

ECOLOGY

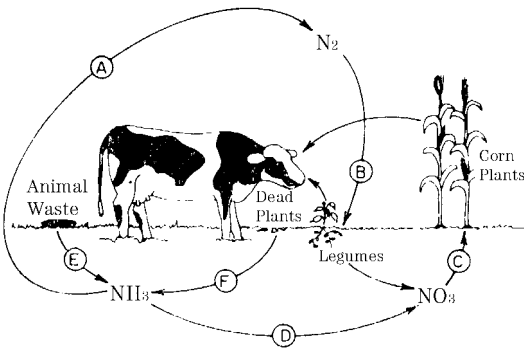
Name: _____

Date: _____

1. Which activity is *not* an example of heterotrophic nutrition?
 - A. An eagle kills and eats a snake.
 - B. A tapeworm absorbs food in a human intestine.
 - C. A mushroom decomposes a dead log.
 - D. An algal cell synthesizes food during photosynthesis.

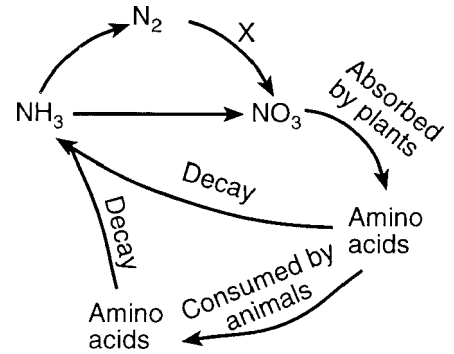
3. Pictured here is a nitrogen cycle. The organisms that carry on nearly all of the processes represented by arrows A through F are most likely
 - A. legumes
 - B. bacteria
 - C. herbivores
 - D. scavengers

2. Pictured here is a nitrogen cycle. The arrow labeled D represents the process of



- A. nitrogen fixation
- B. decomposition
- C. nitrification
- D. denitrification

4. Base your answer(s) to the following question(s) on the diagram below and on your knowledge of biology.

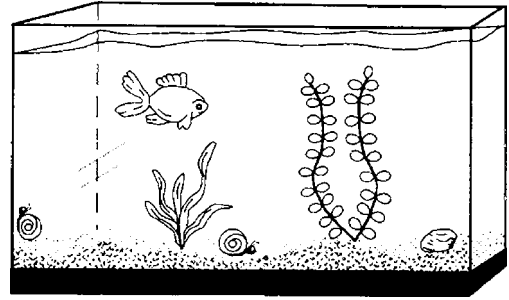


Bacteria responsible for process X are known as

- A. nitrogen-fixing bacteria
- B. nitrifying bacteria
- C. denitrifying bacteria
- D. autotrophic bacteria

5. Which term includes the other three?
- A. symbiosis B. mutualism
C. parasitism D. commensalism
6. Select the *type of symbiosis*, chosen from the list below, that best identifies the relationship of a flea that sucks blood from the skin of a dog.
- A. Commensalism B. Mutualism
C. Parasitism
7. Which statement best illustrates the concept of the interrelationship of living things with the physical environment, as found in the definition of ecology?
- A. Hawks and eagles often compete with each other.
B. White-tailed deer shed their antlers.
C. Algae release oxygen and absorb carbon dioxide from pond water.
D. Frogs produce many eggs in a single reproductive cycle.

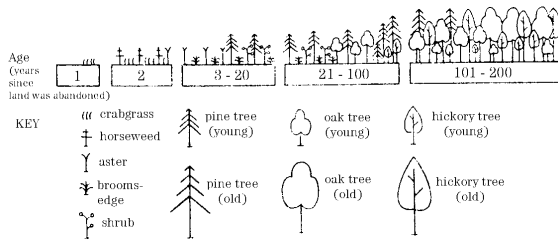
8. An aquarium ecosystem is shown.



A community in this aquarium consists of the

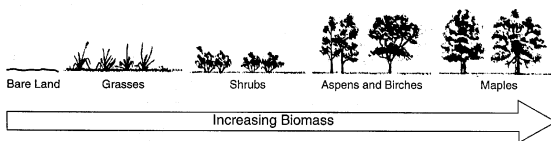
- A. plants and gravel
B. fish, water, and snails
C. fish, plants, and snails
D. water and gravel
9. In an ecosystem, symbiotic relationships exist among the
- A. autotrophs, only B. heterotrophs, only
C. biotic factors D. abiotic factors

10. The diagram shows the types of plants which grew in a farm field in the 200 years after it was abandoned. Different types of plants appeared and disappeared during this time.



The final stage represented in the diagram most probably is located in which biome?

- A. tundra
 B. taiga
 C. temperate deciduous forest
 D. tropical rain forest
11. The diagram represents succession in a temperate deciduous biome. Which factor would most likely have the greatest influence on the type of plants in each stage of succession?



- A. fertility of the soil
 B. species of earthworms in the area
 C. percentage of oxygen in the atmosphere
 D. number of predators in the area

12. In an ecological succession leading to the establishment of a pond community, which of the following organisms would be among the first to establish themselves?

- A. grasses
 B. algae
 C. minnows
 D. deciduous trees

13. In the food chain below, which organisms are the primary consumers?

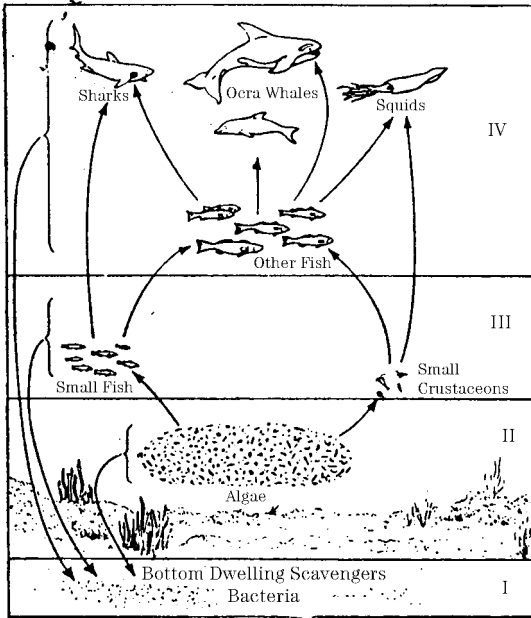
Weeds → grasshoppers → praying mantises
 → shrews → barn owls

- A. shrews
 B. praying mantises
 C. weeds
 D. grasshoppers

14. Which sequence of organisms best represents the flow of energy in an ecosystem?

- A. autotrophs → herbivores → carnivores
 B. secondary consumers → producers → heterotrophs
 C. carnivores → decomposers → producers
 D. consumers → heterotrophs → saprophytes

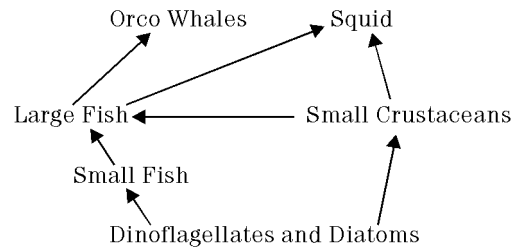
15. The diagram shown represents a food web. The numerals I, II, III, and IV represent four nutritional levels within the community in which different species compete.



When an organism in this web dies, the organic molecules in its body are finally broken down and made available for recycling by the action of organisms in level

- A. I B. II C. III D. IV

16. The diagram shown represents some of the food relationships between several organisms in a marine community. Which organisms would normally be the *least* numerous in this marine community.

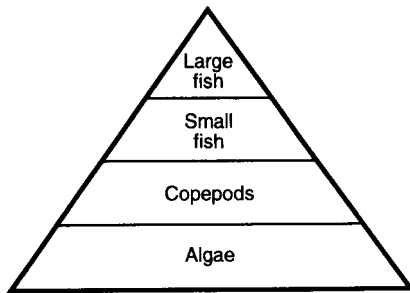


- A. diatoms B. small fish
C. small crustaceans D. orca whales

17. Select the biome, chosen from the list below, that best fits a wide variation in daily temperature and little rainfall.

- A. Tundra B. Grassland
C. Desert D. Tropical forest

18. The diagram represents a pyramid of biomass in an aquatic environment. Which statement best explains why mass decreases from one level to the next in this pyramid?



- A. More organisms die at higher levels than at lower levels, resulting in less mass at higher levels.
- B. When organisms die at higher levels, their remains sink to lower levels, increasing the mass at lower levels.
- C. Energy is lost to the environment at each level, so less mass can be supported at succeeding higher levels.
- D. Organisms decay at each level, and thus less mass can be supported at succeeding higher levels.

ECOLOGY 2/27/2018

1.
Answer: D
2.
Answer: C
3.
Answer: B
4.
Answer: A
5.
Answer: A
6.
Answer: C
7.
Answer: C
8.
Answer: C
9.
Answer: C
10.
Answer: C
11.
Answer: A
12.
Answer: B
13.
Answer: D
14.
Answer: A
15.
Answer: A
16.
Answer: D
17.
Answer: C
18.
Answer: C