



Be a Superhero: Save Water with Water Woman

Day 1 : [Water Woman Episode 1: Nine Litres Not Well Spent](#)

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Cowichan Watershed Board

Suggested Date: BC Drinking Water Week (May 1-7, 2016)

Overview & Purpose

Increases in our population, the growth of industry and agriculture, and the effects of climate change all put pressure on our water supply. Learning to conserve water is essential to the health of our local ecosystems.

In this lesson, students will become conscious of how they can save water at the tap, every day when brushing their teeth and washing their hands. In this first episode, Water Woman catches Leak E. Hoser in the act: wasting water while brushing his teeth!

A simple way to use this video is to watch the video with your students and have them **think, pair and share** ways to save water at the tap, at school and at home (washing their hands, brushing teeth, etc). Then, have each student make a personal pledge and paste it to your classroom pledge to save water.

Depending on your grade level and learning objectives, you can also pick one or more of our other suggested activities. These activities are relevant to students' daily life. There is an art activity and a choice of two activities that integrate many mathematical and science curricular competencies across the elementary grades. They also foster the development of cross-curricular competencies such as critical thinking and social responsibility.

The activities can be adapted to many grade levels by varying the degree of complexity of the tasks. Teachers are invited to modify the suggested activities to connect with grade specific curricular content and students' prior knowledge (ex: addition/subtraction vs multiplication).

Objectives

1. Students will learn about water conservation at the tap (brushing teeth, washing hands, etc.)
2. Students will take action to reduce the amount of water they use at the tap at home and/or at school.

Suggested Activities

Hook: Watch [Water Woman Episode 1: Nine Litres Not Well Spent](#)

1. Make a personal pledge to save water at the tap

If you have chosen to create a visual banner to show your classroom's commitment to water conservation (see Unit Overview for details), follow the first episode of Water Woman with a classroom discussion on how we can save water at the tap (while brushing teeth, washing hands, etc.). Have each student think of one commitment they want to make and write it down, perhaps on a paper cut to the shape of a drop of water or their hand. Ask each student to glue their pledge on the banner to inspire other students to do the same.

2. Art activity: Creating a Personal Reminder

Source: [Ashley Schopieray, Conserving Water Through Art K-4 lesson](#)

- a. Pass out a jar to each student and place craft materials (preferably recycled!) out for them to use.
- b. Explain that the jar will be used as a toothbrush holder to be placed next to the sink as an everyday reminder to turn off the water when not in use. Have them decorate the jar with the craft materials, focusing on water as their inspiration. They should create something that will remind them to turn off the faucet when not in use.

3. Classroom Water Audit

Source: [Leslie Comnes, M.A., Elementary Classroom Lesson Plan](#)

This is a week-long activity where students collect and measure water in the classroom sink that would normally go down the drain. By doing so, students will learn about ways they could reduce the amount of water they use while still meeting their needs. The activity involves graphing that can be simply applied for early primary grades using graphic images, or adapted for older grades using detailed measurements. For full background information and a detailed procedure for carrying out this lesson, please see the [original lesson plan](#). For convenience, we have included the materials needed for this classroom water audit activity.

Curricular Competencies/Content:

- Math
- Science
- Social Science

Materials Needed: Large bucket or dishpan

- 75 plastic party cups, 8 ounces or larger
- several pairs of rubber gloves
- large piece of butcher paper
- blue construction paper
- glue sticks

4. An Inquiry into improving water conservation in the classroom

Source: Nathalie Boulanger & Amanda Reimer

Objectives

1. As a class, or in small groups, inquire into the amount of water that is used everyday at school for washing hands (individually or collectively).
2. As a class, brainstorm ways to reduce the amount of water used at school and set goals (critical thinking, problem-solving) for the class as a whole.
3. Go-further: Develop a school-level campaign to raise awareness on water conservation when hand washing.

Curricular and Cross-Curricular Competencies/Content:

- Math
- Science
- Critical Thinking
- Communication
- Social Responsibility

Materials Suggested

- Computer and projector: [Water Woman Episode 1: Nine Litres Not Well Spent](#)
- Big kitchen pot or plastic bin that fits in the classroom sink to collect water
- Big measuring cup (minimum 1 litre capacity)
- Smaller cup to transfer water from big container to measuring cup.
- Calculators
- Sign-making material (markers, poster board)

Procedure...

Make connections to the classroom: After watching the video, brainstorm the various uses of tap water in the classroom (ex: handwashing, clean-up of art material, filling up water bottles, etc).

Share this information with your students: To effectively clean your hands, it is recommended that you lather the soap long enough to sing twice the “Happy Birthday to You” song.

Questioning and predicting

Pick a reasonable inquiry question for the grade level:

Examples of questions

- How much water does one student use when washing their hands if he leaves the tap running while lathering the soap? How much water does a student use if she turns the tap off while lathering the soap? How much water can a student save each time he/she washes his/her hands?
- Approximately how much water do we use collectively, as a class, to wash our hands every day at school (a) if we let the tap run (b) if we turn the tap off?
- If we all make the commitment to turn the tap off every time we lather the soap, how much water can we save collectively every day?
- Approximately how much water can we save until the end of the school year if every student in the school makes the commitment to turn the tap off while lathering the soap?

Hypothesis: Have students estimate an answer to the inquiry question.

Planning and conducting

Plan the steps necessary to answer the inquiry question

Depending on the grade level and the group dynamic, this could be done in many ways: Steps could be pre-established by the teacher, emerge from a teacher-led whole-group discussion, or students could work in small groups to devise a strategy to answer the question. We suggest that the teacher provides guidance by asking the following questions:

“What information/data do we need to be able to answer our question?”. Depending on the question, they will need to:

- Measure the amount of water used for washing hands effectively (singing Happy Birthday twice) a) while leaving the tap running b) turning tap off while lathering soap.

- How many students in the class/school?
- Approximately how many times does a student wash his/her hands everyday?
- How many days are left before the end of the school year?

“How are we going to collect this information?”

- For measuring the amount of water used while washing hands, we suggest that you place a large container at the bottom of the sink to collect water. A volunteer student washes hands with the tap running while the others sing “Happy Birthday” twice. Ensure that all students have a chance to look at the amount of water collected in the container. Use a measuring cup to measure the amount of water used and note the result.
- With another volunteer student, repeat the process, this time turning the tap off while lathering the soap. (Model good water stewardship by taking the container outside to water plants when finished!)
- For estimating how many times a student washes his hands everyday, students could tally how many times they wash their hands in a day and the class could compile results on the board in the form of a pictograph, bar graph, etc.
Going further: Depending on the grade level, it would be a great teaching opportunity to find the average (mean) number, median (middle number) and mode (most frequently occurring number) and discuss which one would be the most accurate number for this experiment.

Carry-out the experiments and collect data

This could be done as a whole group or you could have small groups carrying out the experiments using their self-devised plans. You could then see how various methods might have given similar/different results and discuss the advantages and disadvantages of each method (critical thinking).

Processing and Analyzing Data

Make charts, pictographs, bar graphs, calculations, etc.

Depending on the grade level and how it ties up to the math curriculum you are covering, you can use this experiment to practice putting data into a chart, create pictographs or bar graphs to illustrate the difference in quantity of water used, etc.

Depending on the inquiry question, students will perform various calculations to answer their inquiry question:

- Find the difference (subtraction),
- Find the average, mode, median
- Multiply (by the amount of students, by the amount of times students wash their hands, by the amount of school days left, etc)

An interesting analysis of this data would be to try to visualize the amount of water that could be saved in terms of a container that has a similar capacity (How many bathtubs does this make? Could we fill a swimming pool with the amount of water saved by the end of the school year?).

You can use the following numbers as a reference: bathtub (150 litres), average backyard swimming pool (50 000 litres), Olympic swimming pool (2,500,000 litres).

Applying, Innovating and Communicating

As a group, discuss the implications of your discoveries and talk about the many ways to save water at home and at school. Think of ways to raise awareness within the school community.

We suggest:

- Invite students to make personal/group commitment regarding hand washing (at school and at home), tooth brushing (at home), etc.
- Communicate your results to the school during an assembly and invite the whole school to save water at the taps.
- Make posters to inform other students and place them in the bathrooms. Use visuals and the data gathered to convince students that they **can** make a significant difference to conserve water when they are simply washing their hands.

