

Ecosystem Services - Trees

Primary

Key Inquiry Questions

1. What ecosystem services do trees provide?
2. What can people give to trees?
3. What does it mean to be a steward and how can people be stewards of the trees?

Learning Outcomes

1. Students will be able to define specific ecosystem services trees provide by the end of the lesson.
2. Students will be able to analyze a video for content by the end of the lesson.
3. Students will be able to think critically about what they can provide for trees and how they can be stewards for the trees by the end of the lesson.

Sustainability Curriculum Goals

Systems Thinking:

1. Our planet - the biosphere - is a complex system that supplies resources and creates conditions that sustain life on Earth.
2. All forms of life, including humans, are connected to each other through man-made and natural ecosystems on which their well-being depends on.

Sustainable Futures:

1. Actions associated with a sustainable future reflect values of care, respect, responsibility, empathy, and compassion for all living and nonliving things.
2. Sustainable futures involve actions that work to preserve, protect, and/or restore the natural environment.

Activities/Goals:

1. Students should be able to explain what sustainability is, the importance of ecosystem services and biodiversity.

Overview:

The lesson will begin with the students playing a minute to win it game as a means of introducing how much humanity depends on trees. Students will then continue by writing down why they think trees are important to their lives as a means of setting the base for their understanding before the activity begins. Next students will engage with a video that provides some answers to the questions in the following activity. They will also be able to connect science

to this lesson by understanding what photosynthesis is. Lastly, students will complete 1 of the 2 provided activities to engage their critical thinking skills about what trees give them and what they can give back to trees.

Materials

SolarSPELL Resource:

1. “Trees - Education Video for Kids” (Environment > Natural Habitat > Trees - Educational Video for Kids)

Other:

1. Notebooks
2. Worksheets titled “Concept Map #1” and “Concept Map #2” (if option 1 on the after activity is chosen)
3. Pencils
4. Colored pencils (if available and if option 2 on the after activity is chosen)
5. Blank sheets of paper (if option 2 on the after activity is chosen)

Suggested Procedure

It is recommended that you complete the “Ecosystem Services - What does the Earth Provide” lesson before this one.

Before Lesson:

- Before beginning the lesson, ask the students if they remember what ecosystem services are? Alternatively, you could ask students what the concept is for benefits humans receive from nature for free?
 - Answer: Ecosystem services are the free benefits humans receive from nature.
 - Answer: Ecosystem services.
- Tell students they will be learning about the ecosystem services of trees today.
- Minute to win it: Give students one minute to look around the classroom and write down as many products as possible that are made from wood.
 - Potential products include: pencils, chairs, desks, bookshelves, paper, rulers.
 - Ask students to raise their hand if they have at least 3 things... 4 things... 5 things.... Etc. until there are no more hands raised.
- Ask students to discuss in their groups what the classroom might look like if there were no items created from wood.
 - Walk around to listen for answers.
 - Call on 3 students to share their groups' answers.
- Ask students where do the wood products come from? Call on students to answer, until they answer correctly.

- Answer: Forests/Trees.
- Ask students, as a group, to write down a list of all the ways they think forests are important to their lives.
 - Do not share these lists. Students will come back to these at the end of the lesson.

During Lesson:

- Show the video titled “Trees | Educational Video for Kids” to your students.
- Before playing the video, ask students to write down the following questions and take notes on what they think the answers could be.
 - How many trees are there in the world?
 - Answer: 3 trillion
 - Who are trees essential for?
 - Answer: All life on earth (humans, animals, insects, other vegetation)
 - How many trees are cut down every year?
 - Answer: 15 billion
 - What is one thing roots do?
 - Answers: Anchor tree to the ground, soaks up water from the ground allowing it to grow, prevents erosion
 - Leaves allow photosynthesis to take place so trees can feed. What is photosynthesis?
 - Answer: Water with minerals reaches the leaves, and with the help of chlorophyll (makes the leaves green) and the sun, leaves take up carbon dioxide from the air and turn it into food.
 - What is one thing that trees do?
 - Answers: softens wind strength, reduces air contamination, provides shade, provides places to play, provides food, and gives shelter to animals
 - How is a forest on Earth, similar to what trees do for life?
 - Answer: The forest regulates the climate
- After the video, call on students to share their answers.
- Alternative Option:
 - Students can answer the questions in groups at the conclusion of the video.

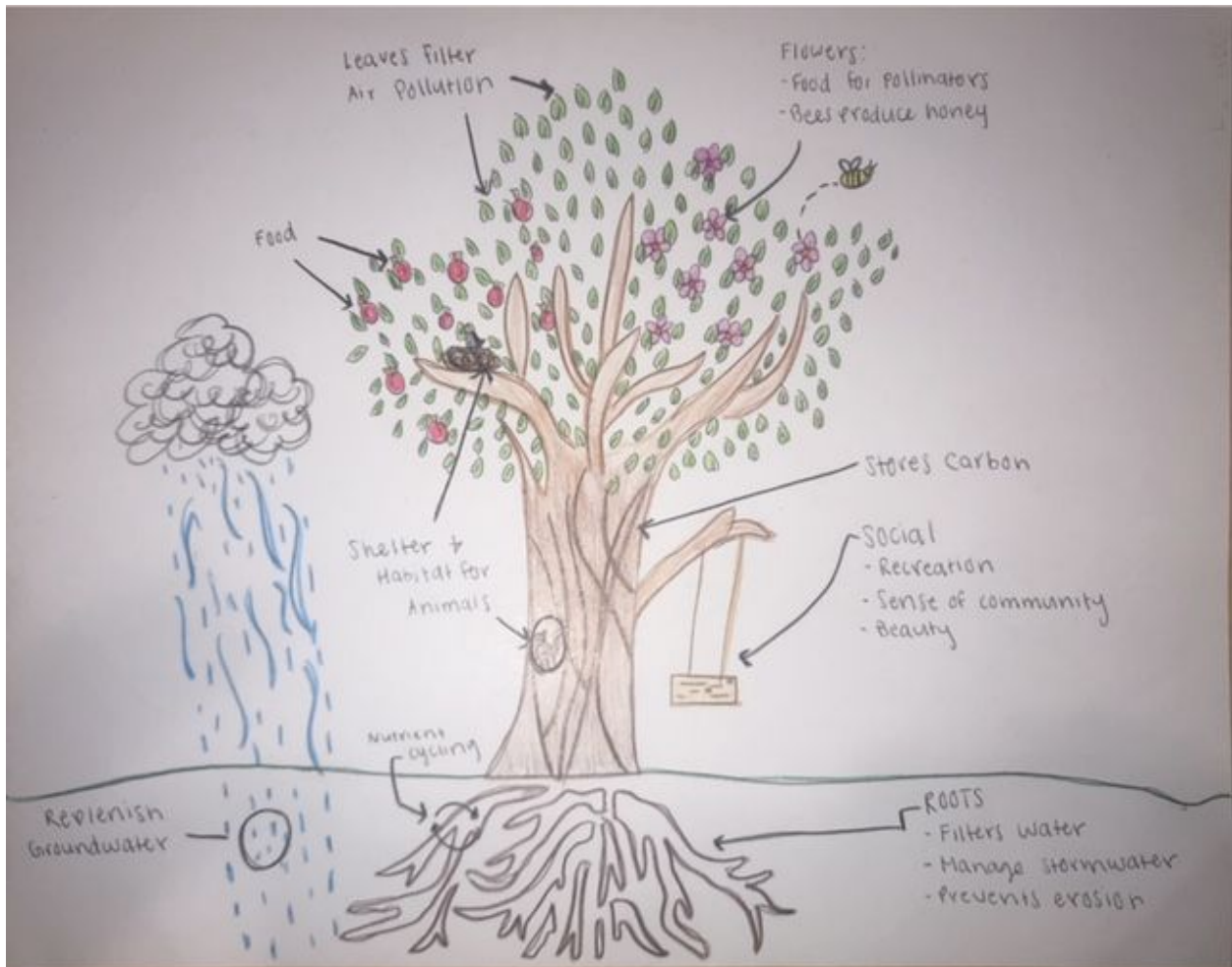
After Lesson (2 Options):

- Start with writing the word “Steward” on the board or having students write it down in their notebooks.
- Explain to the students that people who take care of, don’t harm, and treat things with respect are called stewards of those things.
- Ask students what they think people who are “Tree Stewards” do?
 - Possible answers: they are friends to the trees, they take care of the tree, they don’t cut down all of the trees, they plant trees, they use both sides of their sheets of paper, they try to use reusable cups instead of paper cups, they do what they can to make sure the trees stay around for a long time.
- Option 1: The Concept Map
 - Map #1:

Assessment:

- Have students return to their list from the beginning exercise.
- Give students 5 minutes to add to their list.
- Ask students, by a show of hands, how many of them added something.

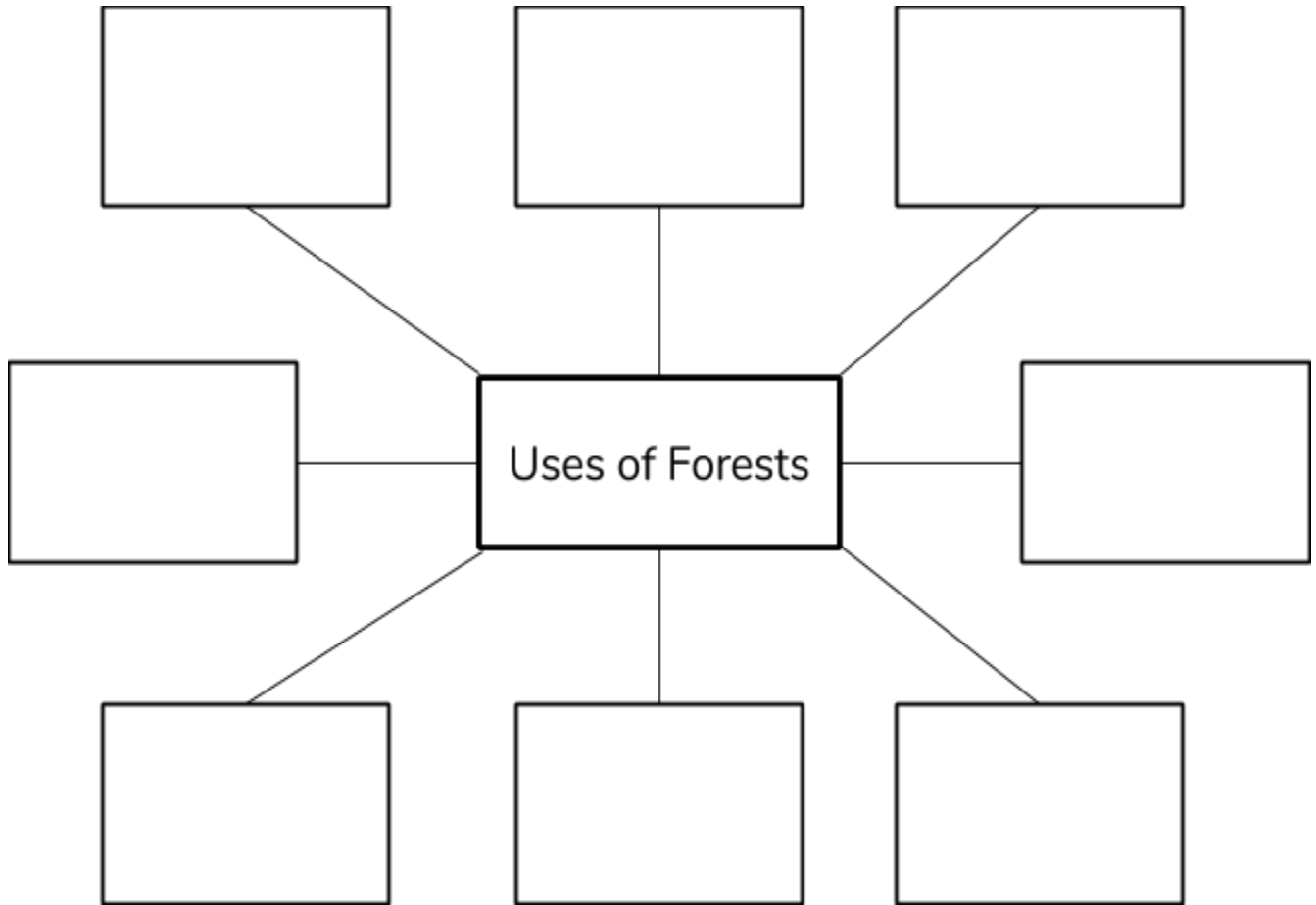
Example of giving tree:



Example of how humans can give back to trees:



Concept Map #1



Concept Map #2

