

THE MISSION OF SAFE DRINKING WATER FOUNDATION (SDWF)

We will educate the leaders of today and tomorrow about drinking water quality issues to realize our goal of safe drinking water being available to every Canadian.

SCHOOL PROGRAMS

- Available to all schools anywhere in North America (and internationally, if additional postage is paid)!
- All lessons are available on our website.
- Curriculum connections for all provinces and applicable subjects are listed online, for both the English programs and the French programs.

All of these programs and more information about water quality issues (fact sheets, webinar videos, and much more) can be found at www.safewater.org
If you have any questions please contact us at info@safewater.org or
1.306.934.0389.

SDWF EDUCATION PROGRAMS

- Have been sent to schools since 2001.
- Our goal for the 2023-2024 school year is to send 700 kits to schools to be used by over 30 000 students in a hands-on manner to learn about drinking water quality issues and solutions.
- Over 3100 schools and other educational institutions have used SDWF kits with their students.

SDWF SCHOOL PROGRAMS

Operation Water Drop | Operation Water Pollution | Operation Water Biology | Operation Community Water Footprint | Operation Water Health | Operation Water Flow | Operation Water Spirit
A water testing kit accompanies this educational program.

OPERATION WATER DROP (OWD)

- Elementary teachers** can demonstrate eight scientific tests on their own community drinking water: Alkalinity | Colour | Total Hardness | Total Chlorine | Copper | Ammonium | pH | Sulphate
- High School teachers** can guide their students to work in groups and test for the above eight components as well as an additional four analytical tests: Arsenic | Manganese | Iron | Nitrate
- Using the High School kits, students can compare their local water to three other water samples (it is suggested that urban treated drinking water, a rural treated drinking water, and a raw untreated source water be tested), as well as to a control medium.
- Available in French and English.

How it works

- Lesson plans, PowerPoint presentations, and all other resources are available online. Teachers can access all of these materials prior to receiving the OWD kits. OWD kits are sent to schools every two weeks from mid-September until mid-November and from the beginning of March until the end of May. We do our best to accommodate teachers who purchase kits and want them as soon as possible.
- Teachers can enter their students' test results into the online results entry system by using the code that is included in the OWD kit. This involves students in citizen science! Everyone can view the results on a map!

Cost

- ▲ The cost of an Elementary OWD kit (for grades 4-8) is \$85 and the cost of a High School OWD kit (for grades 9-12) is \$170. Many school kits are available free of charge thanks to the generosity of sponsors such as Mosaic and Cargill. Contact info@safewater.org for more information and to find out if there is a sponsored kit available for your school!



End Goals

- ▲ To encourage students to develop “critical thinking skills” that will empower them to become actively involved in issues such as ensuring safe drinking water within their community and on a global scale.

OPERATION WATER POLLUTION (OWP)



- ▲ Designed for use in both elementary and high school classrooms. Available in French and English.
- ▲ Directly connects with science and social studies curricula and is set up as content-integrated lessons. The series of eleven lessons guides students through an examination of water pollution issues.
- ▲ The students discover how water pollution is reversed and what they can do to affect change in their community to clean up and prevent water pollution.
- ▲ Every lesson includes additional suggested activities and resources, along with references to other sources of information.

How it works

- ▲ Lesson plans, PowerPoint presentations and all other resources are available online. Teachers can access these materials prior to receiving the TDS and pH meters. OWP kits are sent to schools every week during the school year.

- ▲ Teachers can enter their students’ test results into the online results entry system by using the code that is included in the OWP kit. This involves students in citizen science! Everyone can view the results on a map!

Cost

- ▲ The cost of an OWP kit is \$170 and includes both a TDS meter and a pH meter. It should be noted that every meter is guaranteed to be reusable for at least two years. The meters also measure the water’s temperature. Many school kits are available free of charge thanks to the generosity of sponsors such as Chamandy Foundation and SaskTel.

End Goals

- ▲ Students develop definitions of polluted drinking water that serve as the backbone for the other lessons in this program.

OPERATION WATER BIOLOGY (OWB)



- 💧 A series of eight lesson plans designed for use with students in grades nine to 12. Available in English and French.
- 💧 Directly connects with science, chemistry and biology curricula.
- 💧 Covers a few different aspects of drinking water treatment; the major topics are chlorine, chloramine, ammonia and iron. For each of these there is a discussion explaining what it is and its importance to drinking water treatment. There are also lab activities for each that allow students to work with small amounts of these substances and see them in action.

- 💧 Students will demonstrate the idea of chlorine demand; create chloramine through a simple chemical reaction, test local samples of drinking water for chlorine and ammonia, and filter water samples with iron oxidized by different processes to determine whether one is superior.
- 💧 Every lesson includes additional suggested activities and resources, along with references to other sources of information.

How it works

- 💧 Lesson plans and resources are available online. Teachers can access these materials prior to receiving OWB kits. OWB kits are sent on the same distribution dates as OWD kits.

Cost

- 💧 The cost of an OWB kit is \$170. Many school kits are available free of charge thanks to various sponsors. Our sponsors include Honda Canada Foundation and The Thomas Sill Foundation Inc.

End Goals

- 💧 Students will learn about the chemical reactions and biological interactions involved in drinking water treatment processes and understand how useful and important applied science can be. Students will have interesting, meaningful, and educational laboratory experiences. Students will develop an appreciation for environmentally friendly engineering solutions and an interest in pursuing scientific endeavours.

OPERATION COMMUNITY WATER FOOTPRINT (OCWF)



- 💧 Designed for use with students in grades six to 12.
- 💧 Directly connects with science, social studies, and math curricula, and is set up as content-integrated lessons.
- 💧 Students learn about their local drinking water treatment facility and distribution system by undertaking a research project as a class.
- 💧 Students will calculate how much source water is required to produce one litre of treated drinking water in their community (including water used in the treatment process, water lost in distribution, etc.).

How it works

- 💧 Lesson plans and all resources are available online free of charge.

Cost

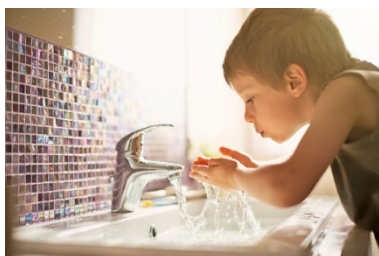
- There is no cost for the program; lessons may be accessed at any time from the Safe Drinking Water Foundation website free of charge.

End Goals

- Students will learn how much source water is needed to produce one litre of drinking water in their community, and they will take action to make a difference regarding drinking water related issues in their community.

OPERATION WATER HEALTH (OWH)

- Designed for use in both elementary and high school classrooms. Available in English, French, and Cree!
- Directly connects with health, science, and social studies curricula and is set up as content-integrated lessons.
- Teachers may choose to present one of the lessons or all of the lessons.
- Through a variety of activities and cooperative learning strategies, the students explore common disease-causing microbes found in water, how these microbes are removed or inactivated in water with water treatment, and the diseases these microbes cause when they are not identified and treated in drinking water systems.



How it works

- Lesson plans, PowerPoint presentations, and all resources are available online, for review and for teachers to print.

Cost

- There is no cost for the program; lessons may be accessed at any time from the Safe Drinking Water Foundation’s website free of charge.

End Goals

- Students develop definitions for both healthy and unhealthy drinking water and these definitions serve as the backbone for the other lessons in this program.

OPERATION WATER FLOW (OWF)



- OWF is for students in grades 6 to 12 and encourages teachers of math, chemistry, biology, and social studies to support the science teacher by providing students with information about drinking water quality from several different subject areas.
- OWF is available in both English and French.
- OWF encourages students to establish the true cost of water (economic and environmental); the social responsibilities of providing safe drinking water; the need for national regulations; and the need for water conservation and source water protection, etc.

How it works

- Lesson plans and all resources are available online, for review and for teachers to print.

Cost

- There is no cost for the program; lessons may be accessed at any time from the Safe Drinking Water Foundation’s website free of charge.

End Goals

- Students develop a thorough understanding of issues surrounding drinking water.

OPERATION WATER SPIRIT (OWS)



- 💧 OWS is a collection of thematic units and lesson plans that will reinforce Aboriginal culture and perspectives for Aboriginal students – while at the same time provide an Aboriginal perspective to non-Aboriginal students.
- 💧 OWS invites teachers to engage their students in classroom discussions to help them gain a closer understanding of Aboriginal issues and perspectives surrounding drinking water.
- 💧 OWS is available for students in kindergarten to grade 12.
- 💧 Students will learn that not everyone has safe drinking water.
- 💧 This program was recently redeveloped.

How it works

- 💧 Lesson plans and all resources are available online, for review and for teachers to print.

Cost

- 💧 There is no cost for the program; lessons may be accessed at any time from the Safe Drinking Water Foundation's website free of charge.

End Goals

- 💧 A closer relationship and understanding of water issues between Aboriginal and non-Aboriginal students.

Student Action on Water Attitudes Competitions



- 💧 Student Action on Canadian Water Attitudes Competitions were held during the during the 2022-2023 school year, in fall 2019, during the 2018-2019 school year, and during the 2015-2016 school year.
- 💧 A Student Action on Saskatchewan Water Attitudes Competition was held during the 2018-2019 school year.
- 💧 A Student Action on Saskatoon Water Attitudes Competition was held during the 2017-2018 school year.
- 💧 The winning schools received various prizes, including water bottle filling stations, water testing kits, commemorative plaques, and reusable water bottles.
- 💧 We plan to launch a Student Action on Canadian Water Attitudes Competition in fall 2023, with one national grand prize valued at \$3,000 for the top school in Canada. The national grand prize will include a water bottle filling station, a commemorative plaque, and possibly some reusable

Water bottles and water testing kits! There will also be a prize package for the top school in Saskatchewan. It is valued at \$2,200 and includes a water bottle filling station and a commemorative plaque.