

Title:

Go Extinction! Exploring the tree of life Extinction simulation presentations

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Abstract:

Phylogenetic tree is used by scientists to look at similarities and relationships that exist between organisms. The phylogenetic tree is designed by looking at different characteristics of organisms throughout time. According to the tree tender film, all organisms are connected through the phylogenetic tree, though very distant at times. In any ecosystem for example coral reefs, as discussed in the film, organisms depend on each other for survival. If a species extinct, like dominos, many other species that may depend on it may extinct as well. Humans are a major player in the extinction event, the anthropocene extinction. My class will participate in an activity exploring how mass extinction can be reduced if not avoided at all. My students have already done ecological concepts like different traits of animals and plants and levels of classification. They have also grouped these traits of animals on a linear line to represent the tree of life. My class activity gives students an opportunity to collaborate with each other on changes they can make to save an ecosystem. The main pedagogy used here is differentiated instruction through active learning and cooperative learning. By looking at real –world issues, students will also experience Experiential Learning, Inquiry Learning, and Open – Ended Instruction, allowing them to explore real ways they can help our planet with their peers.

Subject, Grade, Level:

Earth Science/Comp Science Grade 7

Learning Objectives:

- Discover how human impact can affect different ecosystems
- Collaborate with classmates on solving real-world problems
- Understand the balance within food webs between plants, animals and abiotic factors.

Timeframe:

Watching Tree Tender takes about 15 minutes. The activity will take 20 minutes.

List of materials:

Paper and markers

Print-out pictures of organisms

Internet

Procedure and general instruction (for instructor)

Activity: Ecosystems are now collapsing due to human impact.

- Divide the students into four groups which represent biomes (biomes provided)
- Have students discuss ways of reducing or avoiding a species extinction in their respective biome
- Have one student volunteer to be the tree tender who will explain to group members how organisms depended on each other in an ecosystem. However, humans have great impact on ecosystems and that leads to extinction of certain species. The Tree tender will probe other group members to come up with ways of reducing or avoiding human impacts on the ecosystem
- Another student in each group volunteers to take down all the points contributed by the group.
- Another student in each group will volunteer to present the group findings

Procedure and general instructions (for students)

Animal and Biome lists

- In the table below, you will find each of the four biomes represented in this activity with the organisms living in each one. Each member will represent any organism and give ways of reducing/avoiding the extinction of that organism.

| Desserts | Marine | Prairie | Woods |
|------------------|---------------|----------------|--------------|
| Sagebrush | Sea grass | Grasses | Pine tree |
| Cactus | Coral | Wildflower | Fern |
| Desert Bumblebee | Crab | Grasshopper | Earthworm |
| Kangaroo rat | Fish | Flycatcher | bluebird |
| Desert Tortoise | Shark | Wolf | Armadillo |
| Vulture | Dolphin | Buffalo | King Snake |
| Desert Bat | | | |