

Students get their hands dirty to clean up the planet

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Worms, dirt and saving the planet – the Let's Talk Science Green Roof Project is proving to be a popular and exciting opportunity for students at two Mississauga schools to conduct hands-on science activities, embrace environmental principles and help their community.

With the generous support of Amgen Canada, Let's Talk Science graduate student instructors from the University of Toronto Mississauga have spent this school year teaching approximately 50 Kindergarten to Grade 8 students from the Froebel Education Centre and Homelands Public School about worm composters, plant diversity and green roof technology.

"Some of the key benefits of green roof technology are the reduction of energy consumption, which leads to reduced greenhouse gases, as well as water purification," says Shidan Murphy, Let's Talk Science coordinator and PhD candidate in biology at U of T Mississauga. "These are kind of abstract ideas for kids, although they learn about it in school. This [project] is giving kids the chance to use the scientific method-hypothesis development, testing and observation-and allowing them to do it not for science's sake, but to make a difference."

This isn't just a project on paper: students have been directly involved in harvesting rich soil to form the foundation of the roof, selecting seeds and cultivating plants. They are now preparing to transplant the vegetation onto a green roof lattice. Once the plants are

in place, the students will care for them, gather detailed meteorological data and compare the impact of the green roof versus a plant-free "control" roof.

Along with their activities at school, the students had a chance to visit the biology greenhouses and examine geological samples at the University of Toronto Mississauga. The project aims to give the students a better understanding of life systems, the scientific method and the role of humans in maintaining a healthy environment. They will learn important skills such as the collection and evaluation of data, the development of critical thinking and problem solving techniques while working as part of a team.

"We are very fortunate to have been chosen as a pilot school to participate in this exciting and educational endeavour," says Penny Portokalis, a Grade 7 enhanced learning teacher at Homelands Senior Public School. "Participation in this initiative has effectively engaged my students and allowed them to further explore environmental issues in a more critical way, with a deeper understanding of our ecological footprint. As a direct result of the Green Roof Project, we have been inspired to take greater personal responsibility in creating change for ourselves and future generations."

Students will also compete to create the most efficient green roof. Every June, prizes for the best performance will give students a chance to have an even greater environmental impact-such as planting trees.

The Green Roof Project is a three-year, \$50,000 program tied into the Ministry of Education curriculum, with educational resources developed by a master's candidate at York University and a video component created by a film and video graduate from Seneca College. Support from Amgen Canada will ultimately expand the program to include up to 15 schools and approximately 880 students.

"The Green Roof Project is a creative hands-on opportunity to bring science to life for young students in our community," said Dr. Clive Ward-Able, executive director of R&D at Amgen Canada, which is supporting the initiative in Mississauga. "This kind of interactivity has a lasting impact on raising the value of science literacy for kids, something that is inspiring to all of us that work in the sciences today."

