

A volcano erupts and covers an area with ash and lava. What does this do to the number of producers in the area?

What would the volcano do to the carrying capacity of the ecosystem?

Use your warm up paper from last week

What would happen to the courtyard out front if we stopped mowing the grass for a few months?

What would happen to the courtyard if we stopped mowing it for 10-15 years?

To Get: Succession Simulation Notes

Objective:

Explain the process of succession and ecosystem recovery

Turn In:

Endangered Species Food Web

HW: Complete Graph/Data analysis at end of notes

What is succession?

[Link to Animation](#)

- Succession is a change in the structure and make up of living parts of an ecosystem over time
- An ongoing process
 - Ecosystems are constantly changing

Original community — Catalyst —> Over time —> Climax community (stable)

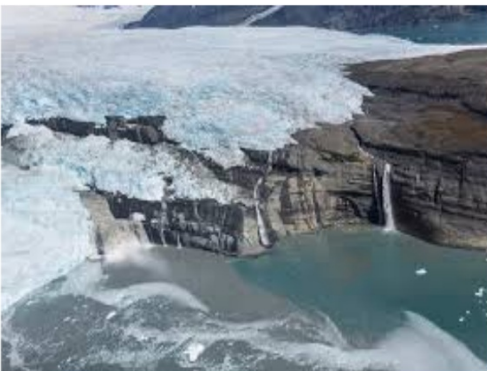
- wind
- fire
- lightning
- drought
- rain

Succession

Primary Succession: occurs where there is little/no soil



- Sand dunes
- Rock outcrops
- Glacial till
- Lava flows



Secondary Succession: takes place where soil is already present



- Burned out forests
- Cut-over land
- Abandoned farms
- Dried up ponds

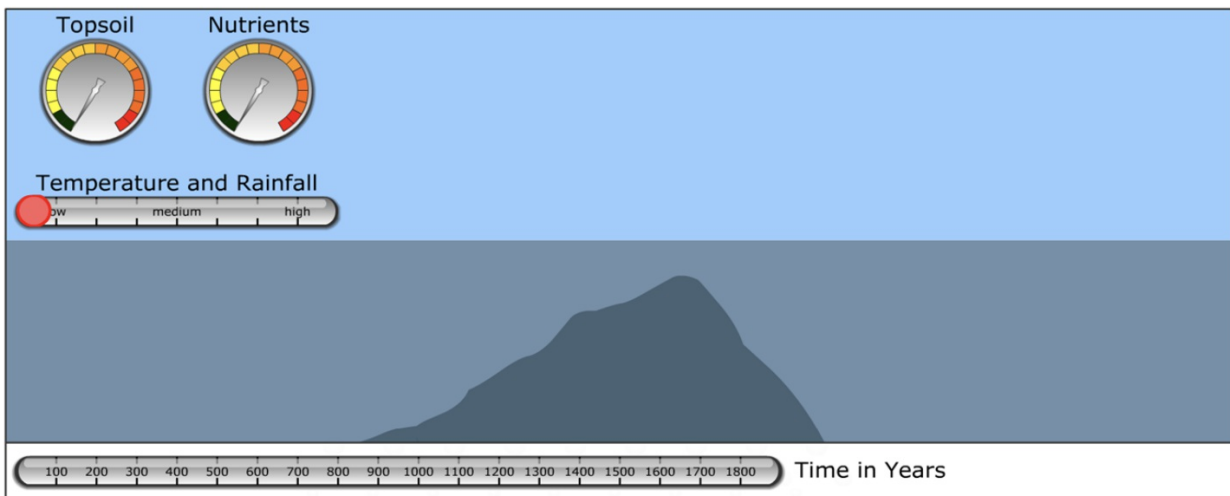


Primary Succession

Formation of new island video

Formation of a volcanic island video

Select a low, medium, or high setting on the **Temperature and Rainfall** gauge below to begin.



before and after the eruption!



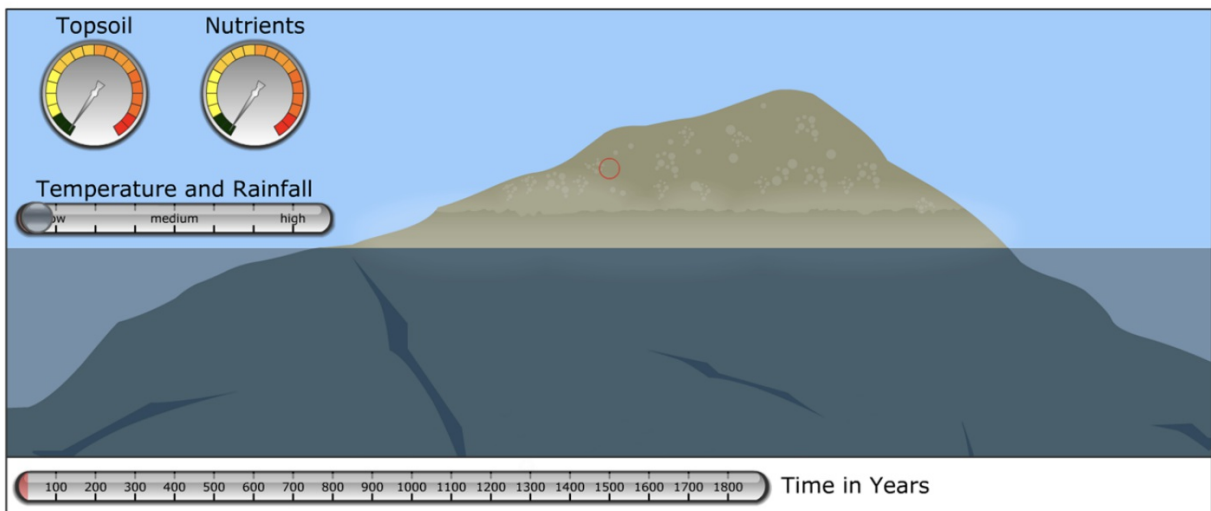
Science Nation: Mount St. Helens - Rising From the Ashes



Click on the picture to view the movie

Answer Question 2

What creates the island at the very beginning?
An underwater volcano erupts, which eventually forms an island



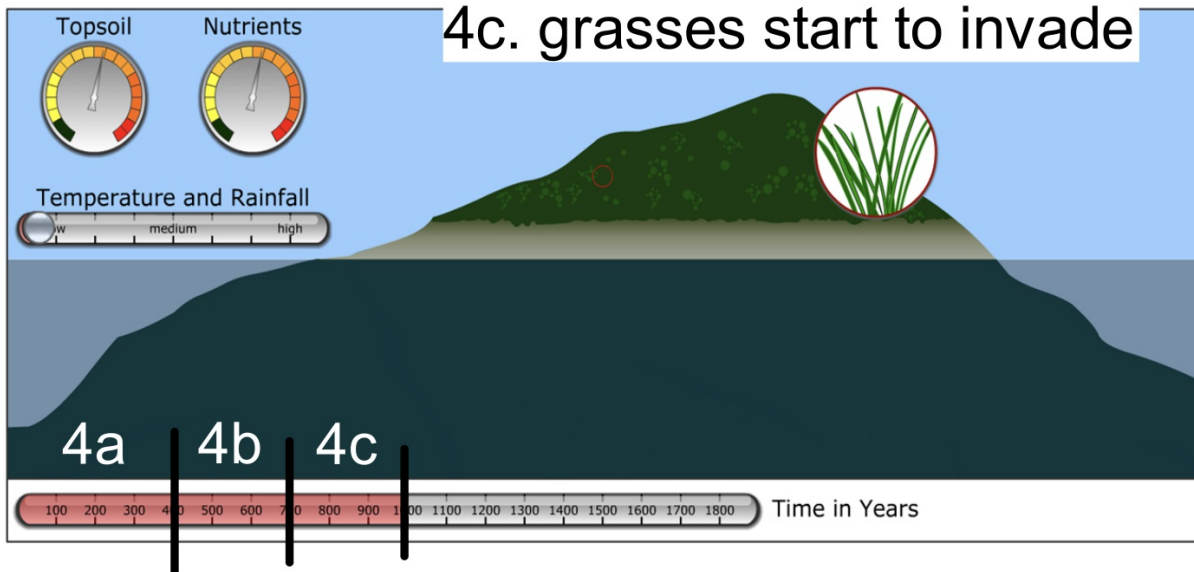
Answer Question 4a-c



4a. Moss, lichen and microorganisms begin to grow

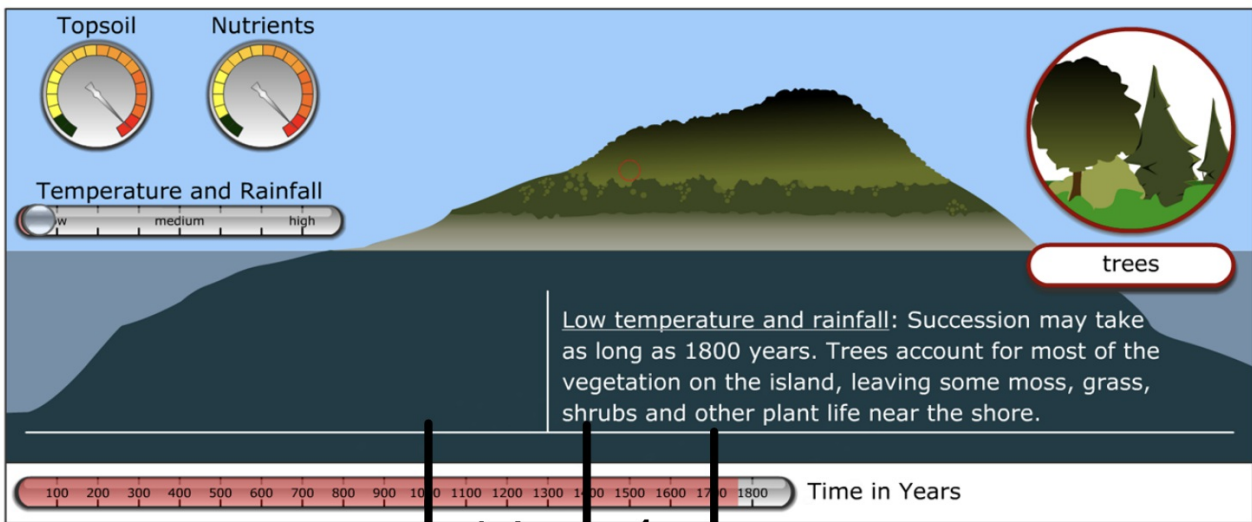
4b. Brown soil forms _____

4c. grasses start to invade



Answer Question 4 4d-e

4d. Shrubs, weeds, larger plants start to invade
4e. Large trees gradually feel more dominant

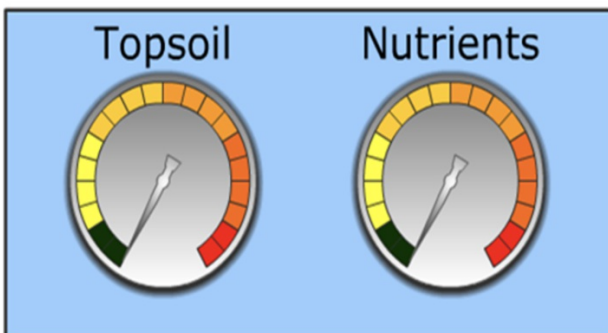


4d

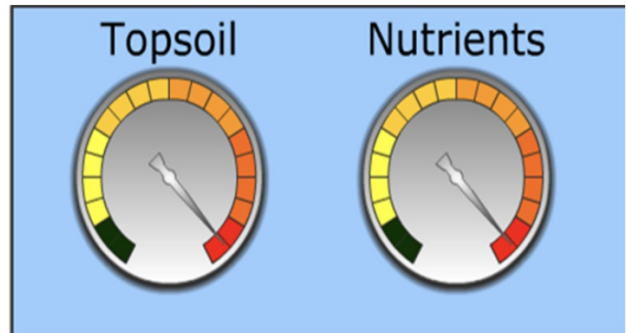
4e

Answer Question 3

Before



After



6. How much TIME does PRIMARY SUCCESSION take when temperature and rainfall are...

1. Low? may take as long as 1800 years

2. Medium? may take as long as 1400 years

3. High? may take as long as 1000 years

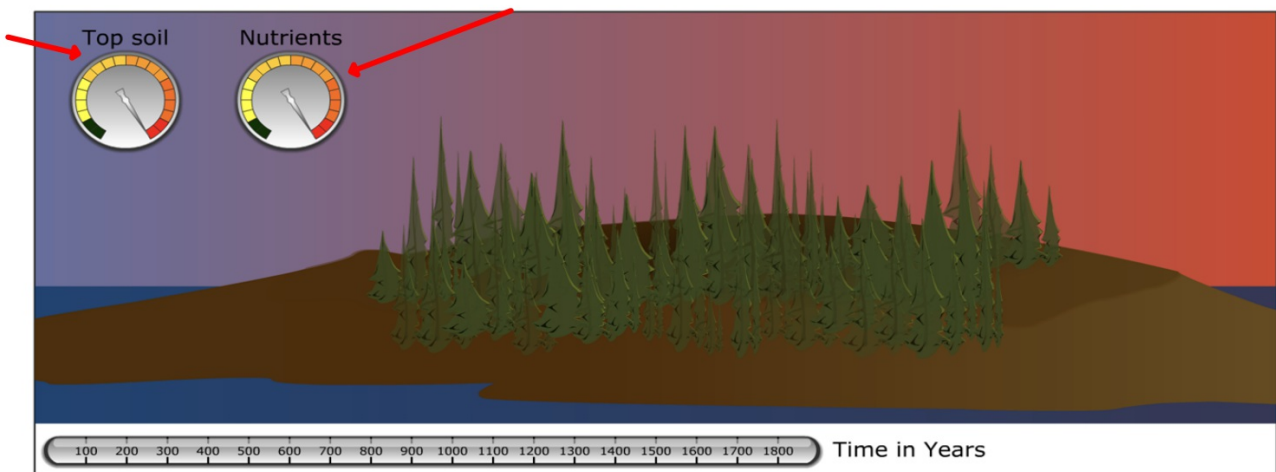
7. Why do you think the length of time varies based on temperature and rainfall?

↑ temp & ↑ rainfall allow more living organisms to grow

8. The volcanic island is solid rock. Where does "brown soil" come from? lichens + mosses breaking down rock

Secondary Succession

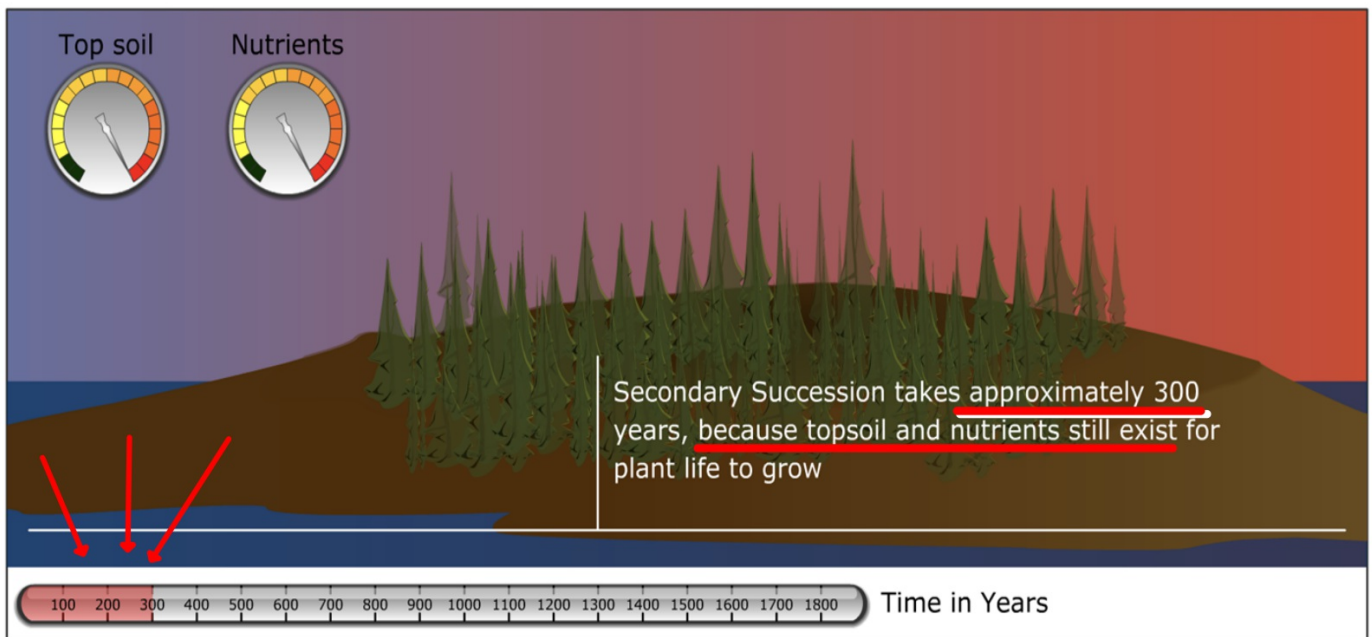
Suppose a boreal forest was burnt down by a fire...



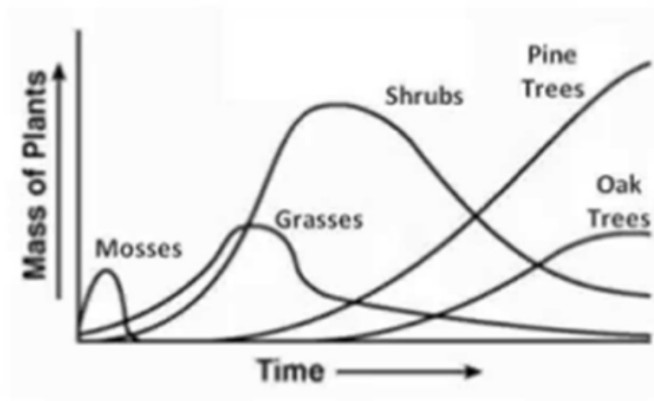
1. moss, lichen, microorganisms begin to grow
2. grasses begin to grow



3. larger plants begin to grow
4. shrubs begin to grow
5. large trees become dominant



Primary Succession



Apply your knowledge and write an explanation for this graph.

How would the graph look different if it was Secondary Succession instead of Primary? Why?

