

1 star ecological succession

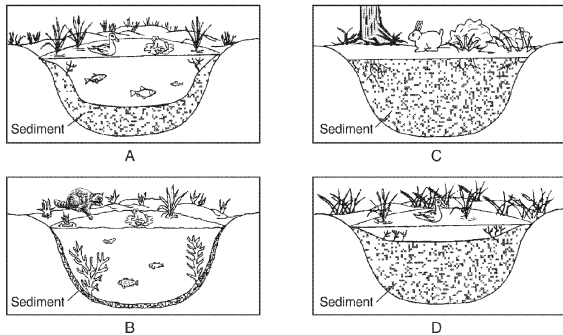
Name: _____

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1. For many decades, certain areas of New York State have remained as hardwood forests containing predominantly oak and hickory trees. These forested areas will most likely

- A. remain indefinitely and not be affected by environmental influences
- B. reach maturity and change in the near future
- C. be destroyed by environmental changes and never return to their present forms
- D. continue in their present forms unless affected by environmental factors

2. Base your answer(s) to the following question(s) on the diagrams of stages of succession and on your knowledge of biology.



What is the correct sequence of these stages?

- A. $B \rightarrow A \rightarrow D \rightarrow C$
- B. $A \rightarrow D \rightarrow C \rightarrow B$
- C. $C \rightarrow B \rightarrow A \rightarrow D$
- D. $D \rightarrow A \rightarrow C \rightarrow B$

3. Events that occur in four different ecosystems are shown in the chart below.

Ecosystem	Events
A	A severe ice storm occurs during the winter, damaging trees and shrubs. No ice storms occur for the next 20 years.
B	A severe drought causes most of the leaves to fall from the trees during a single summer. There are no serious droughts for the next 20 years.
C	An island with a dense shrub population becomes submerged for 3 years. When the river water lowers, the island does not become submerged for the next 20 years.
D	A fire burns through a large grassy area. Fires do not occur in the area for the next 20 years.

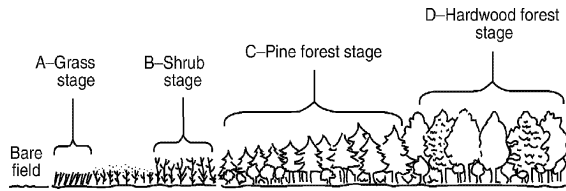
Which ecosystem would most likely require the most time for ecological succession to restore it to its original state?

- A. A
- B. B
- C. C
- D. D

4. Which statement concerning ecosystems is correct?

- A. Stable ecosystems that are changed by natural disaster will slowly recover and may again become stable if left alone for a long period of time.
- B. Competition does not influence the number of organisms that live in ecosystems.
- C. Climatic change is the principal cause of habitat destruction in ecosystems in the last fifty years.
- D. Stable ecosystems, once changed by natural disaster, will never recover and become stable again, even if left alone for a long period of time.

5. Stage D in the diagram below is located on land that was once a bare field.



The sequence of stages leading from bare field to stage D best illustrates the process known as

- A. replication B. recycling
C. feedback D. succession

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

Lichens are composed of two organisms, a fungus that cannot make its own food and algae that contain chlorophyll. Lichens may live on the bark of trees or even on bare rock. They secrete acids that tend to break up the rock they live on, helping to produce soil. As soil accumulates from the broken rock and dead lichens, other organisms, such as plants, may begin to grow.

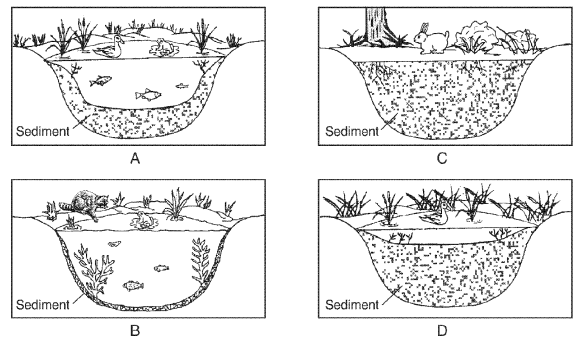
The ability of lichens to alter their environment, enabling other organisms to grow and take their places in that environment, is one step in the process of

- A. biological evolution
B. ecological succession
C. maintenance of cellular communication
D. differentiation in complex organisms

7. Many years ago, a volcanic eruption killed many plants and animals on an island. Today the island looks much as it did before the eruption. Which statement is the best possible explanation for this?

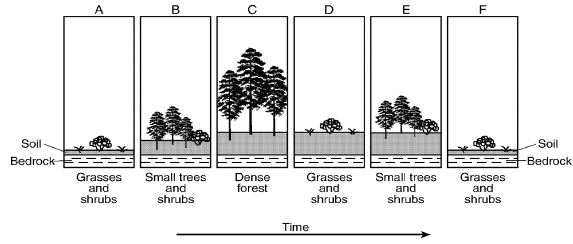
- A. Altered ecosystems regain stability through the evolution of new plant species.
B. Destroyed environments can recover as a result of the process of ecological succession.
C. Geographic barriers prevent the migration of animals to island habitats.
D. Destroyed ecosystems always return to their original state.

8. Base your answer(s) to the following question(s) on the diagrams of stages of succession and on your knowledge of biology.



Identify one factor that could disrupt the final stage of this ecosystem.

9. Base your answer(s) to the following question(s) on the diagram below, which represents the changes in an ecosystem over a period of 100 years, and on your knowledge of biology.



State one biological explanation for the changes in types of vegetation observed from A through C.

10. Predict what would happen to the soil and vegetation of this ecosystem after stage F, assuming no natural disaster or human interference.

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1.
Answer: D
2.
Answer: A
3.
Answer: C
4.
Answer: A
5.
Answer: D
6.
Answer: B
7.
Answer: B
8.
Answer: natural disasters (fire, flood, etc.), human activity, disease, introduction of a new species, OR climatic change
9.
Answer: As more soil accumulated (from the decomposition of dead vegetation), plants with deeper root systems could live there and shade out the earlier plants. OR ecological succession
10.
Answer: The soil depth will increase and trees will be present. OR The soil will change in composition and the plant species will change.