

## JSD 3D Learning Activity Template

Grade: 6th

Title:

Organisms Adapted to the Classroom

**Utah Science with Engineering Education Standard (SEEd): 6.4.4** Construct an argument supported by evidence that the stability of populations is affected by changes to an ecosystem. Emphasize how changes to living and nonliving components in an ecosystem affect populations in that ecosystem. Examples could include Utah ecosystems such as mountains, Great Salt Lake, wetlands, and deserts.

**Key crosscutting concept(s) (CCC):** Patterns, Cause and Effect, System Models, Stability and Change  
**Key science and engineering practice(s) (SEP):** Developing and Using Models, Obtaining, Evaluating and Communicating Information

**Materials:** 1 computer to 2 students. Colored pencils, paper, print out the attached papers so that each pair of students has one sheet of paper to fill out, long piece of yarn.

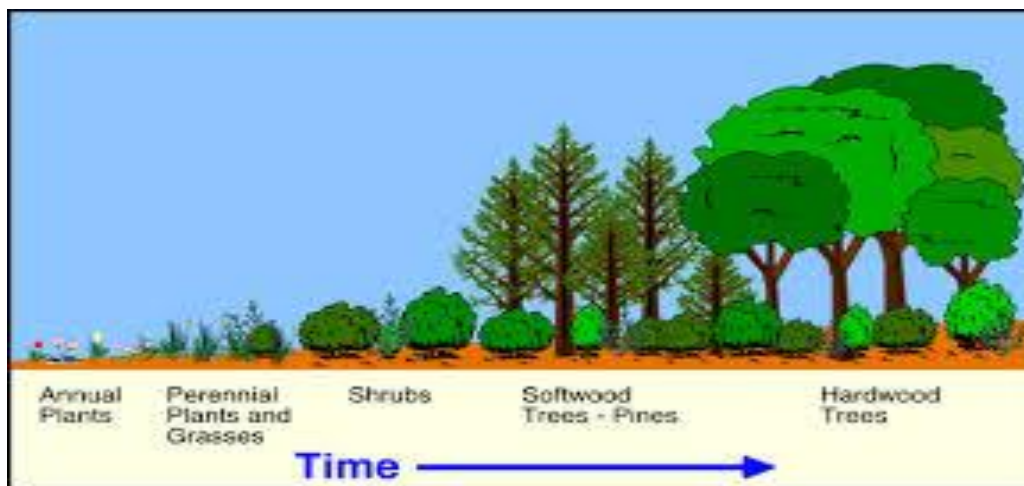
**Time:** 2.5 hours

**Teacher background, key content information and hints:** Stability- a population/ecosystem has reached a **climax community** and will remain **nearly the same** until a **disaster strikes**.

What are the clues of a climax community.

What are pioneer species?

Natural cycles of a climax community.



**Prior knowledge that students need:** Previous Lessons

## Learning Activity Plan

***These three aspects of a lesson should be identified in your learning activity.***

**Gathering:** (Obtain Information, Ask Questions/Define Problems, Plan & Carry Out Investigations, Use Models to Gather Data and Information, Use Mathematics/Computational Thinking.)

**Reasoning:** (Evaluate Information, Analyze Data, Use Mathematics/Computational Thinking, Construct Explanations/Solve Problems, Develop Arguments from Evidence, Use Models to Predict & Develop Evidence.)

**Communicating:** (Communicate Information, Argue from Evidence (written & oral), Use Models to Communicate).

**Phenomenon: Bring up photos (using your computer and document camera) of the following animals and have students list animals as indigenous or non-indigenous to Utah and explain why: Gila Monster, Alligator, Cougar, Orchids, Cactus, Toucan, and Camel. For each animal change the following things about Utah's ecosystem and ask if students would change their responses:**

- 1) We got 100 inches of rain (instead of 7)
- 2) Never had a summer
- 3) Never had a winter
- 5) If we didn't have large trees (only ground cover)

### **Learning Activity:**

#### **Gathering:**

Species that are adapted to the classroom: They should use the internet as they need. Draw species on the front and on back. Answer the following questions: 2 adaptations for survival, how it obtains food, how much/many it consumes in a week (not if it's a consumer), mating habits, habitat, niche, which 5 other organisms that it has symbiotic relationship with (at least one in each category: predation (not if their species is a consumer), mutualism, commensalism and describe that relationship) and limiting factors.

#### **Communicating:**

Have student pair gather around in circle, share their created organism and create a food web based on their species.

#### **Reasoning and Communicating:**

Discuss and complete string food web model if

- 1) fire in 1 location (and secondary consumer habitat burns)
- 2) Lots of "food" for producers
- 3) someone introduces new and invasive species

#### **Assessment of student learning**

*Did students create a viable organism that was adapted to the classroom. Did they participate in discussion and food web in a thoughtful way.*