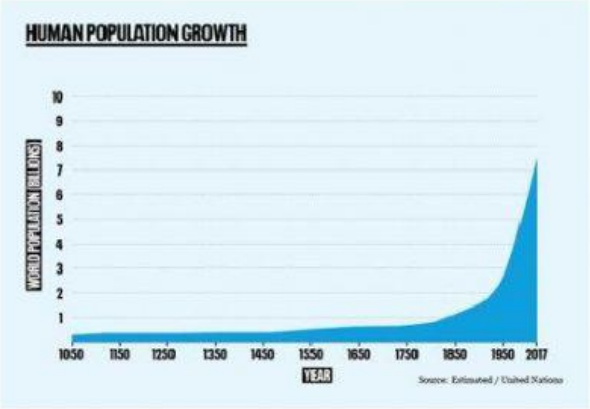
Nov 29-Dec 3 Human Impact Stations 1-4

Station 1: Explain Human Impacts on the Environment

Directions: Use your prior knowledge to answer the questions below to the best of your ability.



The graph shows the population of the world over the last 1000 years. You can see that the population was steady until around 1900 when the human population increased rapidly! This growth has resulted in changes to Earth's natural environments as humans increase their need for land and other resources and seek ways to dispose of their wastes.

Humans need materials to build houses and buildings. Brainstorm three places where you think humans get these materials. Type your answer below.

How do you think ecosystems are affected when humans take the resources they need for building?

Humans also need to get rid of waste like trash, sewage and pollution. Brainstorm three ways that you think humans get rid of this waste. Type your answer below.

How do you think ecosystems are affected when humans get rid of their waste?

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Station 2: Explain Water Pollution

Directions: Watch the video below, then answer the multiple-choice questions.

If the video does not work, here is the link: https://www.youtube.com/watch?v=ACgv19b-n5E

1. What are the different categories of water pollution discussed in the video? (choose 3)

A. Biodegradable Chemical Contamination

B. Pathogens

C. Thermal Pollution

D. Sound Pollution

2. What is one thing that humans do to sewage water before releasing it into lakes and oceans?

A. They reuse the water many times before putting it back into the lakes and oceans.

B. They allow the sewage to flow straight into the lakes and oceans.

C. They treat the sewage, breaking down harmful matter with bacteria.

3. What is an effect of releasing treated water into lakes?

A. The water can become eutrophic.

B. There is no effect.

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C. The lake will eventually fill up and overflow.

4. What is another way that lakes and ponds can become eutrophic?

A. People swimming in these lakes and ponds bring more nutrients into the water.

B. Fertilizers from crops run off into the lakes and ponds giving them more nutrients than normal.

C. Lakes and ponds cannot become eutrophic.

5. In thermal pollution, where does the heat come from that disrupts water ecosystems?

A. There is no thermal pollution

B. The animals that live in that ecosystem

C. Factories and Manufacturing Plants

Station 3: Reading about Invasive Species

Directions: Read the document below, then use the text to answer the multiple-choice questions.

The Story of Kudzu's Invasion

When you look at this house on the right you might think, "What is all over that house? It looks like a giant plant invasion!" This "invading plant" is called kudzu. It is an invasive species. An invasive species is an organism from a different ecosystem that thrives and grows out of control. Such organisms can be plants, animals, bacteria, or fungi. These invasive organisms can damage the environment, hurt the economy, and cause people to become ill. These species grow very fast, reproduce quickly and aggressively, and cause harm to the area. Kudzu is a well-known invasive plant of the Southeast United States, including Tennessee.



The story of kudzu in the United States started over 100 years ago. Kudzu was first brought to the United States because of a centennial exposition in Philadelphia, Pennsylvania, in 1876. Countries from all over the world had been invited to help in the exposition, a celebration of America's 100th birthday. These countries were asked to build exhibits. Many countries participated, including Japan. Japan's exhibit was a garden filled with kudzu, a large-leaved, sweet-smelling plant that gardeners flocked to see. American gardeners started growing similar gardens with kudzu here in the United States.

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However, kudzu was not very successful in the United States until the 1930s, when dust storms damaged much of the land. The Soil Conservation Service encouraged the use of kudzu for erosion prevention. Out-of-work young men were given jobs planting kudzu in areas where the soil needed plants to prevent erosion. Farmers who were suspicious of this non-native plant were offered eight dollars an acre as an encouragement to plant kudzu.

Since this was during the Great Depression and times were hard, farmers took the money to help their families. In the 1940s kudzu became known as a "miracle vine" because of its fast growth and success in controlling erosion.



Kudzu grows well with the land and climate in Tennessee and surrounding states. In fact, it can grow a foot each day during the summer months. In one year, kudzu can grow 60 feet or more over land, up power poles, into old rotting buildings, and anywhere else it is left undisturbed. This growth helps with erosion, but it can destroy habitats of animals and plants on the forest floor. The kudzu vine entangles other plants and prevents sunlight from reaching them.

This invasive plant is not all bad. Some animals, such as goats, can successfully eat kudzu. Research is being done on medicines that can be derived from kudzu.

At this point only hamsters and mice are part of the investigations. Testing on these animals found that kudzu may be used in the treatment of alcoholism, but it will take years before we know for sure how it will affect humans. Kudzu can be eaten in salads, cooked like turnip greens, and even deep fried. Many people make syrup and jelly from kudzu blossoms.

Kudzu is an invasive plant that at this time has no natural enemies to limit its growth and reproduction. Most herbicides have had minimal effect on the plant, and one was even found to make the plant grow faster! It looks like kudzu is here to stay.

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1. Which country introduced kudzu to the United States?

   A England

   B China

   C Mexico

   D Japan

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2. Kudzu was not very successful until the 1930s. What was it used for then?

   A Erosion prevention

   B Home gardens

   C Feed for cattle

   D Medicines

3. What does the term ***invasive species*** mean in paragraph 1?

   A Species of organisms that live naturally in the specific ecosystem

   B Foxes that live in the area that cause change

   C Organisms from a different ecosystem that thrive and grow out of control

   D A disturbance in the ecosystem such as a flood or forest fire

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4. There are several reasons that kudzu is considered an invasive plant. What are they?

A Kudzu reproduces aggressively and quickly, is harmful to the ecosystem, and is not native to the ecosystem.

B Kudzu helps in the plant growth on the forest floor.

C The kudzu plant grows slowly and doesn't make other plants die.

D Kudzu allows for surrounding plant and animal life to live without harming them.

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5. Kudzu is said to do well in the Southeastern United States, which includes Tennessee. How fast can this plant grow over the summer months?

A Summer is the best time for kudzu growth; it can grow five feet per day.

B During the summer months the growth of kudzu is slow; it grows only six inches per week.

C In the summer months kudzu can grow 60 feet.

D During the summer months kudzu can grow one foot per day.

Station 4: Writing about Invasive Species

Directions: Read the scenario and look at the graphs below. Answer the prompt using your RACE strategy.

R- restate the question

A-answer the question

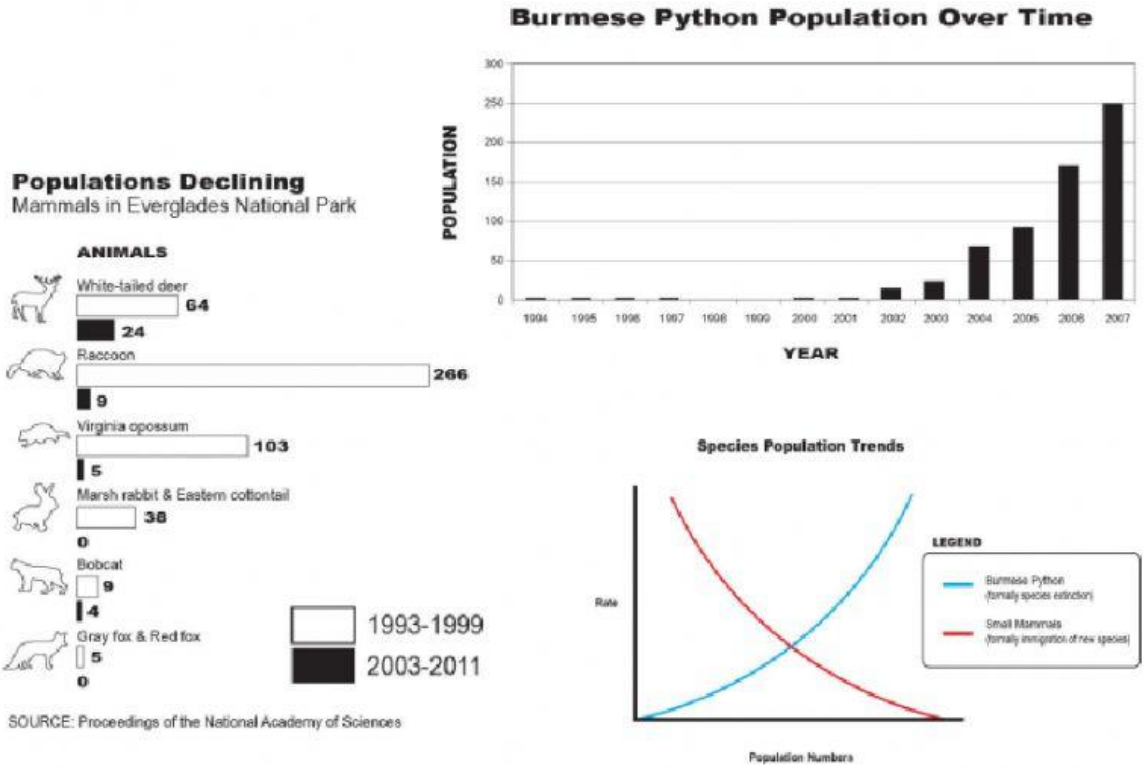
C-cite your evidence

E-explain your answer

Scenario: A private reptile-breeding facility near the Everglades was destroyed by Hurricane Andrew in 1992. This event contributed to the original influx of large quantities of pythons appearing in the wild.

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Pet owners also contributed to the introduction of these reptiles to the Everglades by releasing pets that had grown too large to care for. These reptiles are considered an invasive species to this ecosystem.



Prompt: Write a scientific explanation that describes the impact of the Burmese python on the Everglades.

R-

A-

C-

E-

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