

Succession

Real World Ecosystems
Learner Worksheet Answer Key
Grade Level: 5-8



Name:

After reading the Succession Backgrounder, answer the following questions.

1. In what ways do you think primary succession would differ from secondary succession?

Primary succession would occur on bare rock or on a sand dune, or anywhere that vegetation was not already living. Secondary succession would replace some of the living things in an area, although some of them would already be there.

2. What do you think would happen to a pond ecosystem if all the decomposers died?

If all decomposers died, the pond would likely become choked with plant life, oxygen supplies would drop, and animals would die off.

3. Why do you think earthworms and insects become more common as succession nears the climax stage?

Earthworms and insects become more common because there is now more for them to feed on.

4. How are lichens able to grow on bare rock?

Lichens consist of algae and fungi together. Lichens secrete a weak acid and thus produce a tiny amount of soil as it dissolves into the rock.

5. How is emergent different from submergent vegetation?

Emergent vegetation is rooted in the water, but sticks up out of it, while submergent vegetation is completely underwater.

6. An aquatic community may gradually be changed, through succession, to a ...
Wetland

7. In the north, the large trees in such conditions are likely to be of what type?
Black spruce

8. Why is the island of Surtsey an especially good example of a place where primary succession occurs?
Because it is newly created and nothing has ever lived there before.

9. Why is it that some plants always arrive later on in the process of succession? Hint: What conditions do they prefer?
Some plants prefer to live in the shade of others.

10. Why is it likely that no herbivores will be found in an area immediately after a fire?
There is nothing for them to feed on.

11. Name a species of plant that is actually assisted by fire. Explain.
Learners may choose a variety of things such as fireweed which prefers the bright sun and the high carbon content of burned soil, or jack pine, the cones of which are forced open by fire so that the seeds are shed while other seeds may burn.

Read the paragraph on grasslands, below, then answer the questions that follow.

Grassland:



In southern Manitoba, an area of 4 hectare was first cleared of trees and planted for grain crops in 1910. Around the edges of that field in 1910 was the forest: a few poplar, jack pine, birch, and, oldest of all, white spruce. The farmer grew hay for his horses in that field for thirty years, until 1940. Each fall, he had to plow the borders of his field to destroy the seedling trees which had taken root. The farmer retired in 1942, so he and his wife left the place and moved into town. The field was left unattended.

It is now 2021, 79 years later. Answer the following three questions based on the above scenario. One cannot know for certain what the answers would be to the questions, but your answers should be based upon your knowledge of what is most likely.

1. Do you think there would be any open land left in the field? Explain.

A field would probably be completely overgrown in 79 years. The last place to be filled in by trees and brush would be the centre, the place farthest from the forest.

2. In what part of the field do you think the trees would be tallest?

The tallest and oldest trees in what was the field would be near the original field edge.

3. After so much time, what kind of trees do you think most would be?

White spruce

4. In what part of the field would there be the greatest variety of species? Explain.

The greatest variety of species would probably be in the centre, where the brush and trees would be shorter (younger) and where more light reaches the ground.