



Water in Our Daily Lives

Duration: 30-90 minutes

Description: We use water every day, and yet most of us do not think about water as a limited resource. In teams, students will be asked to think about how water is involved in their daily lives - for drinking, washing hands, showering, cleaning clothes, brushing teeth, cooking food, and more. They will then be given a hypothetical situation about a water shortage and asked to generate solutions. This lesson is split into four parts. The final part is optional or can be done on a different day.

Materials Needed:

- Pencils
- Paper
- Crayons, colored pencils, or markers
- Calculator (optional)
- 1 gallon buckets (optional)
- Water (optional)

Learning Objectives

1. Examine information, draw conclusions, and make connections to real-world problems.
2. Identify personal connections to daily water use.
3. Measure distance and weight.
4. Use critical thinking to devise solutions to hypothetical problems.
5. Identify creative ways to conserve water.

Applicable Education Standards

Common Core State Standards/Next Generation ELA	CCSS.ELA-LITERACY.W.4.1.B Provide reasons that are supported by facts and details.
New York State Science Learning Standards	Scale, Proportion, and Quantity Standard units are used to measure and describe physical quantities such as weight, and volume. (5-ESS2-2) Influence of Engineering, Technology, and Science on Society and the Natural World - Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands. (4-ESS3- 2)
California Science Framework/Next Generation Science Standards	ESS3 A: Natural Resources Principle I: The continuation and health of individual human lives and of human communities and societies depend on the health of the natural systems that provide essential goods and ecosystem services.



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	Principle V: Decisions affecting resources and natural systems are based on a wide range of considerations and decision-making processes
Common Core State Standards/Math	CCSS.MATH.CONTENT.4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison

Instructions:

1. Break students into 6 teams.
2. Read over the instructions for **Part 1**.
3. Assign each team to one of the facts in **Part 1**. Two images are provided for better visualization.
4. Ask each team to create a short commercial, drawing, ad, sketch, song, or meme that represents their fact.
5. Have each team present their fact to the class.
6. Next, ask the teams to use what they learned from the presentations to answer the questions in **Part 2**. They may need calculators.
7. Now the teams will move on to **Part 3**.
8. Here, the teams will now become their own village. Ask the teams to name their village. If time allows, they can create a sign for their village.
9. Each team will answer the questions in Part 3. After each team is done, ask each village to pick a representative and share something that they found interesting while answering the questions.
10. Optional: **Part 4** involves experiencing what it is like to face water scarcity and walk for water. If possible, fill up a couple of buckets of water partway and ask students to carry them around a track, field, court, or around the school.
11. Afterward, you can have a class discussion guided by the questions in **Part 4**.



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Instructions: We use water every day, but we probably don't always think about it. Think about the last time you used water today. Humans depend on water so much, but as we have learned, there isn't a lot of water out there to share. Today we are going to learn about how much water we use every day, and what we can do to save some of it!

Part 1: How much water *do* we use?

Fact #1: On average, an American uses 100 gallons of water every day (United States Geological Survey).

Fact #2: The standard bathtub can hold 80 gallons of water, but taking a single bath uses about 40 gallons of water.

Fact #3: The average showerhead uses 2 gallons of water per minute.

Fact #3: Around the world, thousands of people have to walk around 4 miles a day to collect water.

Fact #4: Adults carry about 40lbs of water on these walks.

Fact #5: One gallon of water weighs roughly 8 pounds.

Fact #6: Doctors recommend that an individual drink at least a $\frac{1}{2}$ gallon of water per day.



**1 Gallon = 1 Milk jug
laps around a track**

1 mile = 4





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Part 2: Personal Water Use

Instructions: Use what you learned from the presentations to answer the questions below. You may need a calculator.

1. What are 3 ways you use water every day?

2. Where does your water come from (are you near a lake or river)?

3. How many buckets of water would you need to carry all of the water you use in one day?

4. Assume every person needs 80 gallons of water each day. How many miles would one person have to walk to collect enough water?

5. **Individually:** If you take a shower, how many minutes do you shower for? Use the facts to determine how many gallons of water you use in one shower.



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Part 3: It Takes a Village

Instructions:

Your team now represents a small village of people. Add up the number of people in each of your families and that is the size of the village. Because of the recent rise in temperatures, your village is experiencing a drought and your local river has dried up. The nearest body of water is a small lake 2 miles away. Come up with a village name and answer the following questions.

1. Based on the number of people in your village, how many gallons of water do you need every day?
2. In order to collect all of that water, how many miles will your villagers have to walk?
3. Given the facts in **Part I**, what are some ways in which you can save water? Considering all the ways in which you use water every day, what can you do to save 50 gallons of water a day for your village?
4. What are ways your village can address this water shortage? Think about what technology might help improve your access to water.



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Part IV: Walking for Water

Instructions:

Now that your team knows the measurements, you can also see what it's like to carry water across distances. Fill up a bucket and talk a walk around the school or track. As a class, reflect on the experience:

- How difficult was the experience?
- How far did you walk and for how long?
- Would you be able to do that every day?
- What activities are replaced or missed out on by having to walk for water?
- What are ways you can save water?

