



CHILDREN'S CLEAN WATER FESTIVAL

Where Youth Are Making Waves!

Water Conservation

Background:

We cannot live without water, and yet most of us take it for granted. As long as water comes from our faucets clean and ready for us to use, we usually don't even think about it or its importance. But as our population continues to grow, and water needs continue to change, we must become aware of this precious resource. It is important that our children grow into responsible adults who can make logical decisions that will result in a sustainable water supply for the future. If we practice water-saving habits now, we can make sure that we have enough clean, safe water for our future.

Conservation: Home Water Audit

CIM CORRELATION: Science

- Common Curriculum Goal: Describe how daily choices of individuals take together, affect global resources cycles, ecosystems and natural resources supplies.
- Common Curriculum Goal: Design and conduct scientific investigations using knowledge of unifying concepts and processes, appropriate tools and techniques.
- Common Curriculum Goal: Understanding the properties and limited availability of the materials which make up the Earth: Recognizing that the supply of many resources is limited, and that resources can be extended through recycling and decreased use.

CIM CORRELATION: Math

- Common Curriculum Goal: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

Home Water Audit

Reproduced with permission from the City of Portland, November 2002.

Background:

Why is water conservation important? Doesn't it rain a lot here? Yes, it does rain a lot here, but not during the summer when we need it the most. Water can be stored in reservoirs, but during the summer when rain is scarce, we draw the level of these reservoirs down. Sometimes there isn't enough water for everyone to use as much as they want. For this reason, it is important to conserve water. Water use increases dramatically during the summer. People use water to wash cars, fill swimming pools, run through sprinklers, and water lawns and gardens.

Objectives:

- To get students to estimate the amount of water they use in their homes
- To engage students in exploring conservation measures they could use to save water

Time:

Preparation: 15 minutes

Activity: Two 20-minute sessions

Materials:

- Personal Water Use Log (master attached)
- Optional–Home Water Use Audit Kit (materials listed below):
 - Toilet tape
 - Shower bag
 - Drip meter
 - Leak detection dye tablets

(Kits may be available for checkout. Contact the Regional Water Providers Consortium at 503-823-7528.)

Key Concepts:

Personal water use, Water conservation

Skills:

Measurement Mathematics Data collection

Procedure:

- Gather supplies
- Talk with your students about why water conservation is important

The Activity

1. Introduce the Personal Water Use Log to students. Explain that the students will track their water use for three days and estimate how much water they use.
2. After the students have tracked their water use, have them share their results. How much variation was there in the classroom? For older students, array the data on a graph for visual impact.
3. Review with students why it's important to save water. Brainstorm how students could use less water. What behaviors or equipment would help them reduce water consumption in their homes?

Assessment:

Have students assess the accuracy of their Personal Water Use Logs. What more information would they need to produce even more accurate records of their water use? (Actual toilet tank size, shower flow rate, etc.)

Extensions:

Encourage students to implement a change in their water use and track their use again for three days. Can they see a difference? Do students feel they could make this change for the long term?

To help students grasp the scale involved, have each student bring in empty plastic gallon-size jugs. Then offer students a visual example of the quantity of water used with each activity.

Have students graph their water use on the Personal Water Meter (see below), or make one large meter for the whole class.

Follow Up Ideas:

There are numerous ways for students to teach others about water and water conservation. Encourage the students to think first about who their intended audience is (younger grade level, the whole school, a local community group, their parents, etc.).

Next, lead a brainstorm with your students to generate ideas about how to reach their intended audience. Here are a few possibilities:

- Design and produce a mural for a school hallway that tells the story of water and water conservation.
- Write a short skit or song about water and conservation and present it to others.
- Create a Public Service Announcement (PSA) for television or radio. Contact a local station about using the PSA.
- Make a presentation to a group of adults, such as the faculty, School Board, or parents, using PowerPoint.
- Design and post a web site.
- Write a class article or editorial to a local paper.

- Write and illustrate your own brochure.
- Host a water tasting.
- Host a water conservation workshop.
- Present project results at appropriate youth forums such as the Clean Water Festival.

Let this activity be as student-driven as possible. The possibilities are endless!

Additional resources:

- Regional Water Providers Consortium: www.conserveh2o.org
- H2ouse Water Saver Home: www.h2ouse.org
- Learning to be Water Wise: www.getwise.org
- Water Conservation Game: <http://www2.seattle.gov/util/waterbusters>

Local Contacts:

Portland Water Bureau
 (503) 823-7444
sarah.santner@ci.portland.or.us

Rockwood Water People’s Utility District
 (503) 665-4179
cshaw@rwpud.org

Clackamas River Water Providers
 (503) 723 3511
christine@clackamasproviders.org

Tualatin Valley Water District
 (503) 848-3058
www.tvwd.org

Personal Water Meter	
0 10 20 30 40 50 60 70 80 90 100 110 120	
Drinking water	2 cups is about 1/8 gallon
Flushing Toilet	about 5 gallons
Brushing teeth (water running)	about 6 gallons (2 minutes)
Dishwasher	about 15 gallons ÷ number of people in household
Dish washing by hand (water running) (sink with stopper)	about 30 gallons ÷ number of people in household about 10 gallons ÷ number of people in household
Load of laundry	about 40 gallons ÷ number of people in household
Shower/bath	shower 2.5 gallon per minute; full bath 40 gallons
Outdoor watering	garden hoses use about 300 gallons per hour

Name: _____

Personal Water Use Log

Activity	Day 1 Date:	Day 2 Date:	Day 3 Date:
Drinking Water 2 cups is about 1/8 gallon	Gal.	Gal.	Gal.
Toilet Flushing About 5 gallons*	Gal.	Gal.	Gal.
Brushing Teeth (water running) About 6 gallons for 2 minutes*	Gal.	Gal.	Gal.
Dishwasher or Hand Washing Dishes • Dishwashers = 15 gallons* ÷ number of people in house • Dish washing by hand with water running = 30 gallons* ÷ number of people in house • Sink with stopper = 10 gallons* ÷ number of people in house	Gal.	Gal.	Gal.
Laundry 40 gallons* ÷ number of people in house x number of loads	Gal.	Gal.	Gal.
Shower or Bath Shower = 2.5 gallons/minute* Full bath = 40 gallons*	Gal.	Gal.	Gal.
Other Uses Watering w/garden hose = 300 gallons/hour*	Gal.	Gal.	Gal.
Total	Gal.	Gal.	Gal.

Total for 3 days: _____ Gallons

*Use these average figures unless more accurate household-specific data is available