

Recycling: Saving Water

Grade Level(s): Fourth Grade

Estimated Time: 30-40 Minutes

Objective: Students will learn about our dependence on water and the amount of water we use during the day.

Materials/Resources

Exhibit, roll of toilet paper, water bottle, measuring cup, toothbrush, shampoo, a dish, laundry soap scooper, bubble bath soap, 100 pictures of a gallon jug, one gallon milk jug, whiteboard, Inventory and Average Water Required Worksheets for each student

Procedures/Steps:

Anticipatory Set:

Exhibit- How Much Water Do You Use? Allow the students to look at the various places in the house that we use water. Do not let them flip open the answers just yet. Explain to the class that water is one of our most valuable resources. Tell the class they will be doing an exercise that will prove that we use far more water in the course of our daily lives than we realize.

- Step 1:** Ask the students how much water they think they use in one day. Have them quietly think of ways they use water in the day. Ask them for some examples. Whenever a student mentions a water use, give him or her a prop to represent that use- for example, a toothbrush for brushing their teeth, a roll of toilet paper for flushing the toilet, a box of laundry detergent for doing laundry.
- Step 2:** After all the props have been handed out, pair the remaining students who don't have props with the students who have props. Explain that they should work as a team to decide how many gallons of water are needed to perform their task once during the day.
- Step 3:** Show the students the collection of empty milk gallons or the pictures of a gallon jug. Explain that once they have decided how many gallons it would take to perform their task, they should gather the appropriate number of jugs.
- Step 4:** Designate a large area to display students' guesses. Have the students place their jugs in a line with their prop at the front for the line.
- Step 5:** Give the class time to observe all the guesses, and then review each guess. Write the guesses on the board. Have the students vote whether or not they agree with each guess. Get opinions as to whether they think each task requires more or less water than was guessed. Reveal the average amount actually used to perform each task once (on additional page).
- Step 6:** Use the actual figures to tally the amount of water used in one day. Have the students add the figures on the whiteboard. Remind them that some tasks are done more than once a day, and they will need to consider this

when calculating total daily usage. For example, if they brush their teeth twice a day, they will need to double the corresponding amount in their tally.

Conclusion: Discuss the importance of saving water. Discuss ways to cut down on water use for each task.

Take-Home Activity (Additional 3 days at home):

Send home the Water Usage Inventory and Average Water Required for Common Activities so students and their families can record the amount of water used in their homes for three days. Discuss the results in class. Did the chart help to change their families' behavior patterns? Did water usage go up or down over time?

Assessment of Student Learning:

Formative Assessment: I will observe students as calculate the difference between the guesses and the correct answers for the correct number of gallons used. I will assess their answers given about how we can cut down on water use.

Summative Assessment: I will assess their Water Usage Inventory.

Reflection: I taught my recycling/saving water lesson plan and I felt that it really well. I had written the lesson for a fourth grade class and adapted to fit the first graders. We had talked about the different ways we use water in our homes. They really liked being able to hold the objects when they had guessed one of the ways we use water. I adapted the lesson even more and had them give an object to someone who hadn't had a turn: this way, all the students had a chance to participate. We talked about how we could save water and how important it is in our lives. I would suggest making sure they tell you what we use water "in our homes". Having an actual gallon jug to display is also very helpful. Take the time to really see if they understand how much water is used and how we can help with the water supply if we do little things every day to conserve it.

Average Water Required

For Common Activities

Flushing the toilet: 2-5 gallons

Taking a bubble bath (full level): 30-50 gallons

Brushing teeth (tap running): 2 gallons

Taking a shower: 5 gallons per minute

Washing clothes (full cycle): 30-60 gallons

Washing hands (tap running): 2 gallons

Drinking water: $\frac{1}{2}$ gallon

Indoor sink faucet open: 3-4 gallons per minute

Indoor sink half open: $1\frac{1}{2}$ gallons per minute

Washing dishes by hand (tap running): 10-20 gallons

Using an automatic dishwasher (full cycle): 12-15

Outdoor watering: 10-15 gallons per minute

Preparing and cooking meals: 10 gallons

Washing the car: 50-100 gallons

Cleaning the house: 10 gallons