

## 4.3 Succession

### Lesson Objectives

-  Describe how ecosystems recover from a disturbance.
-  Compare succession after a natural disturbance with succession after a human-caused disturbance.

### Lesson Summary

**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?

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2. What is primary succession?

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

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4. Describe the process of succession in an ecosystem.

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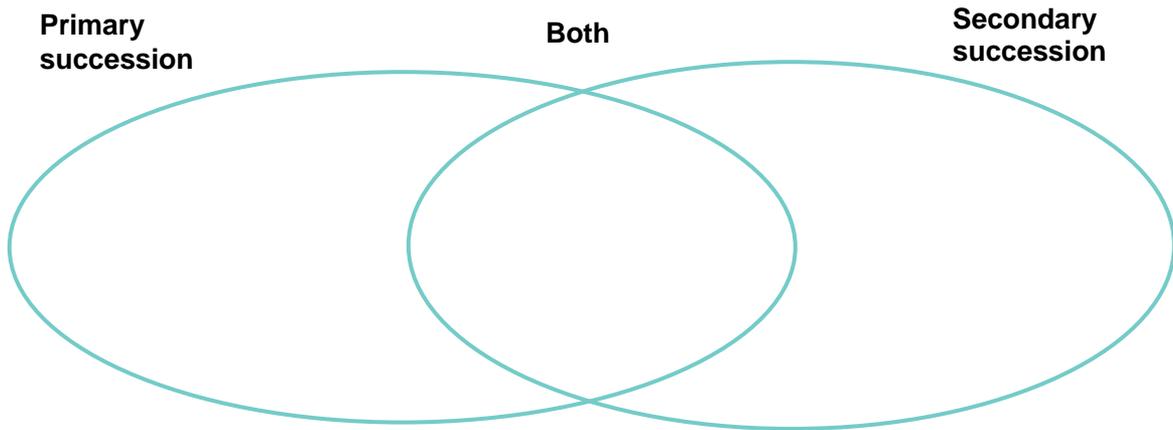
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5. Why does secondary succession typically proceed faster than primary succession?

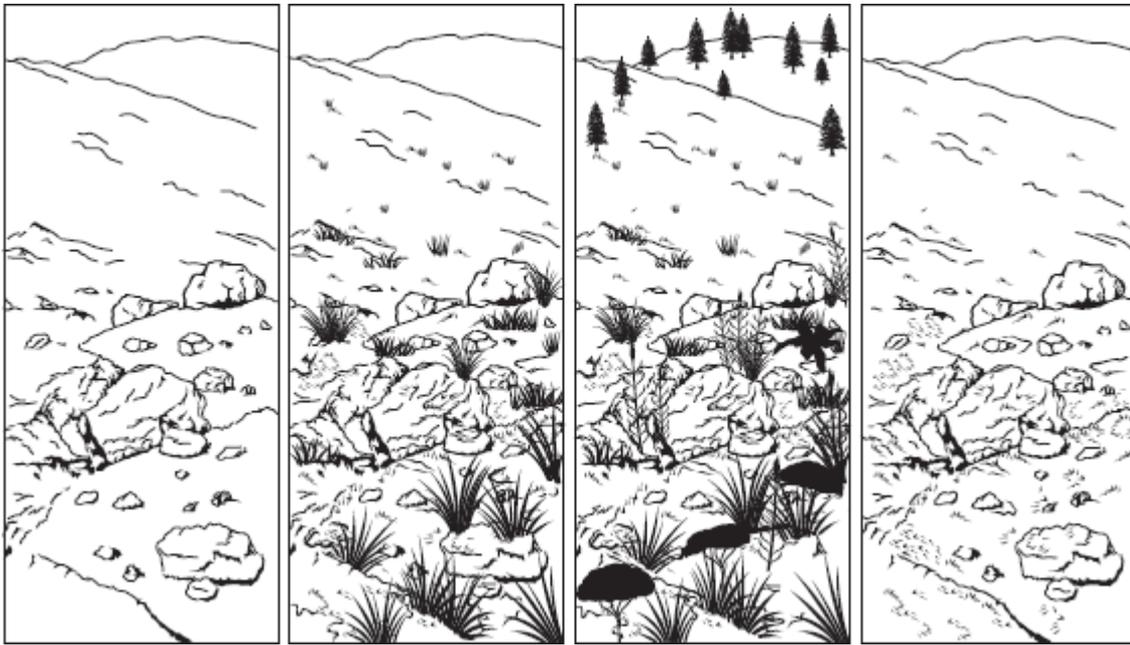
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6. Use the Venn diagram to compare the two types of ecological succession.



7. 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.



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## 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.

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### Apply the Big idea

12. 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.

