

**THE TREE OF LIFE: EXPLORING BIODIVERSITY
USING GENOMIC AND COMPUTATIONAL METHODS
July 15th – July 19th 2018**

Learning Activity

Title:

Tree Tender Matching Game

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Abstract:

Ecology is the study of how organisms interact with each other and with their environments. This interaction is important to maintain a stable environment. Over the years humans have interfered with this interaction for various reasons resulting in very danger imbalance in our environment and creating a loss of biodiversity, depletion of natural resources and other problematic issues like climate change.

The film Tree Tender shows a variety of biological topics ranging from common ancestry to ecological symbiosis to destruction of our planet. Most importantly it includes ways in which we can try to make things better on our planet. These things include ways we can decrease our energy use, choosing environmentally friendly products and contacting local governments. The video encourages a better understanding of our planet which would result in decreasing extinct rates and increasing biodiversity.

In this activity, the students will play a matching game, matching the problem we've created on this planet to a potential solution. The students will watch the video, and after matching the problem with the solution, try and come up with another way to solve the real-world problem using personal experiences. The class will discuss some of the solutions they came up with during gameplay and display it on a poster board.

This activity will use Cooperative Learning, class discussion, and open-ended questioning to explain what is happening on our Earth and will try to come up with solutions to the problems.

Subject, Grade, Level:

High school, Grades 9 and 10, Honors Biology and Regular Biology

Learning Objectives:

At the end of this activity. students should be able to:

- ✓ Identify some ways we affect the planet.
- ✓ Connect a problem to a solution through context clues.
- ✓ Use real world solutions to problems we've created on our planet.
- ✓ Critically think of other ways we can help the planet.

Timeframe:

The students would watch the movie for about 15 minutes. The students will play the Tree Tender Matching Game which should take about 30 minutes.

List of materials:

Tree Tender Matching cards for the game.

Large poster board to add information from each group.

Different color markers.

Website: TreeTender.org

Procedure and general instructions (for instructors)

- Print and cut out appropriate number of Tree Tender Matching Cards sets needed for the number of groups.
- Give each student a card with either a problem or a solution.
- Download the video from TreeTender.org and have the students watch the video.
- At the end of the video have the students stand and find their partner. A solution needs to find a partner.
- The students will write down on a small paper two other similar problems and solutions in 5 minutes.
- After 5 minutes each group of students will add their information to a poster board and pass it around like a carousel; this should take about 10 minutes.
- After 10 minutes, one spokesperson from each group will present a groups' problem and solution with the class and the class will discuss other solutions to the problems.

Procedure and general instructions (for students)

1. Issue a card to each student as they enter the class.
2. Show the video to the students.
3. After the video, have the students find the student that has either the problem or the solution that matches their card. They have only 5 minutes to do that.
4. Once they find their correct partner, have the students write down on one paper per pair, two other solutions for the problem that they have. They have only 10 minutes to do that.
5. Place the students in groups with 4 pairs in each group. Give each large group a poster board to write each problem and two solutions for each after they discuss it.
6. After 15 minutes, display the poster boards from the groups and further discuss the solutions presented.
7. While the students are discussing, walk around the room and listen to the students as a means of assessment.