



Eco-Schools USA Water Audit



Learning Objectives

- To investigate water use within the school and identify inefficiency.
- To record and analyze water data.

Curriculum Links

English, Science, Geography, Citizenship

Eco-Schools USA Pathways

Water, School Grounds, Energy, Climate Change

Use this worksheet to help you to complete a Water Audit. You will use the data you collect to create your Water Action Plan.

This audit is adapted from the *Be Water Wise!* School Water Audit. It was developed by the National Environmental Education Foundation (NEEF) as a tool for students to investigate water use inside and outside of the school building and to work to improve water conservation at school. Many of the questions will require the assistance of school staff, including custodians and facility managers.

A Teacher's Guide for the audit is available at www.eeweek.org/water_wise/water_audit. Also available is a Report Outline, which you can use to develop a report of the findings to be presented to the school community.



Eco-Schools USA Water Audit Worksheet

School Name:

Date of Assessment:

Conducted By:


A. Water Use

The questions in this section ask about water use at your school. To answer them, you may need the assistance of the school custodian or facility manager.

What is the source of your school's water supply?	<input type="checkbox"/> School has own well <input type="checkbox"/> Municipal water supply
If your water comes from a municipal supply, what is its source?	<input type="checkbox"/> Lake or river (surface water) <input type="checkbox"/> Well (aquifer/groundwater)
If your water comes from a municipal supply, what did your school pay last year for water?	\$ _____
How much does the water company charge per unit of water?	\$ _____ per _____
Based on water bills or in-school meters, how much water did your school use last year? (1 cubic foot = 7.48 gallons; provide both)	_____ gallons _____ cubic feet

<p>If your drinking water comes from a private well, who does the water sampling?</p>	
<p>Is that person a certified operator?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If your drinking water comes from the school's private well, is it metered so that the amount used can be monitored?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Is your drinking water tested for chemical contaminants and bacteria?</p> <p>Chemical Contaminants Bacteria</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>What contaminants are sampled for? List them to the right.</p>	
<p>Does your water contain fluoride?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If no, does your school have a fluoride rinse or tablet program?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Is all ice used for consumption made only from drinking water?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Where does water used in your school go?</p>	<input type="checkbox"/> On-site septic system and drainage field <input type="checkbox"/> Municipal sewer system. Name: _____

Does your school have a plan to deal with chemical spills that may travel down floor drains into the public sewerage system?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school have a program to encourage frequent hand washing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school have time built into the schedule for washing hands prior to food consumption?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school maintain adequate supplies for hand washing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
On average, how much water do the school's toilets use per flush?	<input type="checkbox"/> >3 gallons <input type="checkbox"/> 2-3 gallons <input type="checkbox"/> 1-2 gallons <input type="checkbox"/> <1 gallon
How many hot water heaters does your school have?	_____ Number
What type(s) of energy is used to heat the school's hot water?	<input type="checkbox"/> Natural gas <input type="checkbox"/> Propane <input type="checkbox"/> Electricity Other: _____
Are there any booster heaters located near appliances that use a lot of hot water?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school have any "on demand" hot water systems (in which water is heated as it is being used, rather than stored hot)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, where are they located?	

<p>Are there any re-circulation pumps for rooms that are located a long distance from the water heater?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Does your school have a swimming pool?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If you answered yes, is a pool cover used? (Important because pool covers limit evaporation)</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Does your school have a cooling tower?</p> <p><i>Cooling Towers are usually found outside or on the roof next to the Chiller (HVAC) Room. Cooling towers extract heat from water that has been used to cool the building. This is an example of what a cooling tower may look like.</i></p> 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

The School Building Audit

Complete the chart on the following page as you investigate water-using devices throughout the school building. Add rows if needed in order to collect information on all the rooms in your school building.

- On the chart, write the number of each device found at each location.
- After that number, indicate the number that are leaking in parentheses. Example: If bathroom 1 has 10 faucets and two are leaking, write 10(2).
- For each leak you identify, calculate the amount of water wasted per unit time. Time how long it takes for a set volume of water to drip into a beaker, and then calculate how much water is wasted per day due to the leak.



Eco-Schools USA School Grounds Audit (Outdoor Water Use)

In this section you will collect data about outdoor water use on the school property. Again, you may need the assistance of the custodian or facility manager. Many of these questions will be most easily answered shortly after watering. Plan to collect this data soon after the sprinklers have stopped.

How many water faucets are located outside of the school building?	_____ Number
How many outdoor water faucets are leaking?	_____ Number
How many outdoor faucets have been secured so that only school staff may turn them on or off?	_____ Number
Does your school building have gutters and/or downspouts?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school have a rain collection system (such as rain barrels)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
How many water meters are there at the school? <i>Water meters measure and record the amount of water flowing through them at any moment. They may be found buried outside the building or indoors where the water line comes into the building.</i>	_____ Number
Do the meters record water used both indoors and outdoors?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, what do you think is the ratio of water used outdoors vs. water used indoors?	_____

<p>Do you see dry or soggy patches in the grass, in flowerbeds or in other landscaped areas?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, describe the location and what you see. Take photographs or sketch the area.</p>	
<p>Do you see puddles or standing water resulting from irrigation runoff?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, describe the location and what you see.</p>	
<p>Do you see moss growing or slippery-wet spots on any paved areas?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, describe the location and what you see. Take photographs or sketch the area.</p>	
<p>Do you see cracks in the pavement, uneven sidewalks where water runs off or other water damage in the pavement or parking lots?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, describe the location and what you see. Take photographs or sketch the area.</p>	
<p>Do you see lots of weeds in the landscape?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, describe the location and what you see. Take photographs or sketch the area.</p>	

Are there slopes in the landscape?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, complete the following: Describe the location and what you see. Take photographs or sketch the area.	
Do you see dirt running off the landscape due to slopes?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does school staff use hoses to wash sidewalks and parking areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Where does water that runs off the school's roof, parking lots and grounds go?	<input type="checkbox"/> Storm Drain <input type="checkbox"/> Recessed grassy areas <input type="checkbox"/> Rain Garden <input type="checkbox"/> Retention pond <input type="checkbox"/> Drainage ditch <input type="checkbox"/> Natural pond, stream or wetland
Does your school have a plan for managing and reducing runoff from school grounds?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does your school have any outdoor fountains or artificial waterfalls?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, answer the following: Are they turned off in the evening? Are they turned off in very hot weather? Do they re-circulate water? Who maintains them?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No _____
Curriculum and Community	
Is water conservation part of your school's curriculum?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, in what grade(s) is it taught?	

<p>Has your school staff recently participated in any staff development programs for water education?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>Does your school participate in any water projects that benefit the community?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>If yes, what are they?</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>Some water management facilities can be used as educational resources. Which are found in your community?</p> <p>Pumping station</p> <p>Drinking water treatment plant</p> <p>Water tower</p> <p>Wastewater treatment plant</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No Location: _____</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No Location: _____</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No Location: _____</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No Location: _____</p>