

For each question, select the best answer from the four alternatives.

- Which of the following describes an ecosystem in equilibrium? (3.2) **K/U**
  - an island that has just been hit by a large, powerful hurricane
  - an established forest that supports a variety of plants and animals
  - a region in the Arctic where the average temperature is increasing
  - an area of grassland with plants just starting to grow one year after a fire
- Which of the following is an example of mechanical control of invasive species? (3.5) **K/U**
  - removing the species by hand
  - applying pesticides to the species
  - educating people about the species
  - intentionally introducing another species
- Which of the following correctly explains bioremediation? (3.6) **K/U**
  - introducing organisms to control invasive species
  - re-establishing micro-organisms in a disturbed ecosystem
  - using micro-organisms to consume environmental pollutants
  - collecting organisms produced by ecosystems for commercial use
- Which is the most serious threat to the sustainability of Earth's natural ecosystems? (3.4–3.7) **K/U**
  - invasive species
  - climate change
  - habitat fragmentation
  - air and water pollution

Copy each of the following statements into your notebook. Fill in the blanks with a word or phrase that correctly completes the sentence.

- A tsunami hits an island and removes the surface soil and plant and animal life. A year later, small plants and insects begin to reappear on the island. This change is an example of \_\_\_\_\_ succession. (3.2) **K/U**

- \_\_\_\_\_ is produced when sulfur dioxide or nitrogen oxides combine with water vapour in the atmosphere and return to Earth as rain or snow. (3.6) **K/U**
- Communities that are at \_\_\_\_\_ show little change over long periods of time. (3.2) **K/U**

Indicate whether each of the statements is TRUE or FALSE. If you think the statement is false, rewrite it to make it true.

- When a non-native species is introduced to a new environment, it is very likely that it will survive and harm native species. (3.5) **K/U**
- Decreasing the concentration of a pollutant prevents it from harming the environment. (3.6) **K/U**
- Human actions have caused all the species extinctions on Earth. (3.3) **K/U**

Match each term on the left with the most appropriate description on the right.

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|----------------------|---|
| 11. (a) acid rain    | (i) blocks the digestive systems of animals         |
| (b) plastic at sea   | (ii) increases rates of soil erosion                |
| (c) oil spill        | (iii) introduces disease-causing organisms          |
| (d) clear-cutting    | (iv) damages statues and buildings                  |
| (e) invasive species | (v) interferes with an animal's ability to insulate |
- (3.5–3.7) **K/U**

Write a short answer to each of these questions.

- Why have many wetlands been converted into farmland? (3.4) **K/U**
- Describe at least two ways in which plant communities protect the environment. (3.1) **K/U**
- Sketch a newspaper advertisement that promotes a type of ecotourism that could be conducted in Ontario. **C**

15. We often think of biodiversity as a term describing natural ecosystems. It can also be applied to engineered ecosystems. (3.3) T/I A
  - (a) Briefly describe examples of biodiversity in your neighbourhood.
  - (b) Do you think your neighbourhood has high species richness? Explain why or why not.
16. Plastic shopping bags are a major source of plastic that harms the environment. Describe two ways by which you can reduce the number of plastic bags entering your local environment. A
17. Stewardship is something that we should all be concerned with. (3.7) K/U A
  - (a) Explain what it means to you to be a good steward of your natural environment.
  - (b) Give at least two specific examples of good stewardship.
18. Your local officials want to set aside land for new parks. They ask for input from the public to help them make decisions concerning the parks. List at least two suggestions you would make that would increase the parks sustainability. Include an explanation for each of your suggestions. (3.4) T/I C
19. Can succession help an ecosystem recover from any type of disturbance? Explain your answer. (3.2) T/I
20. Choose a park or wilderness area you have visited and explain how you benefited from your visit. (3.1) T/I
21. Draw a diagram that illustrates a system in equilibrium. Label the diagram to help explain what is taking place within the system. (3.2) K/U C
22. Invasive species create a problem for native species competing for the same resources. Describe two things you can do to limit the number of non-native species introduced into your community. (3.5) A
23. Some people who live in neighbourhoods that have a deer population put food out for the deer. (3.7) T/I
  - (a) How would this action affect both the deer population and human population in the neighbourhood?
  - (b) Do you think this is a wise practice? Explain your answer.
24. Scientists can learn some aspects of a past civilization by studying the trash it produced. Suppose scientists a thousand years in the future were to study the trash in your community's landfill. T/I
  - (a) Name something they might find that would make them think we were not good stewards of the environment. Explain your choice.
  - (b) Name something you would like them to find that would make them think we were good stewards of the environment. Explain your choice.
25. Some parks that contain fragile natural features, such as caves, limit the number of people who can visit them each day. Some people think this is a good way to preserve natural features. Others think these parks should be open to everyone who wants to visit them. What do you think? Explain your opinion. C
26. Construct a table comparing the costs and benefits of using clear-cutting, shelterwood cutting, and selective cutting. (3.7) K/U