

Students Taking Action

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Safe Drinking Water Foundation has sent educational kits to over 2,400 different schools and other educational institutions since 2001. Students use the hands-on educational kits in order to analyze their own, local drinking water. Students are then encouraged and supported in sharing what they learned with others and in alleviating drinking water quality issues. The following are some stories of students taking action in their local communities to share what they learned about drinking water quality issues and solutions and to alleviate drinking water quality issues.

Shannon Smith and Her Students at St. Catharines Collegiate in St. Catharines, Ontario

Last year, Shannon Smith was teaching at St. Catharines Collegiate in St. Catharines, Ontario when she used a High School Operation Water Drop kit with her grade 11 students. Her students were excited about the Operation Water Drop kit because it gave them an opportunity to do more hands-on learning and experimentation while learning about an issue that was important to their everyday lives. After using the Operation Water Drop kit in their classroom her students wrote a letter to the regional council and had a class debate.

The students wanted to inform their regional council about their findings. There were no alarming discoveries, but students wanted to demonstrate that they cared about the quality of their drinking water. They used the water drop kit as a launching point from which to start researching water treatment. They tested samples from a number of different areas of the city, and also some samples from other municipalities in the region. They also looked at bottled and filtered water. There was a great deal of concern among her students who live in rental housing about their potential exposure to lead. Students sent a message that they felt that it was important to ensure the safety of drinking water for all Niagara residents. Ultimately, the class decided that they felt that the topic of fluoridation (which is not part of their municipal water treatment) is a topic that should be revisited and researched further. Unfortunately, they did not receive a response from their regional council.

Shannon's students also had a classroom debate and looked at whether fluoridation of drinking water is beneficial to citizens. Students researched the benefits/risks associated with fluoridation of drinking water, and also socioeconomics, access to dental care, as well as access to filtration systems/alternative sources of drinking water. Another group of students looked into whether bottled water was lead free, how reverse osmosis works, as well as how charcoal filters work. There was a topic that interested everyone, and they all participated in every step of the project.

Reflecting on the Operation Water Drop program Shannon said that the topic of drinking water works well with her curriculum, and it is sometimes difficult to make connections between the curriculum and the students' everyday lives. This is a topic that students care about, and they are interested in knowing what is in their drinking water, so it is definitely a topic that she will cover with students again. Shannon is hoping to receive sponsored kits for the students she now teaches at South Lincoln High School in Smithville, Ontario.

Chrissy McComb and her students at Waterdown District High School in Waterdown, Ontario

Chrissy McComb, a teacher at Waterdown District High School in Waterdown, Ontario used a High School Operation Water Drop kit with her grade nine students last school year. Previously, while teaching at Barton Secondary School in Hamilton, Ontario Chrissy worked with an amazing group of committed staff and students (Barton's EcoTeam) that created awareness campaigns supporting drinking tap water over bottled water and fundraised to install water filtering/cooling systems to discourage use of bottled water. In order to be able to install the water filtering/cooling systems, the EcoTeam applied for grant money and received grants from TD Friends of the Environment Foundation and Metro Green Apple. With the funds they were able to have two water filtration systems installed and purchase metal water bottles for the school population. They also held an awareness/fundraising "buyout" event where they talked about their project – Project DEW (Drink Eco-Friendly Water) and viewed the documentary "Tapped". At the viewing of the film they also sold local "From Farm to Table" nutrition policy-friendly popcorn. The response of the other students and staff to the initiative was extremely positive. The students and staff at Barton loved using the filtration fountains.

Chrissy has used our kits in her classrooms at both Barton Secondary and Waterdown District High. In her environmental science classroom she and her students have learned a lot about water through the lessons, DVDs and materials provided on the Safe Drinking Water Foundation (SDWF) website. She said that she has used Operation Water Drop kits with students about four times, and every time she did her students were engaged and enjoyed the experience. Chrissy recommends that other teachers check out the information about the Operation Water Drop and Operation Water Biology programs on the SDWF website as she has found these teaching materials to be the most helpful. She thinks that teaching students about drinking water quality issues and solutions is important because water is vital to life; students need to be informed of water issues. Water issues are only going to increase in the future, with climate change and growing populations. When teaching students about drinking water, Chrissy focuses on issues surrounding access, pollutants, and privatization/marketization of water, among others.

Brad Robert and his students at Community Outreach School in Lethbridge, Alberta

Brad Robert, a teacher at Community Outreach School in Lethbridge, Alberta, used an Elementary Operation Water Drop kit with his grade eight students. After using the kit in their classroom some of his students contacted government representatives as they felt they needed to take some action regarding decisions being made. They wanted to take community action to help others.

Some students decided to contact their Member of Legislative Assembly (MLA) as their MLA is someone who works for them; their MLA is their most direct contact. There was also one student who wrote a letter to the mayor of Lethbridge. They put their home addresses as the return addresses as they wrote the letters as part of a multi-disciplinary final project at the end of the school year and Brad hoped that they would receive responses during the summer. Brad has since started teaching at a different school, so he has not heard whether the MLA or mayor responded.

The students wrote about multiple concerns. The criterion for the project was that they had to think about others and the community at large. They wrote about how the budget was spent and whether the government had the correct priorities. They also wrote about other issues like the age and condition of

their school along with funding for education (Brad points out that he was not giving them anything to write about in particular, he was not coaching them!). Furthermore, they wrote about their local water treatment plant and the problems they have been experiencing due to runoff.

While the students were learning about drinking water quality issues and solutions and using the Elementary Operation Water Drop kit in their classroom, a Boil Water Advisory was issued in their community. Brad brought in his supplies from home that he uses when he is backpacking to show them three different methods of water treatment. They used treatment tablets, a carbon water filter, and a backpacker stove to boil the water. Brad taught them that purification can happen in many different ways and that different treatment methods have different advantages and disadvantages. They also learned how much bacteria is removed through the use of different treatment methods.

Brad brought in water from near a mine in British Columbia and the students were surprised to discover, while doing the colour test contained in the Elementary Operation Water Drop kit, that their own local drinking water was less clear than the water from near a mine! In fact, the colour test results of their own local drinking water were horrible! However, Brad did inform them that sometimes water that looks clear has problems which makes it undrinkable, whereas there can be water that does not look clear but is safe to drink.

Brad was very delighted to receive this kit sponsored by TD Bank Group as there is a grade eight science unit in Alberta that deals with freshwater and saltwater. His class spent weeks on this unit - they spent weeks talking about water and how vital it is to our lives. They discussed First Nation water quality issues, fracking, and other water issues.

Tracy Webb and her students at Horton High School in Wolfville, Nova Scotia

Tracy Webb, a teacher at Horton High School in Wolfville, Nova Scotia has used Operation Water Drop, Operation Water Biology and Operation Water Pollution kits in her classroom with her students for many years. In fact, she is such a fan of our educational programs that she joined our Board of Directors in 2004! Tracy loves to use SDWF educational kits in her classroom because the kits are a perfect science lab in a box! Everything that you need is included to work through an engaging collection of water quality tests. The tests are great experiential supports to many of the outcomes in science classes, particularly what is covered in both the Ecosystem/Sustainability Unit and the Chemistry Unit in Science 10; she also loves to use these kits in her Oceans 11 course. Tracy finds that the educational kits engage the students in hands-on learning, they are very relevant, they make the students realize the many different ways that water quality can be compromised, the various impacts on health, and how water can become polluted. The educational programs promote a keen dialogue about water and how we use and misuse it. Tracy and her students have taken action in several ways over the years including community awareness posters and handouts, having their school become bottled water free, posting a video on YouTube about protecting water, and individual student projects.

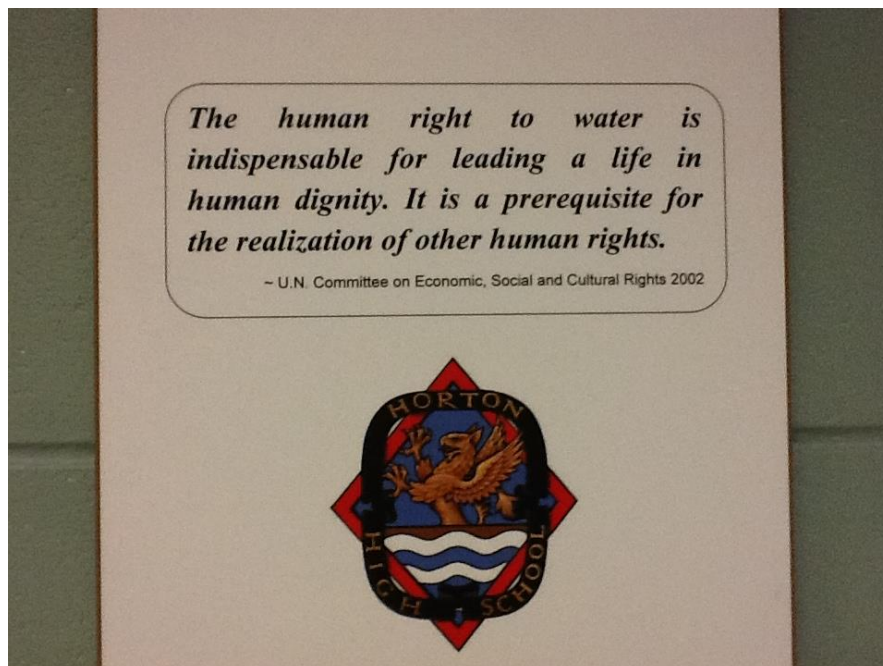
After classes explored their own water samples with the High School Operation Water Drop kits, they developed community awareness posters and handouts to illustrate the ways that water is wasted, and to suggest different things people can do to conserve and protect water resources. This also included being more aware of what can affect their water quality and the role chemistry plays in water quality.

They placed some brochures in their school, in several grocery stores in New Minas and Wolfville, and in the emergency room at their local hospital. One nurse at the hospital told Tracy that people seemed to enjoy reading the suggestions for proper water use, and that the brochures went quickly! One year, for World Water Day, they had a local DJ read quite a few facts and suggestions for water conservation on the air.

Their school became bottled water free. They removed the machine dispenser and no longer sell bottled water in the school. The Environment Club sponsored beautiful metal water bottles with their logo and slogan "I make a Difference". The water bottles come in four colours and have the community sponsors listed as well. The reusable bottles sell for \$3 and the profit was used to buy a water dispenser for the school designed to fill water bottles.



Water bottle filling station at Horton High School



Plaque above water bottle filling station at Horton High School

They have already saved well over 20,000 bottles since the installation last year.



Counters which display the number of disposable plastic bottles which the water bottle filling stations helped eliminate

As part of their campaign about water awareness and to encourage people to stop buying bottled water they collected plastic water bottles for three weeks and strung them all up across their cafeteria. It made quite an impact visually, to see how much waste was generated just by water bottles in a short period of time!



Plastic water bottles strung across cafeteria at Horton High School

They made a video and posted it on YouTube. The video covers the reasons we need to protect our water and use it wisely. Also, one of her students used a High School Operation Water Drop kit as the basis for a science fair project. This student used the tests to assess the water of several important

artesian wells and rivers in their area. This helped to identify the point source area of pollutants in the Cornwallis River, downstream from Kentville.

You can sponsor an educational kit for a classroom of students to use as a hands-on learning activity that will lead to so much more learning and action! Visit www.safewater.org to find out more or contact the Safe Drinking Water Foundation at info@safewater.org or 1-306-934-0389. Together we can teach future leaders about drinking water quality issues and solutions while giving them tools to teach others and alleviate issues today!