

DO IT YOURSELF: SCHOOL WATER AUDIT

Directions

As a class, please complete the school water audit below. Uncover the answers to these questions by asking school faculty. What do the answers tell you about how your school uses or wastes water?

GENERAL

What is the name of your school? _____

Number of total students _____

- Using information from water bills or in-school water meters, how much water did your school use last year?
_____ gallons
- Where does water used in your school go?
____ Municipal sewer system _____ (name)
____ On-site septic system and drainage field
- What activity is the biggest use of water in your school inside? _____ outside? _____



BATHROOM

- How many bathrooms does your school have? ____ toilets? ____ sinks? ____
- On average, how much water do the school's toilets use per flush? ____ gallons
- Do the urinals in the boys' bathrooms flush all the time, even when the school is closed? ____
- Are any of the taps in the bathrooms dripping? ____

KITCHEN

- Does the cafeteria kitchen always fully load the dishwasher? _____

OUTSIDE

- How many water faucets are located outside of the school building? _____
- Are any of the outdoor water faucets leaking? _____
- If your school has athletic fields, how often are they watered? _____
- How often does your school water the rest of its grounds? _____

FLUSHING IT AWAY

How many students/staff are in your school? _____	X	A typical individual flushes four times per school day.	=	Total flushes per day _____
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Approximately how many gallons do your school's toilets use per flush (see above)? _____	X	Total flushes per day _____	=	Total gallons of water used in flushing per day _____
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Total gallons used in flushing per day at your school _____	X	365 days per year	=	Total gallons of water flushed per year _____
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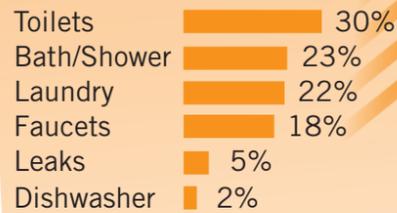
Total gallons of water flushed per year _____	÷	The average swimming pool holds 25,000 gallons.	=	Pools of water flushed by your school per year _____
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WATER USE ALLOCATION

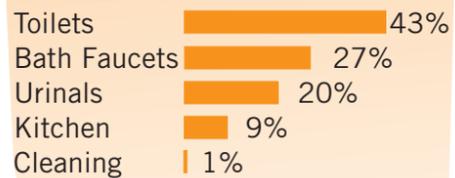
Home vs. School

How do we use water at home differently than at school? What is the biggest difference?

At Home



At School



You be the Consultant!

You are a consultant hired to analyze and advise the school and students how to conserve water. Given the audit results, what would you say?

Adapted from H2O Go!
Materials developed by the City of Boulder.

Unit 2: CONSERVATION - SLOW THE FLOW



BACKGROUND INFORMATION

WHY ALL THE FUSS ABOUT CONSERVING WATER?

BOTTOM LINE: Less than one percent of the Earth's water is fresh, useable water.

Population growth puts an increased demand on our water resources. Aurora Water currently provides water to more than 325,000 people. Aurora's population is expected to increase by 1.5% or about 7,000 people per year. The more people that live here, the more important conservation becomes because we all depend on water. Conserving water helps preserve the environment by protecting habitat, such as wetlands, lakes and streams. Conserving water also helps save money by reducing water bills, energy bills and water treatment costs. It is important to ensure sufficient water is available to satisfy basic needs for everyone, especially in drought conditions when rainfall and snowpack is limited.



Water availability will be one of the most important issues in your lifetime.

It is vital to understand how we can all work together, at home and at school, to reduce our water consumption and help reduce our demands on our local water sources.



WHAT IS SEMI-ARID?

Aurora and the surrounding areas receive only 15 to 20 inches of precipitation a year. This means we live in a semi-arid environment. Though the mountains provide us with water from snow melt, our immediate surroundings are incredibly dry. Grasses, scrubby vegetation and some cacti make up our natural landscape. The precipitation we receive varies greatly throughout the year. Aurora receives, on average, around 15 inches of precipitation per year. Compare that to New York City which receives 45 inches of rain per year.

HOW MUCH WATER DO WE USE?

It is surprising how much water we use every day by simply brushing teeth, washing hands, doing dishes, flushing toilets, showering, etc. Add outdoor water use to that, and a typical Aurora family of four uses *approximately* 141,000 gallons of water per year – that equates to almost five swimming pools. While major outdoor water use occurs mostly during summer months, indoor water use is consistent over the year. Conserving is easy. Check it out...

Unit 2: CONSERVATION - SLOW THE FLOW

ACTIVITY 1



MIZU FAMILY: REDUCE YOUR USE!

Many years ago, we hardly gave water a second thought. We now pay monthly water bills based on how much water we use in our homes, schools and businesses. Conserving water creates a valuable opportunity for your family to save money while protecting the environment at the same time.



WHO ARE THE MIZUS?

The Mizus are a family of four living in Aurora. The Mizu kids, Mike and Molly, have been trying to convince their parents to get them cell phones. Their parents have given them a challenge: if Mike and Molly can figure out a way to reduce the family's monthly expenses — it's a go.

At school, Mike and Molly discovered ways to conserve and reduce their water use. They think significant dollar savings are available to their family by simply conserving and reducing their water use. Help calculate how much water they will save and help them get closer to their cell phone dreams. (For great water saving ideas, visit www.aurorawater.org)

HELP THE
MIZU FAMILY
REDUCE THEIR
WATER USE.

UNIT 2: CONSERVATION - SLOW THE FLOW

ACTIVITY 1 (CONTINUED)

MIZU FAMILY: WATER REDUCTION PLAN

Directions:

Molly and Mike need some serious help from you to convince their parents to get them cell phones. Help calculate how many gallons of water the Mizus reduce by making some simple changes and how much water they will save with their new water reduction plan. With these calculations on their side, they are sure to convince their parents.

AREA	ACTION	REDUCTION	SAVINGS
Shower/ Baths	Molly Mizu takes a 10 minute shower each morning. Her shower uses 2.5 gallons/minute. Water use: ____ gallons/day	Molly reduces her shower to 6 minutes a day. Water use: ____ gallons/day	____ gallons/day
Toilet	The Mizu family flushes the toilet 16 times a day. The Mizus' toilet uses 3.5 gallons a flush. Water Use: ____ gallons/day	If the Mizus installed a low-flow toilet, it would use only 1 gallon per flush. Water Use: ____ gallons/day	____ gallons/day
Laundry	Mama Mizu does a 1/2 load of laundry every morning. She leaves the dial on "large load" and runs a full cycle every time. The Mizus' "large load" setting uses 50 gallons/load. Water Use: ____ gallons/day	If Mama Mizu turned down the dial to "small load" and ran a short cycle, her washing machine would use 27 gallons. Water Use: ____ gallons/day	____ gallons/day
Dishwasher	Mike Mizu loads the dishwasher after breakfast and runs it half full. He then loads it after dinner and runs it half full. Their dishwasher uses 15 gallons for each load. Water Use: ____ gallons/day	Mike Mizu could run the dishwasher once a day, every evening. Water Use: ____ gallons/day	____ gallons/day
Faucet	Papa Mizu usually cleans the pots and pans after dinner. While he does them, he usually lets the water run. It takes him 10 minutes. The Mizus' faucet runs at two gallons per minute. Water Use: ____ gallons/day	Papa Mizu could fill the sink with one gallon of water to clean the pots and pans, and run the tap only to rinse them, running the water for only two minutes. Water Use: ____ gallons/day	____ gallons/day
Leaks	Mama Mizu has been meaning to fix the leaky faucet in the upstairs bathroom that is leaking 10 gallons/day, but she just hasn't gotten around to it. Water Use: ____ gallons/day	FIX IT! Water Use: ____ gallons/day	____ gallons/day
TOTALS	____ gallons/day used (This doesn't represent all of the Mizus' water use.)	____ gallons/day reduced	THE MIZUS SAVED: ____ gallons/day.

