

Post- Assessment

Concepts Assessed

Ecosystems are communities of organisms that interact with each other and their physical environment; that living factors are called biotic factors and non-living factors are called abiotic factors; biomes have specific biotic and abiotic factors that make each one unique; all organisms have needs that are met by their environment and adaptations provide an advantage in meeting those needs; basic interactions in ecosystems are food chains and food webs in which matter cycles and energy flows; overtime, ecosystems maintain a balance, but that balance can be changed positively or negatively by natural and human actions.

Time 45 minutes

Materials Individual
Prompt

Advance preparation 1. Duplicate prompt for each student

Procedure:

1. Explain that this assessment is to help the teacher and the students know what they learned after studying a unit on ecosystems. Tell students that you will compare how they did on the pre assessment to what they now know. This will help you and them measure what they learned.
2. Ask students to do their best.

Ecosystem Post-Assessment

1. Which of the following depends on the other for shelter in order to survive?
 - a. Cat - dog
 - b. Wolf – rabbit
 - c. Squirrel-tree
 - d. Rabbit – carrot
2. What is an ecosystem?
 - a. The place an animal lives
 - b. The role that plants and animals have
 - c. The climate and other non living things in a certain area
 - d. The relationship of living and non-living things
3. Which show a path of food energy?
 - a. Sun->fish->plant->bear
 - b. Bear->fish->plant->sun
 - c. Sun->plant->fish->bear
 - d. Plant->fish->bear->sun
4. Which can decomposers provide for plants?
 - a. Nutrients
 - b. Protection
 - c. Shade
 - d. Shelter
5. A non-living part of an ecosystem might be
 - a. Antlers on a deer
 - b. Shade on a person
 - c. A dead leaf
 - d. A nut on a tree
6. If the sun were completely blocked so that it no longer provided energy to the plants in a lake, what would happened to the remaining life in the lake?
 - a. Only the animals that eat the plants would die
 - b. Only the plants would dies
 - c. All of the organisms in the lake would die
 - d. All of the carnivores would die
7. Describe one way in which bacteria is helpful in the environment

8. Describe one way in which bacteria is harmful in the environment

9. Which of the following describes consumers?
- a. Organisms which are able to make sugars for energy
 - b. Organisms that must eat other animals for energy
 - c. Organisms that must eat other plant or animals for energy
 - d. Organisms that break down dead bodies and waste
10. Bacteria, fungi and earthworms are all?
- a. Scavengers
 - b. Decomposers
 - c. Consumers
 - d. Producers
11. Which of these is an example of camouflage?
- a. A moth that looks and acts like a hummingbird
 - b. A bear that sleeps in a cave all winter long
 - c. A colorful fish that lives in brightly colored coral
 - d. An elephant that uses its large ears to fan itself
12. Why can this animal survive in a polar ecosystem?

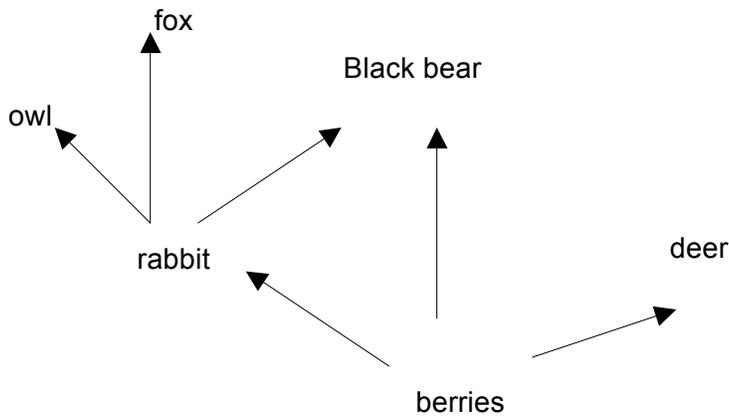


- a. It is adapted to survive in the dark
- b. It is adapted to survive in the cold
- c. It is adapted to survive with little waters
- d. It is adapted to survive in high temperatures

Explain the reasoning for your answer.

13. Which organism would survive well in a desert?
- a. An animal that eats fish
 - b. A plant with many thin leaves
 - c. A plant with a waxy coating on its leaves
 - d. An animal with a thick layer of fur and fat

14. Below is a food web.



Name an organism that is a

- Producer _____
- Consumer _____
- Herbivore _____
- Carnivore _____

What type or organism is missing from this food web? _____

15. In the above food web, what could happen to the rabbit if the black bear were taken out of the food web? (more than one answer could be correct).

- a. The number of rabbits would decrease
- b. The number of rabbits would increase
- c. The number of owls would increase
- d. The number of berries would decrease

Explain the reason for your choice or choices _____

16. Some rainforest plants live high up in trees and have long roots that grow into the soil. The word that best describes this is:

- a. Extinction
- b. Adaptation
- c. Abiotic
- d. Producer

17. Place the following in the chart as biotic or abiotic components of a desert biome: snake, cactus, dead leaf, rock, sand.

Biotic	Abiotic

Using one biotic and one abiotic component from your list above, describe one relationship between the two components _____

18. Mary says matter cycles in a food chain. What does that mean?

19. Jose was writing an essay about ways in which things can change their environment. He wants to include this statement as the theme for his essay. Natural and human actions impact the balance of an ecosystem. Should he? Why or Why not?

20. What was the most important thing you learned in our study of ecosystems? Why is it important to you?

Post Assessment

Expected Student Responses for a High Level Response

1. Which of the following depends on the other for shelter in order to survive?
 - a. Cat - dog
 - b. Wolf – rabbit
 - c. Squirrel-tree**
 - d. Rabbit – carrot
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 - a. Only the animals that eat the plants would die
 - b. Only the plants would dies
 - c. All of the organisms in the lake would die**
 - d. All of the carnivores would die
7. Describe one way in which bacteria is helpful in the environment
Acts as decomposer, which breaks down matter and recycles it to the soil to be used again by plants.

8. Describe one way in which bacteria is harmful in the environment
Causes disease; make drinking water unsafe.
9. Which of the following describes consumers?
a. Organisms which are able to make sugars for energy
b. Organisms that must eat other animals for energy
c. **Organisms that must eat other plant or animals for energy**
d. Organisms that break down dead bodies and waste
10. Bacteria, fungi and earthworms are all?
a. Scavengers
b. **Decomposers**
c. Consumers
d. Producers
11. Which of these is an example of camouflage?
a. A moth that looks and acts like a hummingbird
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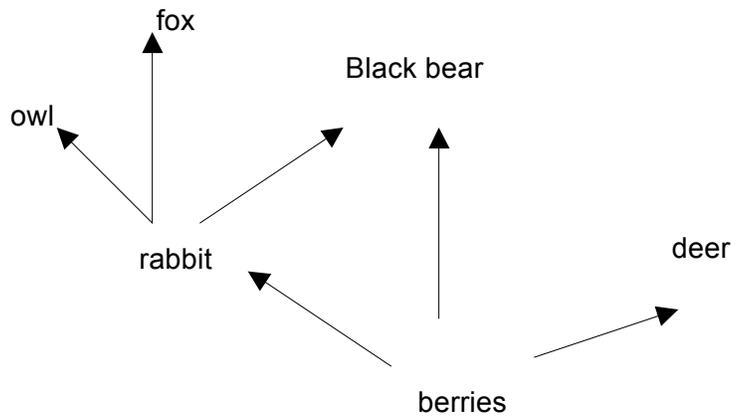


- a. It is adapted to survive in the dark
b. **It is adapted to survive in the cold**
c. It is adapted to survive with little waters
d. It is adapted to survive in high temperatures

Explain the reasoning for your answer: *it has thick fur and a layer of fat that protects it from the cold*

13. Which organism would survive well in a desert?
a. An animal that eats fish
b. A plant with many thin leaves
c. **A plant with a waxy coating on its leaves**
d. An animal with a thick layer of fur and fat

14. Below is a food web.



Name an organism that is a

Producer: *berries*

Consumer: *any of the following: rabbit, owl, fox, black bear, deer*

Herbivore: *either rabbit or deer*

Carnivore: *any of the following: owl, fox, black bear*

What type of organism is missing from this food web? *decomposer*

15. In the above food web, what would happen to the rabbit if the black bear were taken out of the food web? (There could be more than one result)

- a. The number of rabbits would decrease
- b. The number of rabbits would increase
- c. The number of owls would increase
- d. The number of deer would increase

A. The number of rabbits would increase and D The number of berries would decrease

Explain the reason for your choices. *If there are no bears, then only the owls or fox could eat the rabbits, so more rabbits could live. If there are more rabbits, then they would eat more berries and the berries would decrease.*

16. Some rainforest plants live high up in trees and have long roots that grow into the soil. The word that best describes this is:

- a. Extinction
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- c. Abiotic
- d. Producer

17. Place the following in the chart as biotic or abiotic components of a desert biome: snake, cactus, dead leaf, rock, sand.

Biotic	Abiotic
<i>Snake</i> <i>Cactus</i> <i>Dead leaf</i>	<i>Rock</i> <i>sand</i>

Using one biotic and one abiotic component from your list above, describe one relationship between the two components

Any of the following would be a high response:

Biotic snake depends on abiotic rock for shelter

Biotic cactus depends on abiotic sand to hold it up

Abiotic sand depends on dead leaf (biotic) to be decomposed and have the nutrients returned to the sand.

18. Mary says matter cycles in a food chain. What does that mean?

The amount of matter in the nutrients plants produce is cycled through the consumers and finally broken down by the decomposers back to the soil so that plants can use it again.

19. Jose was writing an essay about ways in which things can change their environment. He wants to include this statement as the theme for his essay. Natural and human actions impact the balance of an ecosystem. Should he? Why or Why not?

Yes he should. Natural actions like hurricanes, and tsunamis can destroy land areas and houses and natural settings. Natural actions like gentle rain can provide moisture for all living things. Human action can be harmful like over fishing and taking components out of a food chain or food web. Human action can also be helpful like it replanting trees. Either way, natural and human actions impact the environment and we should try to be responsible for what we do.

Answer should include yes, an example of a natural action that is positive and one that is negative and an example of a human action that is positive and one that is negative and some mention of our responsible actions.

20. What was the most important thing you learned in our study of ecosystems? Why is it important to you?

Answer should include a concept or several ideas from the lesson. The degree of importance should include a reasoned idea as to why it is important from a science and personal perspective (not just that it was fun or interesting).