# Water Audit





# Eco-Schools USA Water Audit Eco-Schools USA



# **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 <a href="www.eeweek.org/water\_wise/water\_audit">www.eeweek.org/water\_wise/water\_audit</a>. Also available is a Report Outline, which you can use to develop a report of the findings to be presented to the school community.

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decre	verage, how much has your school's water usage eased per year? (Gather this information by comparing chool's monthly water bills.)	Pending Research gallons						
Andrew Control of the	's the name of your local watershed?	Yes No						

<sup>\*</sup>IMPORTANT NOTE\* As you continue to make progress don't forget to update your metrics on your dashboard.

WATER USE							
	ection ask about water use at y ol custodian or a facilities mana		answer them, you m	ay need the			
What is the source of y	our school's water supply? <b>∖∖∂</b>	arn Ave	School has own well  Municipal water supply				
If your water comes fro	m a municipal supply, what is		■Lake or river (s ■Well (aquifer/g				
If your water comes fro pay last year for water	m a municipal supply, what did	l your school	\$	<u>X</u> _NA			
How much does the wa	ater company charge per unit c	of water?	\$ <u>0.65</u> pe	r gallon			
school use last year?	n-school meters, how much wa		745325gallons 2	<b>100</b> cubic feet			
(1 cubic fo	oot = 7.48 gallons – provide bo	tn)					
sampling?	omes from a private well, who		1	NA			
	comes from the school's private nount used can be monitored?	☐ Yes	No				
Is your drinking water bacteria?	tested for chemical contaminar	nts and al contaminants Bacteria	∑ Yes ∑ Yes	□ No			
Where does water use	ed in your school go?		□On-site septic drainage field ☑ Municipal sev				
	e a plan to deal with chemical s		☐ Yes	No			
	s into the public sewage syste	□ 162	110				
On average, how muc	h water do the school's toilets	use per flush?	>3 gallons 2-3 gallons 1-2 gallons				
		2					

How many hot water heaters does you school have?	One Tank	
What type of energy is used to heat the school's hot water?	Natural gas □Propane □Electricity Other:	
Are there any booster heaters located near appliances that use a lot of hot water?	☐ Yes	⊠ 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?  If yes, where are they located?	<b>⊠</b> Yes	□ No
Are there any re-circulation pumps for rooms that are located a long distance from the water heater?	☐ Yes	⊠ No
Does your school have a swimming pool?	☐ Yes	⊠ No
If you answered yes, is a pool cover used? (Important because pool covers limit evaporation)	☐ Yes	⊠ No
Does your school have a cooling tower?  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.	☐ Yes	⊠ No

#### 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, found on page 5, write the number of each device found at each location.
- After that number, indicate the number that is 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.

# These notations are used in the Sample Water Audit:

- A = Automatic (equipment that must be turned on manually but turns off automatically)
- S = Sensors (equipment that turns on and off based on the movement of a person)
- **M** = Manual (equipment that must be physically be turned on and off by user)
- **GPM** = Gallons per minute (faucets and showers)
- **GPF** = Gallons per flush (urinals and toilets)







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1)	On average, how much has decreased per year? (Gathe the school's monthly water by	er this information by comparing	gallons		
2)	What's the name of your loc	al watershed?	☐ Yes ☐ No		

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How many hot water heaters does you school have?		
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Are there any booster heaters located near appliances that use a lot of hot water?	☐ Yes	☐ No
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Does your school have a swimming pool?	☐ Yes	No No
If you answered yes, is a pool cover used? (Important because pool covers limit evaporation)	☐ Yes	☐ No
Does your school have a cooling tower?  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.	☐ Yes	□ No

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Location	Room Number	Faucets		Toilets		Urinals			Showers				
		A	S	M	GPM	S	М	GPF	S	M	GPF	M	GPM
Classroom	203			1	11/3		V	38L					
Classroom 2	2,12			1	4		V	3.8 L					
Classroom 3	108			Contraction (Contraction Contraction Contr	11/2		V	3.8L					
Classroom 4	169	1		A CONTRACTOR OF THE CONTRACTOR	13/4	and department of the control of the	1	3.8L		80			
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Classroom 6	211		CHICAN ACTURA ACTURA	/	3/4	and promote and the second	<b>\</b>	3.81	C PARTICIPATION CONTRACTOR CONTRA				
Classroom 7	213	~	remains to the state of the sta		14		V	384			TO COMPANY OF THE PARTY OF THE		
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Bathroom 2	PICOS	OCCUPATION AND AND AND AND AND AND AND AND AND AN	Name of the last o	<b>V</b>	1		V	381					The state of the s
Bathroom 3	Floor	CONTRACTOR		<b>V</b>	12		V	381	-				EDITORIA SE
Bathroom 4	1-100°			<b>/</b>			V	381	**				
Locker Room 1	105	V			1/2	•	<b>V</b>	38	1		Section (Control Control Contr		and the same of th
Locker Room 2	107	ACCUPATION AND A STATE AND A S		V	SCONE STATE OF STATE		V	3.81			-		NET ACCIDITATE TO THE PERSON NAMED IN THE PERS
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