

Groundwater Presentation – Abbotsford Middle School

On June 5th, 2008 Abbotsford Middle School held it's first ever Environmental Day. BC Water & Waste Association was requested to provide a presenter to speak on the journey of water to our homes; the various processes it goes through, the quality of the water, and its many uses.

Doug Gosling, long time member of BC Water & Waste Association and who lives in the Abbotsford area, volunteered to make the presentation.

Doug borrowed a groundwater model from Mr. Marc Zobel, Manager, Drinking Water Program, Fraser Health Authority and another 'Using Water Wisely' model from Mr, Bruce Ford, Education Coordinator, Metro Vancouver, showing how much water is consumed in various household activities. A third Aquascope model that was used to demonstrate how mankind can easily contaminate our surface water and groundwater sources was on loan from Mr. Ross Davies, Kanaka Hatchery in the Haney area.

The presentations were conveniently held in a small theatre at the Abbotsford Middle School where 3 different groups of 50-60 students, ages 12 to 14, gathered to participate in the interactive presentations.

Doug opened each presentation with a brief description what groundwater is and how it fits into the Hydrologic Cycle; where it all starts with precipitation infiltrating the ground, recharging the groundwater supplies, and then through evaporation or transpiration from plant-life back to the atmosphere and eventually condensing back to precipitation to complete the cycle.

Following the 'talk' Doug was able to show the students via the models how the groundwater travels through the soil to replenish lakes, rivers and streams as well as the water table underground. The Aquascope model was set up to simulate a typical B.C. community with farming activities, a construction site, a railway, city streets and homes. Common hazards were included in the model, such as; a rail car filled with hazardous materials, a tanker truck with hazardous chemicals on board, construction site activities including excessive silty run-off during a rain storm, a raw sewage plant and a gas station with leaky tanks.

Students used spray bottles to simulate a rain event as each potential contamination source was used to demonstrate how each contaminant was carried by the heavy rains to the





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streams and lakes and eventually into the groundwater. The groundwater was contained below the model in a clear basin that allowed the students to see it first as clean water and then become polluted with each contaminant as it traveled to the underground reserve.

The Using Water Wisely model has a cross section of a family home showing all the typical appliances and uses for our water. The students were encouraged to select any of the activities on the model and by touching that point a screen would show a read-out of the number of litres of water that item uses. The choices allowed the student to compare the water consumption of a toilet, a dishwasher, a shower, leaking fixtures, etc. It also compared the daily water use by our various provinces and also by each continent. It also showed how much water is used in the manufacturing of some common items, ie, a computer, a hamburger, an automobile, etc. It came as a real surprise when the students learned it takes 148,000 litres of water to make a car!

The students enjoyed the inter-active aspect of the presentation and participated very well by asking questions and studying the models on their own.

Abbotsford Middle School has asked us to return next year.

