early scholars, he says, viewed Angkor according to the sieges[3] and conquests of European history. "The ruler of Ayutthaya, indeed, says he took Angkor, and he may have taken some formal regalia[4] back to Ayutthaya with him," says Fletcher. But after Angkor was captured, Ayutthaya's ruler placed his son on the throne. "He's not likely to have smashed the place up before giving it to his son."

[E] A religious shift may also have contributed to the city's decline. Angkor's kings claimed to be the world emperors of Hindu mythology and erected temples to themselves. But in the 13th and 14th centuries, Theravada Buddhism gradually took over from Hinduism, and its principles of social equality may have threatened Angkor's elite. "It was very subversive, just like Christianity was subversive to the Roman Empire," says Fletcher.

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[F] A new religion that promoted ideas of social equality might have led to a worker rebellion. The city operated on a moneyless economy, relying on tribute and taxation, and the kingdom's main currency was rice, the staple food of the laborers who built the temples and the thousands who ran them. For one temple complex, Ta Prohm, more than 66,000 farmers produced nearly 3,000 tons of rice a year, which was then used to feed the temple's priests, dancers, and workers. Scholars estimate that farm laborers comprised nearly half of Greater Angkor's population.

[G] Or maybe the royal court simply turned its back on Angkor. Angkor's rulers often erected new temple complexes and let older ones decay. This may have doomed the city when sea trade began to develop between Southeast Asia and China. Maybe it was simple economic opportunism that had caused the Khmer center of power to shift: The move to a location closer to the Mekong River, near Cambodia's present-day capital, Phnom Penh, allowed it easier access to the sea.

[H] Economic and religious changes may have contributed to Angkor's downfall, but its rulers faced another foe. Angkor was powerful largely thanks to an advanced system of canals and reservoirs, which enabled the city to keep scarce water in dry months and disperse excess water during the rainy season. But forces beyond Angkor's control would eventually bring an end to this carefully constructed system.

[I] Few ancient sites in southern Asia could compare to Angkor in its ability to guarantee a steady water supply. The first scholar to appreciate the scale of Angkor's waterworks was French archeologist Bernard-Philippe Groslier. In 1979, he argued that the great reservoirs served two purposes: to symbolize the Hindu cosmos and to irrigate the rice fields. Unfortunately, Groslier could not pursue his ideas further. Cambodia's civil war, the brutal regime of the Khmer Rouge, and the subsequent arrival of Vietnamese forces in 1979 turned Angkor into a no-go zone for two decades.

[J] In the 1990s, Christophe Pottier followed up on Groslier's ideas and discovered that the south part of Angkor was a vast landscape of housing, water tanks, shrines, roads, and canals. Then, in 2000, Roland Fletcher and his colleague Damian Evans - as part of a collaborative study with Pottier - viewed some NASA radar images of Angkor. The researchers marveled at the sophistication of Angkor's infrastructure. "We realized that the entire landscape of Greater Angkor is artificial," Fletcher says. Teams of laborers constructed hundreds of kilometers of canals and dikes that diverted water from the rivers to the reservoirs. Overflow channels bled off excess water that accumulated during the summer monsoon months, and after the monsoon, irrigation channels dispensed the stored water. "It was an incredibly clever system," says Fletcher.

[K] Fletcher was therefore baffled when his team made a surprising discovery. An extraordinary piece of Angkorian workmanship - a vast structure in the waterworks - had been destroyed, apparently by Angkor's own engineers. "The most logical explanation is that the dam failed," Fletcher says. The river may have begun to erode the dam, or perhaps it was washed away by a flood. The Khmer broke apart the remaining stonework and modified the blocks for other purposes.

[L] Any weakening of the waterworks would have left the city vulnerable to a natural phenomenon that none of Angkor's engineers could have predicted. Starting in the 1300s, it appears that Southeast Asia experienced a period of extreme climate change, which also affected other parts of the world. In Europe, which endured centuries of harsh winters and cool summers, it was known as the Little Ice Age.

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[M] To an already weakened kingdom, extreme weather would have been the final blow. "We don't know why the water system was operating below capacity," says Daniel Penny, co-director of the Greater Angkor Project. "But what it means is that Angkor ... was more exposed to the threat of drought than at any other time in its history." If inhabitants of parts of Angkor were starving while other parts of the city were hoarding a finite quantity of rice, the most likely result was social instability. "When populations in tropical countries exceed the carrying capacity of the land, real trouble begins," says Yale University anthropologist Michael Coe, "and this inevitably leads to cultural collapse." A hungry army weakened by internal problems would have exposed the city to attack. Indeed, Ayutthaya's invasion happened near the end of a long period of drought.

[N] Add to the climate chaos the political and religious changes already affecting the kingdom, and Angkor's prospects were bleak, says Fletcher. "The world around Angkor was changing; society was moving on. It would have been a surprise if Angkor persisted."

[O] The Khmer Empire was not the first civilization brought down by climate catastrophe. Centuries earlier, loss of environmental stability likewise brought down another powerful kingdom halfway around the world. Many scholars now believe that the fall of the Maya followed a series of droughts in the ninth century. "Essentially, the same thing happened to Angkor," says Coe.

[P] In the end, the tale of Angkor is a sobering lesson in the limits of human ingenuity. "Angkor's hydraulic[10] system was an amazing machine, a wonderful mechanism for regulating the world," Fletcher says. Its engineers managed to keep the civilization's achievement running for six centuries - until a greater force overwhelmed them.

[1] If you say something is **sublime**, you mean it has a wonderful quality.
[2] If a store or house is **looted**, people have stolen things from it, for example, during a war or riot.
[3] A **siege** is a military or police operation in which soldiers or police surround a place in order to force the people there to come out.
[4] **Regalia** is the ceremonial jewelry, objects, or clothes that symbolize royalty or high office.
[5] A **tribute** is something you give, say, do, or make to show your admiration and respect for someone.
[6] The **cosmos** is the universe.
[7] A **civil war** is a war fought between different groups of people who live in the same country.
[8] The **Khmer Rouge** was a radical communist movement that ruled Cambodia from 1975 to 1979 after winning power through a guerrilla war.
[9] A **dike** is a wall built to prevent flooding.
[10] Something that is **hydraulic** involves the movement or the control of water.

1. Which question summarizes the main point of the reading?
   a. Why did Cambodians make such huge waterworks?
   b. What happened to bring about Angkor's demise?
   c. Who were the greatest rulers in Khmer civilization?
   d. When did Angkor become the capital?
2. Which opinion is closest to Fletcher's in paragraph D?
   a. The ruler of Ayutthaya would have kept Angkor in good condition for his son.
   b. The people of Ayutthaya were only interested in valuable jewelry.
   c. European history provides a good model for understanding Angkor.

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d. The royal son sold away formal regalia once he was on the throne.

3. What is paragraph E mainly about?
   a. invading armies
   b. political revolt
   c. religious change
   d. sea trade
4. In the first sentence of paragraph G, what does *its* refer to?
   a. the royal court's
   b. Ta Prohm's
   c. Angkor's
   d. the population's
5. In paragraph I, what is a *no-go zone*?
   a. a cause of a civil war and ethnic conflict
   b. a location without adequate transportation
   c. a country that didn't admit French scholars
   d. a place that is too dangerous to visit
6. What is the main idea of paragraph J?
   a. It rains heavily in the summer monsoons.
   b. NASA astronauts can see Angkor from space.
   c. All of the landscape of Greater Angkor was manmade.
   d. More people were employed in construction than agriculture.
7. In paragraph J, what is a *collaborative study*?
   a. a study done by more than one person
   b. a study that surveys landscapes
   c. a study that involves new ideas
   d. a study of a system
8. Which of the following happened first?
   a. Western travelers were astonished by Angkor.
   b. The capital moved nearer to the Mekong River.
   c. Theravada Buddhism became popular.
   d. Invaders from Thailand looted Angkor.
9. Which statement would Michael Coe be most likely to agree with?
   a. Population increase in tropical countries usually results in stability.
   b. A culture can collapse if there is not enough food for the people.
   c. The Maya civilization should have learned from Angkor's experience.
   d. The demise of Angkor was largely due to monsoon flooding.
10. Which of these is NOT mentioned as a reason for Angkor's collapse?
    a. invasion
    b. religion
    c. climate
    d. technology

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DIRECTIONS: Choose the best answer for each question.

Spirits in the Sand

Recent findings shed light on the lives - and mysterious disappearance - of the ancient Nasca.

[A] Since their mysterious desert drawings became widely known in the late 1920s, the people known as the Nasca have puzzled archeologists, anthropologists,[1] and anyone else who is fascinated by ancient cultures. Their elaborate lines and figures, called geoglyphs, are found distributed, seemingly at random, across the desert outside Nasca and the nearby town of Palpa. Waves of scientists - and amateurs - have come up with various interpretations for the designs. At one time or another, they have been explained as Inca roads, irrigation plans, even, controversially, landing strips for alien spacecraft.

[B] Since 1997, an ongoing Peruvian-German research collaboration called the Nasca-Palpa Project has been putting these theories to the test. The leaders of the project are Johny Isla and Markus Reindel of the German Archaeological Institute. As well as studying where and how the Nasca lived, the researchers have investigated why they disappeared and the meaning of the strange, abstract designs they left behind. If Isla and his colleagues are right, the story of Nasca begins, and ends, with water.

Living on the Edge

[C] The coastal region of southern Peru and northern Chile is one of the driest places on Earth. In the small, protected basin where the Nasca culture arose, ten rivers descend from the Andes. Most of these rivers are dry at least part of the year. Surrounded by a thousand shades of brown, these ten ribbons of green offered a fertile spot for the emergence of an early civilization. "It was the perfect place for human settlement, because it had water," says geographer Bernhard Eitel, a member of the Nasca-Palpa Project. "But it was a very high-risk environment."

[D] According to Eitel and his colleague Bertil Machtle, the micro-climate in the Nasca region has undergone considerable variation over the past 5,000 years. When a high-pressure system over central South America called the Bolivian High moves to the north, more rain falls on the western slopes of the Andes. When the high shifts southward, precipitation decreases. This causes the rivers in the Nasca valleys to run dry.

[E] Despite the risky conditions, the Nasca lived in the area for eight centuries following their appearance in about 300 B.C. As the rainfall cycle continued, people moved east or west along the river valleys. In the arid southern valleys, early Nasca engineers devised practical ways of coping with the scarcity of water. An ingenious system of horizontal wells tapped into the inclined water table as it descended from the Andean foothills. These irrigation systems, or *puquios*, allowed the Nasca to bring subterranean[2] water to the surface.

[F] The Nasca people were in fact remarkably "green," perhaps because of the environmental challenges they faced. The creation of the puquios displayed a sophisticated sense of water conservation, since the underground aqueducts[3] minimized evaporation. The farmers planted seeds by making a single hole in the ground rather than plowing, thereby preserving the substructure of the soil. The Nasca also recycled their

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garbage as building material. "It's a society that managed its resources very well," says Isla. "This is what Nasca is all about."

Praying for Water

[G] For centuries, Andean people have worshipped the gods of mountains that feed the Nasca drainage system. According to National Geographic explorer Johan Reinhard, the Nasca have traditionally associated these mountains - mythologically, if not geologically - with water. Evidence for Reinhard's thesis came in 1986, when he found the ruins of a ceremonial stone circle at the summit of Illakata, one of the region's tallest mountains. Reinhard believes the Nasca lines were most likely related to worship of mountain gods, because of their connection to water.

[H] Further evidence connecting Nasca rituals to water worship was revealed by the Nasca-Palpa Project researchers in 2000. On a plateau[4] near the village of Yunama, Markus Reindel made an important discovery. As he was excavating a mound, he uncovered several broken pots and other relics that clearly represented ritual offerings. Then he came upon pieces of a large seashell. It was of a genus[5] called *Spondylus*.

[I] "The *Spondylus* shell is one of the few items of Andean archeology that has been well studied," Reindel says. "It's a very important religious symbol for water and fertility ... It was brought from far away and is found in specific contexts, such as funerary objects and on these platforms. It was connected in certain activities to praying for water. And it's clear in this area, water was the key issue."

[J] In 2004, archeologist Christina Conlee made a much grimmer discovery. Conlee was working at a site near a dry river valley in the southern Nasca region. While excavating a Nasca tomb, she unearthed a skeleton. However, the first part to emerge from the dirt was not the skull, but the neck bones. "We could see the vertebrae[6] sitting on top," Conlee says. "The person was seated, with arms crossed and legs crossed, and no head." Cut marks on the neck bones indicate the head had probably been severed by a sharp knife. A ceramic pot known as a head jar rested against the elbow of the skeleton. An illustration on the jar showed a decapitated[7] "trophy head." Out of the head grew a strange tree trunk with eyes.

[K] Everything about the burial - the head jar, the placement and position of the body - suggests the body was disposed of in a careful manner. Conlee suspects the skeleton represents a ritual sacrifice. "Although we find trophy heads spread throughout the Nasca period," she said, "there are some indications that they became more common in the middle and late period, and also at times of great environmental stress, perhaps drought. If this was a sacrifice, it was made to appease[8] the gods, perhaps because of a drought or crop failure."

Beginning of the End

[L] Despite their offerings, the Nasca's prayers would ultimately go unanswered. Water - or more precisely, its absence - was increasingly critical in the Nasca's final years, between about A.D. 500 and A.D. 600.

[M] In the Palpa area, scientists have traced the movement of the eastern margin of the desert about 19 kilometers (12 miles) up the valleys between 200 B.C. and A.D. 600. At one point, the desert reached an

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altitude of over 1,900 meters (6,500 feet). Similarly, the population centers around Palpa moved farther up the valleys, as if they were trying to outrun the arid conditions. "At the end of the sixth century A.D.," Eitel and Machtle conclude in a recent paper, "the aridity culminated[9] and the Nasca society collapsed."

[N] Nevertheless, environmental stresses were not the only vital factor. "It wasn't just climate conditions that caused the collapse of Nasca culture," emphasizes Johny Isla. "A state of crisis was provoked[10] because water was more prevalent in some valleys than in others, and the leaders of different valleys may have been in conflict." By about A.D. 650, the more militaristic Wari (Huari) Empire had emerged from the central highlands and displaced the Nasca as the predominant culture in the southern desert region.

[O] Almost 1,500 years later, the legacy of the Nasca lives on. You can see it in the artifacts[11] of their ancient rituals, in the remains of their irrigation systems, and - most famously - in the lines of their mysterious desert designs. The lines surely provided a ritualistic reminder to the Nasca people that their fate was intrinsically tied to their environment. In particular, the lines represent a bond with the Nasca's most precious resource, water. You can still read their reverence for nature, in times of plenty and in times of desperate want, in every line and curve they scratched onto the desert floor. And when your feet inhabit their sacred space, even for a brief and humbling moment, you can *feel* it.

[1] An **anthropologist** is someone who studies people, society, and culture.
[2] If something is said to be **subterranean**, it is under the ground.
[3] An **aqueduct** is a structure, often a bridge, that carries water.
[4] A **plateau** is a large area of high and fairly flat land.
[5] A **genus** is a class of similar things, especially a group of animals or plants that includes several closely related species.
[6] **Vertebrae** are the small circular bones that form the spine of a human being or animal.
[7] If someone is **decapitated**, their head is cut off.
[8] If you try to **appease** someone, you try to stop them from being angry at you by giving them what they want.
[9] If you say that an activity or process **culminates** in or with a particular event, you mean that the event happens at the end of it.
[10] If you **provoke** someone, you deliberately annoy them and try to make them behave aggressively. If something **provokes** a reaction, it causes the reaction.
[11] An **artifact** is an ornament, tool, or other object that is made by a human being, especially one that is historically or culturally interesting.

11. The phrase *come up with* in paragraph A is closest in meaning to ____.
    a. modified
    b. thought of
    c. looked over
    d. rejected
12. What does the word *they* in the last sentence of paragraph A refer to?
    a. the Nasca people
    b. scientists
    c. the Nasca lines
    d. alien spacecraft

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13. What is true about the Nasca-Palpa project?
    a. It was the first group to discover the Nasca lines.
    b. It involves experts from more than one country.
    c. It has been researching the Nasca since the 1920s.
    d. It was formed in 1920.
14. Which of the following is most similar to the place where the Nasca lived?
    a. an area of farmland surrounded by a desert
    b. a single mountain standing on a flat plain
    c. an island circled by stormy seas
    d. a city surrounded by agricultural lands
15. What is the main purpose of paragraph D?
    a. to provide support for the theory of Bernhard Eitel
    b. to show why the Bolivian High sometimes moves north
    c. to explain why the rivers in the Nasca region have run dry
    d. to challenge the conclusions of the Nasca-Palpa research
16. The idea that the Nasca lines were related to the worship of gods living in the mountains was first supported by the discovery of ____.
    a. the pieces of a large seashell
    b. broken pots near Yunama
    c. a stone circle on Illakata
    d. a skeleton near a dry well
17. What is a *Spondylus*?
    a. a kind of rock
    b. a religious ceremony
    c. a shape that represents water
    d. an animal that lives in the sea
18. Which of the following statements about the "head jar" first mentioned in paragraph J is definitely known to be true?
    a. When discovered, it contained the skull belonging to the skeleton.
    b. The people who buried the skeleton placed a small tree inside the jar.
    c. There was an image on the jar of an unusual tree growing from a head.
    d. It had been placed where the head of the skeleton had once been.
19. Which of the following is closest in meaning to this sentence from paragraph N?

    By about A.D. 650, the more militaristic Wari (Huari) Empire had emerged from the central highlands and displaced the Nasca as the predominant culture in the southern desert region.

    a. By A.D. 650, the Wari (Huari) had become more aggressive than the Nasca and were able to invade the central highlands from the south.
    b. The warlike Wari (Huari) Empire pushed out of its homeland in the central highlands and replaced the Nasca as the leading power in the south by around A.D. 650.
    c. Around A.D. 650, the hostile Wari (Huari) Empire took over the central highlands in much the same way that the Nasca had occupied the southern desert region centuries before.
    d. After the fall of the Nasca in A.D. 650, the Wari (Huari) came to power in the central highlands, which had previously been controlled by the Nasca.

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20. Which of these statements would the author probably agree with?
    a. In many ways, the Nasca were responsible for their own decline.
    b. It is still possible to feel the presence of the Nasca in the land where they lived.
    c. After years of research, all the mysteries of the Nasca lines have finally been solved.
    d. Water was not as important to the culture of the Nasca as was once believed.

DIRECTIONS: Complete the sentences using the words in the box.

channels	dispersed	doomed	ingenuity	invaders
mechanisms	regime	reservoir	subsequently	subversive

Most visitors to Agra in India head for the famous Taj Mahal. But not far away is an impressive deserted city, Fatehpur Sikri. The city was built during the (1) _____ of Emperor Akbar, when the Mughals ruled this part of India. The location was chosen when Akbar came to the area to meet a Sufi saint who predicted that Akbar would have a son.

(2) _____, when the heir to the throne was born in 1571, Akbar decided to build his capital in that place. Mughal civilization was famous for the (3) _____of its architecture and the buildings of Fatehpur Sikri are outstanding examples of the style. The city itself covers a wide area with public buildings, mosques, and palaces (4) _____ throughout it. Around the city, Akbar built a long fort wall to protect it from (5) _____.

However, the city was (6) _____ to failure. Water in the area was scarce, so the Emperor built an artificial lake to act as a (7) _____. But the (8) _____ for supplying the water channels were not adequate and the city suffered from water shortages.

Akbar abandoned his city after only 10 years, and died 20 years later, at the age of 63. The end of his reign was disturbed by the (9) _____ actions of his son, who rejected his reforms and tried to dethrone his father. The empire rapidly crumbled.

Today, visitors to the ghost city can see dry (10) _____ that were meant to bring water to large gardens and man-made lakes. The empty red sandstone buildings at this UNESCO World Heritage Site are a tribute to the architectural skill of the Mughals, but also a reminder that water is essential for a civilization to flourish.

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