

Ecological Succession and Its Application to Forestry- Timeline

(Hint: print in landscape mode)

Succession is the process by which ecological communities were established. It consists of a series of stages which results in the establishment of a climax community. These stages involve changes in both the biological and physical components of the habitat. The climax community represents the combination of plants and animals which make the most efficient use of available resources and conditions. Examples of types of climax communities are: spruce-fir forest, ponderosa pine forest, beech-maple forest, creosote bush desert, etc.

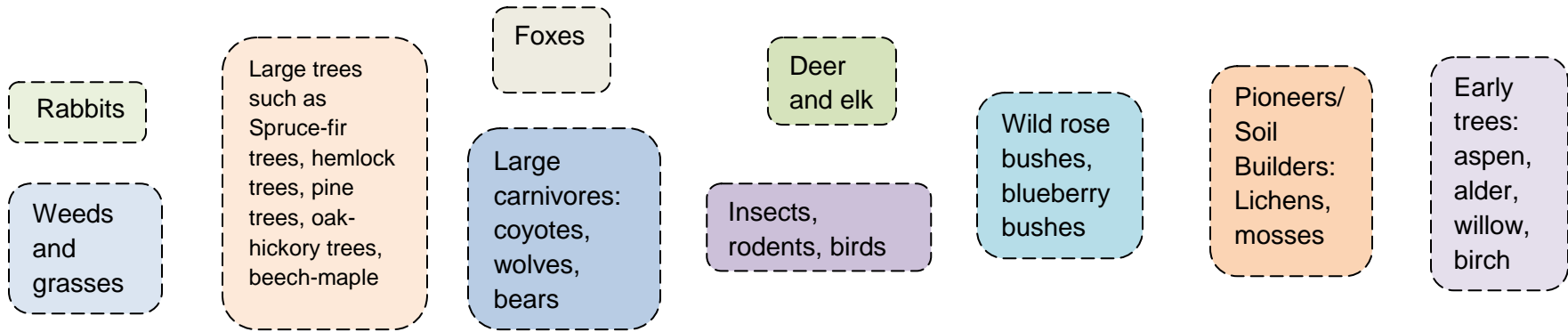
Succession on barren terrain i.e. rock or other inorganic material is called primary succession. Primary succession initially formed all climax communities, past and present, but we can only see it at work on land recently affected by volcanoes, rock exposed by receding glaciers, and inorganic sand, silt or cinder which has little or no organic material.

The process must begin with organisms that are capable of forming organic soil. Soil is necessary in order to provide a stable environment for the next group of organisms. Examples of these **soil-building** “pioneer species” are lichens (a symbiont composed of fungus, algae, and sometimes bacteria), mosses (if the climate is wet enough) and liverwort.

1. Succession leads to the establishment of a _____.
2. Both _____ and _____ components change during succession.
3. What initially forms climax communities? _____
4. Name two examples of inorganic materials that allow for primary succession:

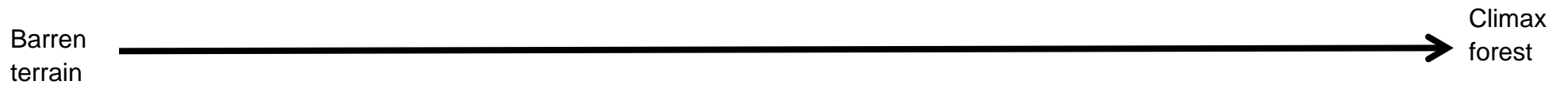
5. Name three examples of pioneer species: _____

Directions: Cut out the following items and glue them in an acceptable order on the timeline (see back). Make sure that your timeline is constructed in such a way so that it follows the “rules” of primary succession. Assume time moves from left (older) to right (newer). Separate plants and animals by placing plants on the top portion of the timeline, and animals on the bottom.



*DO NOT GLUE UNTIL YOU HAVE MAPPED OUT ALL 10 ITEMS!

PLANTS



ANIMALS

Analysis Questions

- 1) Which organism(s) came first on your timeline? Explain the importance of the organism(s) and why you chose to place the organism(s) first on your timeline:
- 2) What do you suppose attracted insects, rodents, and birds to your ecosystem? (In other words, why did they show up when they did)?
- 3) On your timeline, what comes BEFORE and what comes AFTER rabbits- explain WHY:
- 4) Which group of organisms comes last on your timeline? Explain why you chose to place them last. In other words why does it make sense that they would be the last ones to show up?