

# Water Use Everywhere!



Lesson Plan Grades 4 - 6

## Lesson Summary

Students use observation and imagination to learn how water is used for countless purposes in a variety of places.

## Overview

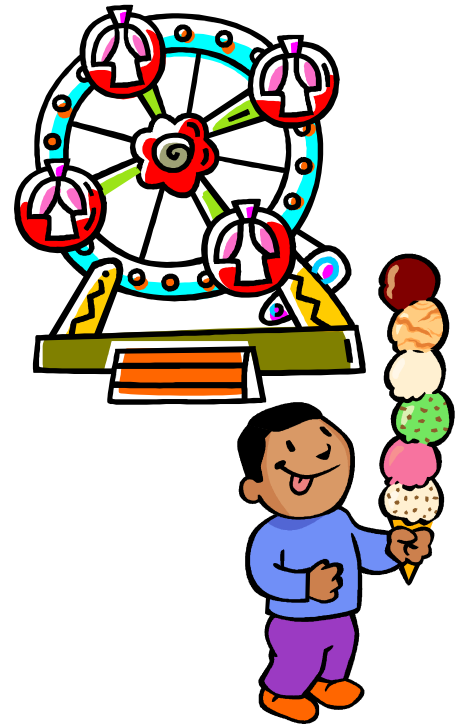
Students work in groups to:

- Think about water use in either: a park, zoo, amusement park, baseball stadium, ice skating rink or car wash.
- Draw a picture of all the water uses in their assigned place.
- Give an oral report to the class.

## Background

Water is used for everything! Whether it provides us with drinking water, or it grows the food we eat, almost everything we can think of uses water in some way. While most of us understand water use in places we can see, such as the kitchen, bathroom and garden, there are other uses of water that aren't as visible. The amount of water used to produce an item, or that is used by an individual, business or country in any given period of time, is called a water footprint. For example, the water footprint (or virtual water content) of a single sheet of paper is about 2.5 gallons. That's the water needed to grow the tree and process the pulp for that one sheet. On average, people in the United States have a much higher water footprint than people in other countries. That's because we buy and use a lot of stuff! Simply put, the more we consume as individuals and as a nation, the bigger our water footprint.

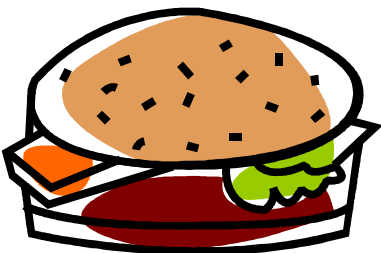
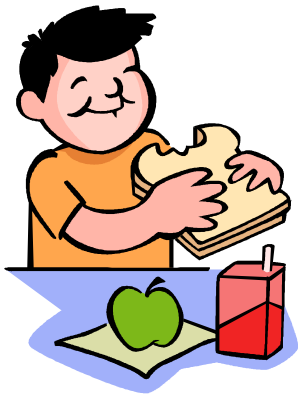
Everything has a water footprint! For instance, airports, zoos, and other businesses all use water in a variety of ways. A zoo needs water for animals to drink and bathe; for maintaining habitats with bodies of water; and for cleaning exhibits, benches, walkways, bathrooms, and offices. Zoos also use water at the concession stands and cafes for ice, coffee and other beverages. Just about every facet of our daily life, whether it is related to work, play, home, or study, relies on water in some form or other. By becoming more sensitive to the use of water everywhere, students can better appreciate the important role water plays in our lives, and also be more mindful of what we can do to protect and conserve this most precious resource.



**Time Needed for Lesson**  
60-75 minutes

## Materials

- Scrap Paper—6 sheets
- Drawing Paper—6 sheets (11 x 17)
- Colored pens or paint (6 sets)
- *Our Water Fact Sheet* and Reading Comprehension Questions (optional)



### Preparation for Teaching

1. (Optional) Give students *Our Water Fact Sheet* and Comprehension Questions. Have them read it in class out loud (to match a standard) or as homework and fill out answers. Can also be done in small groups.

### Pre-Activity Questions & Discussion

1. Gather students together as a class.
2. Ask students to name their favorite food. (*Take answers.*)
3. Ask students to name their favorite beverage. (*Take answers.*)
4. Ask students to name their favorite place in the city. (*Take answers.*)
5. Write “water” on the board.
6. Tell students that everything they called out, whether a food, drink or favorite place, involved the use of water in one way or other.
7. Spend a few minutes asking students if they can connect water use to those things or places. (*Example: pizza, hamburgers, ice cream and soda all require water to produce. Water grows the grain that gets turned into the pizza crust, and it also grows the grain fed to the cow that produces milk to make the cheese. Water is also needed to water the park, fill swimming pools, water baseball fields, clean statues and streets, etc.*)
8. Can students guess what the term “water footprint” means? (*A water footprint is the amount of freshwater used to manufacture or make an item. Water footprints—the total amount of freshwater used—can be measured for individuals, businesses and even cities and countries.*)
9. What is the water footprint of a ten-minute shower where 2 gallons a minute flow out of the showerhead? (*After students answer, do math on board: 10 min. x 2 gal. = 20 gallons*)
10. What is the water footprint of a serving of beans? (*60 gallons*)
11. What is the water footprint of a quarter pound hamburger? (*625 gallons*)
12. What do students think accounts for the difference between these two foods? (*A cow typically lives 2-3 years before it becomes a hamburger. During its lifetime, it consumes a lot of grain that is grown using water. A bean plant however, just needs water for one growing season before the beans are harvested into a meal.*)
13. Ask students if they can name one thing that doesn’t use water in some form or other? (*Take answers and do your best to explain how water is used for things they name. Basically, all growing, manufacturing and transportation processes require water. It is almost impossible to name one thing that doesn’t involve water in some way or other!*)
14. Tell students that the United States has a water footprint that is much larger than most other countries in the world. Ask why they think the US has such a large footprint? (*We buy and use a lot of stuff! Since everything we use requires water in some form, our water footprint is huge.*)

### Classroom Activity

1. Put students into six groups and give each group a piece of scrap paper, drawing paper and a set of colored pens or paints.
2. Assign each group one of the following: **Golden Gate Park, Zoo, Baseball Stadium, Amusement Park, Ice-Skating Rink, Car Wash.**
3. Tell them to think of all the things water is used for in that place. Ex: If assigned "The Airport" students should imagine where water would be used such as: making sure planes have water for mechanical system and in-flight service; washing planes and runways; cleaning bathrooms, floors, offices, restaurants & kitchens; water fountains; flushing toilets and running sinks; watering plants; washing windows, etc.
4. Students should list uses based on observation and memory. They can use imagination too, though it should be realistic. *(If they haven't been to the place, they should know something from books, movies, etc.)*
5. Referring to list, students should draw or paint this place and map out or identify where all the water uses occur. Make painting big and bold.
6. Give students 15-20 minutes to complete activity.



### Follow-Up Presentation and Discussion

1. Have each group present to class the water uses they identified for their location. Let each student have a chance to speak, illustrating their point with the painting. Ask group if they identified any surprising uses for water. Ask class if there are other uses for water at location.
3. Afterwards, ask class if it was hard to think of things? Was it easy?
4. How did this activity change the way they think about the water footprints of a place?
5. Ask students to prioritize essential water uses in each of their locations. If San Francisco experienced a severe drought, which uses in each place would students eliminate first?
6. How did this activity make them better appreciate water use?

### Extensions

1. Ask students to keep a journal over the weekend where they observe water use in their neighborhood and community.
2. Have students learn more about the water footprint of common foods: <http://www.waterfootprint.org/?page=files/productgallery>

### CA State Standards

**Grade 4** English Reading 1.1 • Comprehension and Analysis of Text 2.2  
Writing 1.4 • Written and Oral English Language Convention 1.1  
Listening and Speaking 1.1, 1.2, 1.8

**Grade 5** Reading 1.1, 2.3, 2.4 • Listening and Speaking Strategies 1.4, 1.5 and 1.6

**Grade 6** Reading 1.1 • Reading Comprehension 2.3 • Listening and Speaking 1.4, 1.5 • Visual Arts 2.4, 2.5

