Name _____ Class _____ Date _____

4.3 Succession

Primary and Secondary Succession The series of predictable changes that occurs in a community over time is called **ecological succession.** Over the course of succession, the number of different species usually increases.

- **Primary succession** begins in areas with no remnants of an older community. It occurs on bare rock surfaces where no soil exists. The first species to live in an area of primary succession are called **pioneer species.**
- **Secondary succession** occurs when a disturbance changes a community without completely destroying it.

Climax Communities A climax community is a mature, relatively stable ecosystem.

- Secondary succession in healthy ecosystems following natural disturbances often reproduces the original climax community.
- Ecosystems may or may not recover from extensive human-caused disturbances.

Primary and Secondary Succession

1. What is ecological succession?

_____

_____

2. What is primary succession?

_____

_____

3. When a disturbance changes a community without removing the soil, what type of succession follows?

_____

4. Describe the process of succession in an ecosystem.

_____

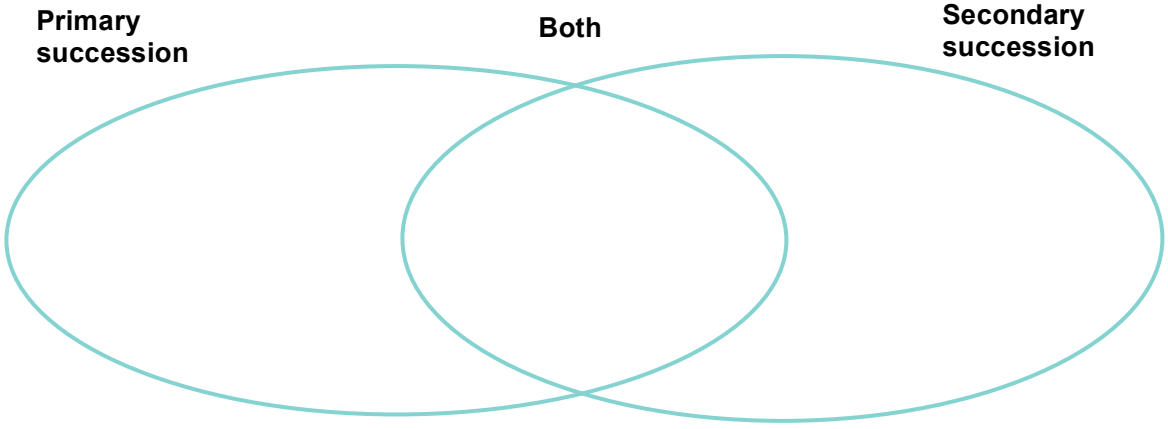
_____

5. Why does secondary succession typically proceed faster than primary succession?

_____

_____

6. Use the Venn diagram to compare the two types of ecological succession.



Climax Communities

For Questions 8–10, complete each statement by writing the correct word or words.

8. After a natural disaster occurs in a healthy ecosystem, secondary succession will cause the ecosystem to return to its original _____.

9. The clearing of a rain forest is the example of a(n) _____ drastic enough to prevent the original climax community from reforming.

10. During primary succession, _____ plays a large role in determining which pioneer species arrives in an area first.

11. What are the two kinds of disturbances that change ecosystems? Give an example of each.

_____

_____

_____

_____

12. The panels show changes taking place in an ecosystem after a volcano erupts and covers an area with rock and ash. Number each panel in the order that changes occur. Then, under each panel, write a description of the changes taking place.

(___) (___) (___) (___)

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Answer the questions. Circle the correct answers.

13. Look at the panels you have numbered 2 through 4. At what stage would you expect to see large mammals moving back to the area?

panel 2 panel 4

14. What type of succession do the panels above show?

primary succession secondary succession

15. Suppose a fire disturbed the community shown in the panel you numbered 4. What type of succession will likely follow this fire?

primary succession secondary succession

16. Many biotic and abiotic factors determine how quickly ecological succession can cause a climax community to develop in an area. Complete the graphic organizer by adding two factors that contribute to the development of a climax community.