

Name _____

Date _____

Human-Environment Interaction - Answer Key

Use the text to answer each question below.

1. Human-environment interaction is the relationship between the natural environment and human beings. We affect our environment, and our environment affects us. Landforms, bodies of water, plant and animal life, climate and elevation are parts of the natural environment that can both help and challenge us. Living near a river, for example, can make it easy for people to irrigate (water) their crops. During heavy rain, however, that same river might rise higher than its banks. The flooding could destroy crops and farmland. Humans might affect the river through their own activities, too. Building dams, canals and reservoirs, fishing and polluting would all have an effect on the river and its ecosystem.

Building a dam is one way that

A. the environment can affect humans.



B.

humans can affect their environment.

According to the text, "Humans might affect the river through their own activities." Building dams is listed in the text as an example of one way humans could "have an effect on the river."

C. living near a river might harm humans.

D. a river can destroy farmland.

2. For thousands of years, humans have depended on the physical environment to survive. They've adapted to and modified the natural world to better suit their wants and needs as well. One way we might depend, or rely, on our environment is by eating a diet based on local plants and animals. When we adapt, we adjust our own behavior and actions to fit our environment. We might modify, or change our environment too. In ancient times, Egyptians depended on the Nile River to bring nutrients that made their soil rich for farming. They also adapted by timing their planting and harvesting to the river's flood cycles. They modified their environment by building canals to strengthen the riverbanks of the Nile, too. Sometimes, humans have to adapt to what the environment does ****not**** give. In the years after the Civil War, settlers moved to the Great Plains. Due to the lack of trees in this region, settlers constructed homes from the top layer of soil and grass, or sod. These homes were called "sod houses."

Which of these people is adapting to their environment?



A.

a farmer planting cotton in Alabama
because it grows well in the hot climate

According to the text, "When we adapt, we adjust our own behavior and actions to fit our environment." A farmer in Alabama who plants cotton because it grows well in the hot climate is adapting to the environment.

B. a person in the Northeast filling in a pond in her backyard so that she can plant more flowers

C. a person in the Northeast digging a small pond in her backyard so that she can raise fish there

D. a student in Canada wearing shorts to school every day, even when it's very cold or snowing

3. Native American tribes of the Northwest interacted with their environment in many ways. To find food, they built weapons specific to each creature they hunted. For example, they made long wooden harpoons, or spears, to catch seals. To catch salmon, they had another technique. Salmon swam up the rivers from the ocean to lay their eggs early in the summer. Knowing this, the men built wooden fences across the rivers to block the fish. Once the fish were caught, women dried the salmon meat, so it could be eaten all year long. Tribes in the American Southwest also interacted with their environment. The climate in this region is very dry. Unlike tribes in the Northwest, where fishing was a main source of food, tribes in the Southwest grew and ate crops like corn and beans that could survive in dry soil. They also adapted to the treeless land by building homes out of adobe, baked bricks made of clay.

How did Native American tribes in the Northwest differ from tribes in the Southwest?

- A. Tribes in the Northwest did not interact with their environment at all.
- B. Tribes in the Northwest affected their environment but were not affected by it.
- C. Tribes in the Northwest mostly fished, while tribes in the Southwest mostly farmed.
- D. Tribes in the Northwest mostly built things from clay, while tribes in the Southwest mostly built things from wood.

✓

According to the text, "Unlike tribes in the Northwest, where fishing was a main source of food, tribes in the Southwest grew and ate crops like corn and beans that could survive in dry soil."

4. The roads, highways, power supplies and buildings that help a society run are called infrastructure. Infrastructure is important to humans and society, but constructing it can impact the environment. Let's look at an example. A 1,600 mile-long highway now crosses South America, connecting Brazil and Peru. This roadway, called the Interoceanic Highway, has reduced the distance and cost of travel and made trade easier and more affordable. Completed in 2011, the highway passes the Amazon River basin and over the Andes Mountains. Many people are concerned that this highway will harm the environment. Unregulated gold mining has become a problem in parts of Peru. For every gram of gold that is mined, it is estimated that two or three grams of mercury pollute the air and water. Illegal logging is also on the rise. In addition, migrants have been moving to newly accessible regions and building settlements very close to the rainforest. This may lead to additional pollution and deforestation as well.

Which of these is an example of infrastructure?

- A. Lake Michigan, one of the largest lakes in the United States
- B. the curtains on the windows of a bedroom
- C. the border of Massachusetts and Connecticut



D.

The Pacific Coast Highway that runs along the coast of California

According to the text, "The roads, highways, power supplies and buildings that help a society run are called infrastructure." The Pacific Coast Highway is therefore an example of infrastructure.

5. Settlers on the Great Plains had to adapt to the lack of wood by building houses from sod. But they affected their environment, too. How? One way was by taking advantage of new technologies, including the steel plow and barbed wire. Barbed wire was invented in 1874 and had a dramatic impact on the Great Plains. Before then, cattle, sheep and bison had mostly roamed and grazed freely in conditions called "open range." Now, however, ranchers could start enclosing cattle in specific areas for grazing and fencing off portions of land as their own.

Which technology most directly led to the end of the open range?

- A. the steel plow



B.

barbed wire

According to the text, "Barbed wire was invented in 1874 and had a dramatic impact on the Great Plains." While "cattle, sheep and bison had mostly roamed and grazed freely" in "open range" conditions, after 1874 ranchers began "enclosing cattle in specific areas...and fencing off portions of land as their own."

- C. sod houses

- D. the telephone

6. Different methods of farming affect the environment in different ways. Pesticides and fertilizers may contain chemicals that pollute the land and water and poison animals. Farm animals may be given antibiotics that lead to drug-resistant strains of bacteria entering the ecosystem. In these cases, farming can have a negative effect on the environment. Farming doesn't always harm the environment though. Sustainable agriculture is a term used to describe farming techniques that aim to reduce harm to the environment. Some of these techniques include avoiding dangerous pesticides, carefully managing animal waste and rotating crops to keep the soil healthy.

Julia is farming corn and wheat without using pesticides and is careful to keep the soil healthy. She is practicing

A. fertilizing land.



B.

sustainable agriculture.

According to the text, "Sustainable agriculture is a term used to describe farming techniques that aim to reduce harm to the environment."

C. horticulture.

D. eco-friendly landscaping.

7. Terrace farming is another way to grow crops without many negative environmental outcomes. This method of farming has been used for centuries to grow foods on the sides of hills or mountains and was common in China, Japan and Peru. On a terrace farm, channels move runoff water slowly where it needs to go. This helps conserve soil and decrease erosion. Urban farming might also have positive results on the environment. Urban farming refers to farming done in cities. It often includes rooftop, patio and community gardens. In addition to connecting communities and creating an appreciation for nature, urban farming can be a source of local food that decreases pollution. Rather than shipping their fresh veggies hundreds of miles on big trucks that need gasoline and pollute the air, people can grow those veggies for themselves in urban spaces.

How can urban farming help the environment?



A.

It can cut down on the gas and oil needed for shipping goods to the city.

According to the text, "Rather than shipping their fresh veggies hundreds of miles on big trucks that need gasoline and pollute the air, people can grow those veggies for themselves in urban spaces" with urban farming.

B. It can eliminate the need to give farm animals antibiotics.

C. It can help keep the soil healthy and decrease erosion on the sides of hills or mountains.

D. It can stop drug-resistant bacteria from being released in the ecosystem.