



Post-festival Lesson 6.2 My Water Footprint Lesson Plan

Investigative Question:

- How much water do I use daily?
- Why is water use called a water footprint?
- How can I be a better water steward?

Summary: Students learn what a water footprint is by constructing their own actual footprint, simulating water use and conservation through a group role play and identifying ways to conserve water through individual best practices.

Reference: Adapted from "My Water Footprint" Part 1, *Foundations of Water Education*, 2024, pg. 131-142.

Time Frame: 50 minutes

Cross Cutting Concepts Demonstrated:

- Cause and effect
- System & system models

Science and Engineering Practices Integrated:

- engage in argument from evidence
- obtain, evaluate and communicate information
- construct explanations and design solutions

Materials Needed:

- 2 sheets of 8^{1/2} x 11 paper per student
- Pencils and optional art supplies (markers, colored pencils, crayons)
- Scissors
- Cut out Copy page – [Water Use Roles](#) (enough for one per student)
- [Teacher Lesson Resources](#) pages
- [Student Water Sustainability Worksheets](#)
- [Teacher Water Sustainability WS Answers](#)

PowerPoint Slides – [AWF Unit Slides Lesson 6](#)

Warm up:

Use slides above to introduce lesson and review the difference between "**direct**" and "**indirect**" water use. Have them share several ways they use water every day. On average, how many gallons a day do you think a person in Arizona uses? 100-120 gallons a day!



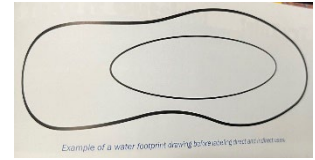
Post-festival Lesson 6.2 My Water Footprint Lesson Plan

Lesson Sequence:



Activity – Part 1:

1. Pass out pieces of blank paper for students to **trace their own footprints**. The left foot and right foot should be traced on separate pieces of paper.
2. Inside each footprint, draw a medium to large oval (see example).
3. **Cut out footprints** and label them with the student's name on the back. **Collect the right footprints and save them for future use.**
4. Have students write down the **direct ways they use water inside the circle on their left footprint**. These will be the ways they directly touch or consumer water.
5. This is their "**water footprint**". Compare students' water footprints.
 - a. **Does everyone have the same footprint?** No, everyone has their own unique footprint.
 - b. **Would someone living in the desert use as much water** (or use water the same as) as someone living in the tropics? Hopefully not.
6. After students have completed writing the lists of items on their left footprints, collect all the footprints and display them, leaving room between them for the additions of the right footprint in the activity wrap up.



Activity – Part 2:

1. **Pass out Water Footprint Role** to each student from the [Copy Page – Water Use Roles](#)
2. Line up students at the end of a playing field, gym or classroom
3. Read the scenarios on the [Resource page – Water Footprint Scenarios](#). **Students will move forward or backward depending on their role.**
4. After the game, distribute the **right footprints to your students and ask them to write ideas on their footprints for using less water** while still meeting their needs.
5. Pass out copies of the [copy page- background reading](#) or read this outload and discuss. **How do students think their water footprint compares to children in other countries?**



Post-festival Lesson 6.2 My Water Footprint Lesson Plan

Wrap-Up:

Continue to use slides to discuss the difference between **water conservation** and **water efficiency** and how we can use both to be water stewards.

- Discuss the population graph vs. water use graph and show that when we make good choices it does have an impact.
- Pass out [water sustainability worksheets](#) and have students work through them to demonstrate they understand water wise behaviors and sustainability actions.

*Students should complete the Lesson 6 section of their AWF Water Notes handout to record evidence and construct explanations based on that evidence. Students will also look at the lesson from the perspective of cause and effect – Cause is why something happened. Effect is what happened because of it.

Note to the Teacher:

In science, reasoning and argument based on evidence are essential in identifying the best explanation for a natural phenomenon. In engineering, reasoning and argument are needed to identify the best solution to a design problem. Student engagement in scientific argumentation is critical if students are to understand the culture in which scientists live, and how to apply science and engineering for the benefit of society. (from NSTA Science & Engineering Practices)

You can **wrap up the whole unit** by asking students to write a paragraph about or make a collage/poster to show:

- Where is Arizona's water
- connections they have discovered between people, water and heat in the environment (using evidence to support their argument/explanation).