

Name: _____ Date: _____ Period: _____

Homework: Ecological Succession Continued

Use the diagram below to answer questions 1 through 6.

1. Which ecological process is illustrated in this sequence of pictures?

- A biological evolution
- B ecological succession
- C nitrification
- D precipitation

2. What factor drives the process of terrestrial succession in which this lake becomes a forest?

- A growth of microorganisms
- B increases in insect population
- C deposition of sediments
- D increases in pH of the water

3. Which of the following organisms might first appear in a pond or lake?

- A grass
- B algae
- C small fish
- D hardwood trees

4. After a long period of time, a pond or lake will eventually become a stable forest community that is referred to as the –

- A pioneer community
- B moss population
- C climax community
- D biosphere

5. Biodiversity describes the amount of variation present in an ecosystem. How is the biodiversity of an ecosystem affected as it proceeds through the stages of ecological succession?

- A the biodiversity increases throughout
- B the biodiversity decreases throughout
- C the biodiversity decreases, then increases
- D the biodiversity remains steady throughout

6. Which sequence best represents the stages of succession that would most likely occur?

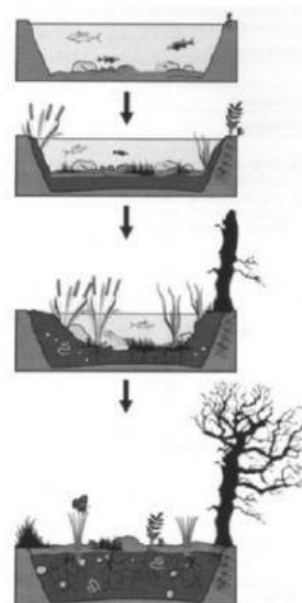
- A bare rock → forest → moss → lichens
- B grassland → forest → marsh → lake
- C lake → marsh → grassland → shrubs → forest
- D pine forest → grassland → shrubs → lichens

7. Ecological succession would best be defined as –

- A the natural cycle of carbon being exchanged between producers and consumers
- B communities replacing each other until a stable community is formed
- C ecosystems being consistently altered by a number of natural disasters
- D energy flowing through organisms in complex food webs

8. During ecological succession, a grass community is replaced by a community of shrubs. This change is primarily a result of the fact that the grass community –

- A evolves over several decades into a new species bushes that dominates the ecosystem
- B was no longer able to produce viable offspring which could live in this ecosystem
- C removed nutrients from the soil until only shrubs were able to grow
- D modified its environment making it more suitable for the shrub community



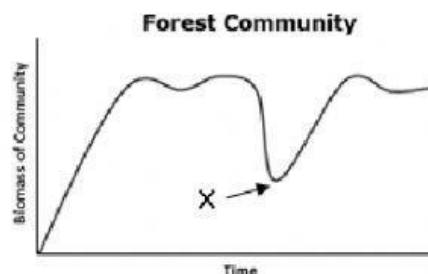
9. At the end of ecological succession, a stable community is reached. Which of the following best describes a climax community if it left alone?

- A most of the biomass is in lichens C it changes very quickly
B it does not contain any animals D it remains until the climate changes

Use the graph to answer questions 10 – 11.

10. Which of the following scenarios could explain the drop in biomass labeled X in the graph to the right?

- A Felled trees are replanted by humans
B A forest fire is started by lightning
C Bioaccumulation of toxins affects top predators
D Pollution in an ecosystem is drastically reduced



11. Based on the data in the graph, what will happen to an ecosystem after its climax community has been destroyed?

- A It will proceed through the stages of succession until it returns to a stable community
B It will remain in a state of disarray and never recover from the natural disaster
C The community will recover, but the biodiversity will never be regained
D The original hardwood forest will forever be replaced by a softwood forest

12. Which statement best describes a pioneer population found in the beginning of ecological succession?

- A They are completely heterotrophic. C They modify their environment.
B They do not appear until animals arrive. D They only exist in tropical biomes

13. Starting on *barren rock* what is the usual ecological succession of organisms?

- A grasses → shrubs → lichens → trees C trees → shrubs → grasses → lichens
B lichens → shrubs → grasses → trees D lichens → grasses → shrubs → trees

Answer the following questions about populations, communities and ecosystems.

14. A student surveys her neighborhood and reports that it contains 6 dogs, 4 cats and 1 gerbil. This data best describes the -

- A pet population B pet ecosystem C pet domain D pet community

15. Which of the following describes all of the living and abiotic factors in a geographical area?

- A ecosystem B community C niche D population

16. Which of the sequences below is listed from the least complex to the most complex?

- A ecosystem, community, population C population, community, ecosystem
B population, ecosystem, community D community, ecosystem, population

17. All of the members of one species that inhabit a specific area are called -

- A a community B an ecosystem C a population D an organism

18. A plot of land contains soil, decomposers, producers, consistent rainfall, mild temperatures and a community of herbivores and carnivores. This set of data best describes -

- A a community B an ecosystem C a population D an organ system