



# Water Conservation

## BASELINE AUDIT, GRADES K-2

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Consider contacting local, regional or state water conservation non-profits, and/or your water municipality for assistance conducting the audit. Their involvement is a great way to connect to the community, inspire students, spotlight career possibilities and share resource expertise.

Invite parents and community members to participate in the auditing process. Students can participate in Public Participation in Scientific Research ([PPSR](#)) projects. This experience is a great way to build community.

### REQUIRED METRICS

1. Number of water using devices monitored.
2. On average, by how many gallons has the school's water usage decreased?

### SURVEY

**Before starting the water audit or going further, survey students and record the average response.**

1. We have access to clean usable water.  True  False  Unsure
2. Wasting water has impacts on the environment.  True  False  Unsure

On a scale from 1-10, 10 being the most important and 1 being the least important,

3. How important is it to you to conserve or not waste water? \_\_\_\_\_



# Water Conservation

BASELINE AUDIT, GRADES K-2



**TABLE 1. DEFINING THE STUDY SITE**

<p>1. Our school's water sources have been tested for the following contaminants.* (faucets, fountains, showers)  <a href="#">2016 WIIN Act – Provision, Sec. 2107: Lead testing in school and child care program drinking water</a></p>	<p>___ lead ___ bacteria ___ iron ___ mercury          ___ copper ___ nitrates ___ unsure</p>
<p>2. What is the source of the school's water supply?</p>	<p>___ well          ___ municipal water supply          ___ unsure</p>
<p>3. If a municipal water supply, what is its source?</p>	<p>___ lake or river ___ well (aquifer/groundwater)          ___ N/A ___ unsure</p>
<p>4. Where does water used inside the school go?          Check all that apply.</p>	<p>___ on-site septic systems          ___ drainage field          ___ municipal sewer system          ___ recycled for use as grey water</p>
<p>5. How many gallons of water does the school and district use each year?</p>	<p>_____ gallons per year at the school          _____ gallons per year at the district</p>

\*Do you have questions regarding water quality at school? The [Healthy Schools Pathway](#) can help. If the team needs a timely response, please contact us at [eco-schoolsusa@nwf.org](mailto:eco-schoolsusa@nwf.org).



# Water Conservation

BASELINE AUDIT, GRADES K-2



## IRRIGATION

### CHART 1. GENERAL IRRIGATION

<p>1. After walking the school grounds, what type of land cover was observed most?</p>	<p>____ grass and/or other natural plant cover</p> <p>____ natural rock ground covers</p> <p>____ concrete/asphalt</p> <p>____ turf or man-made ground covers</p>																				
<p>2. What is the average rainfall, in inches, for each month during the school year, August through June?  <a href="https://www.usclimatedata.com/">https://www.usclimatedata.com/</a></p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>August</td><td>____ in.</td></tr> <tr><td>September</td><td>____ in.</td></tr> <tr><td>October</td><td>____ in.</td></tr> <tr><td>November</td><td>____ in.</td></tr> <tr><td>December</td><td>____ in.</td></tr> <tr><td>January</td><td>____ in.</td></tr> <tr><td>March</td><td>____ in.</td></tr> <tr><td>April</td><td>____ in.</td></tr> <tr><td>May</td><td>____ in.</td></tr> <tr><td>June</td><td>____ in.</td></tr> </table>		August	____ in.	September	____ in.	October	____ in.	November	____ in.	December	____ in.	January	____ in.	March	____ in.	April	____ in.	May	____ in.	June	____ in.
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# Water Conservation

BASELINE AUDIT, GRADES K-2



## CHART 2. IRRIGATION SYSTEM

1. Is an irrigation system installed throughout the school grounds?	___ Yes ___ No ___ Unsure
If yes, continue to question 2. If no or unsure, go to Chart 3.	
2. Survey the heads, drips and/or bubblers in each zone/station. How many were observed to be broken, leaking or cut?	_____

## CHART 3. SPRINKLERS WITH A HOSE ATTACHMENT

1. Are sprinklers used to irrigate school green spaces?	___ Yes ___ No ___ Unsure
If yes, continue to question 2. If no or unsure, go to the summary questions at the bottom of the page.	
2. Survey the outdoor faucets, hoses and sprinklers. How many were observed to be leaking, worn out or broken?	_____

**Think about the following questions as you summarize the information in Charts 1-3.**

1. How does precipitation impact how often the school grounds are watered?
2. Explain any questions teams/classes have regarding the results of their irrigation audit? Who can they contact?
3. What actions can the team/class take to improve water conservation on the school grounds?



# Water Conservation

BASELINE AUDIT, GRADES K-2



## CHART 4. SCHOOL BATHROOM TOILETS



Using a highlighter, mark the locations on a school map where auditing will occur. Work with the team/class to complete the audit and calculations. These tables and charts will be used to draw conclusion about water use and to inform the action plan to make recommendations for better water stewardship at the school.

(A/S) Automatic/Sensor (M) Manual (flush by hand)

Bathroom Location	Toilets		Any Observed Leaks?
	A/S	M	
Example: 1 <sup>st</sup> grade hallway		6	<u>  X  </u> Yes <u>      </u> No
			<u>      </u> Yes <u>      </u> No
			<u>      </u> Yes <u>      </u> No
			<u>      </u> Yes <u>      </u> No
<b>Totals</b>			



# Water Conservation

BASELINE AUDIT, GRADES K-2



**CHART 5. SCHOOL BATHROOM URINALS**

(A/S) Automatic/Sensor (M) Manual (flush by hand)

Bathroom Location	Urinals		Any Observed Leaks?
	A/S	M	
Example: 1 <sup>st</sup> grade hallway		6	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Totals</b>			



# Water Conservation

BASELINE AUDIT, GRADES K-2



## CHART 6. SCHOOL BATHROOM FAUCETS

(A/S) Automatic/Sensor (M) Manual (turn on/off by hand)

Bathroom Location	Faucets		Any Observed Leaks?
	A/S	M	
Example: Oriole Hallway	8		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Totals</b>			



# Water Conservation

BASELINE AUDIT, GRADES K-2



## CHART 7. OTHER WATER USING APPLIANCES

Collect data at up to five areas locations around the school.

(A/S) Automatic/Sensor (M) Manual (by hand)

Location	Water Fountains		Other		Any Observed Leaks?
	A/S	M	A/S	M	
Front hallway by the office		2			_____ Yes <input checked="" type="checkbox"/> No
					_____ Yes _____ No
					_____ Yes _____ No
					_____ Yes _____ No
					_____ Yes _____ No
					_____ Yes _____ No





# Water Conservation

BASELINE AUDIT, GRADES K-2

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**Think about the following questions as you summarize the information in Charts 4-6.**

1. Provide a summary of water use at your school using Charts 4-6.
2. Explain any questions or concerns teams/classes have regarding the results of their in-building audit?  
Who can be contacted to help answer questions or fix problems?
3. What actions can the team/class take to improve water conservation inside the building?

**TABLE 2. WATER CONSERVING APPLIANCES, DEVICES AND PRACTICES**



# Water Conservation

BASELINE AUDIT, GRADES K-2



1. Do all indoor faucets have aerators?	___ Yes ___ No ___ Unsure
2. How many of the school's toilets and urinals are considered low-flow/high-efficiency?	_____
3. Does the school have water bottle filling stations (not water fountains)?	___ Yes ___ No ___ Unsure How many? _____
4. Does the school encourage students to bring and use reusable water bottles?	___ Yes ___ No ___ Unsure
5. Does the school have functioning rain barrels and/or cisterns?	___ Yes ___ No ___ Unsure How many? _____
6. Does the school use native grasses, trees, shrubs and flowers in its landscape design?	___ Yes ___ No ___ Unsure
7. Do any part of the school grounds use xeriscaping, have installed rain gardens and/or bioretention ponds?	___ Yes ___ No ___ Unsure
8. List any other water conserving practices used at the school.	

**Think about the following question as you summarize the data in Table 2.**

- Based on the responses in Table 2, how would the team/class rate their water conservation practices currently in use?

\_\_\_ Very Good \_\_\_ Good \_\_\_ Needs Improvement \_\_\_ Needs A Lot of Improvement

Why?

- What actions can teams/students take to improve water stewardship?



# Water Conservation

BASELINE AUDIT, GRADES K-2

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## Review of All Data

1. Based on what is known and has been learned, what claims can be made based on the data and other evidence collected?
2. Be prepared in the post-audit to define how **systems** look in understanding water conservation at school.
3. Be prepared in the post-audit to explain **cause and effect** relationships related to water conservation.
4. Be prepared in the post-audit to identify **patterns** students have observed through their investigations.