

Our Water Footprint



Overview

This lesson will challenge students to evaluate their personal water usage and look for ways to lessen footprint.

Time Needed

- 2-3 class periods with option to do additional work outside of class.

Standards

- SEV4. Obtain, evaluate, and communicate information to analyze human impact on natural resources.
 - Construct and revise a claim based on evidence on the effects of human activities on natural resources. I.e. Human Activities Natural Resources Agriculture Forestry Ranching Mining Urbanization Fishing Water use Pollution Desalination Waste water treatment Land Water Air Organisms
 - Design, evaluate, and refine solutions to reduce human impact on the environment including, but not limited to, smog, ozone depletion, urbanization, and ocean acidification.
 - Construct an argument to evaluate how human population growth affects food demand and food supply (GMOs, monocultures, desertification, Green Revolution).

Objectives

- Students will understand that their actions have an impact on water use and ecological systems.
- Students will evaluate their own impact on water usage in their community.
- Students will find ways to lessen their ecological footprint in agriculture.
- Students will design and maintain a watering system for a turnip bed.

Materials

- [Ecological Footprint](#) - Turnips (Ecology of Foods)
- [Water Calculator](#)



GEORGIA ORGANICS

9 to 12 grade

Environmental Science

🕒 2-3 classes

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Lesson Plan

- Engage: Students will take the survey on their water usage.
- Explore: Students will explore ways to conserve water personally.
- Explain: Teacher will explain that water usage is also an issue in agriculture.
- Extend: Students can examine and create their own watering system for a bed of turnips.

Outline

- Engage: Start by showing students how complete their water calculator. Ask students to group themselves according to the amount of water used in their households. Discuss what are the most important indicators of water usage.
- Explore: Let the students explore ways to decrease water usage. Using Foodprint.org, have students research turnips and ways to make food easier on the ecological footprint.
- Explain: Teacher will explain that students are being asked to create a watering system and growing plan that will make turnips even better for their local communities.
- Extend: Students can be assigned a garden bed and given the seeds and watering hoses to plant the turnips. Each group is to plant the same amount of seeds and then keep track how many pounds of turnips produced and how much water used to produce them.
- Evaluate: Students will present their data to the class and teacher will lead the discussion about what variables they used that changed outcomes. They will determine what worked the best and what did not work. Expand this by multiplying results to see how this would change crop production on small, medium, and large scale farming. Question whether this would be worth the cost versus commercial agricultural practices.

Lesson Created by Brooke Lewis-Slamkova for Georgia Organics



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