

International Student Scientists Excel and Thrive in Ecotek Lab



Above: Jamie Wawrow studying the endocrine system of a leopard frog

The Ecotek Lab program is based on a worldview of science. We believe that science is universal and links people from diverse backgrounds. In October 2014, student scientists, Jamie Wawrow (10th grader), Jack Wawrow (9th grader) and Ryan Wawrow (5th grader), joined the core team at Ecotek Lab-Detroit. They attend Holy Names Catholic Schools in Windsor, Ontario, a province of Canada.

Jamie has spent the past three months studying the genetic footprint of pancreatic cancer. As part of this effort she has investigated the possible sources and symptoms for the onset of pancreatic cancer. Her current work effort involves cell pathology as well as performing experiments to better understand the function of proteolytic enzymes.

Jack Wawrow's interest is in mechanical engineering. His first project involved learning about the physics of nickel titanium (Ni-Ti). He worked with David Whiteside, 10th grader at Ben Carson School of Medicine, to investigate the use of the metal alloy in medical applications-i.e. cardiovascular stents. Jack is now allocating his time across multiple projects ranging from building a hovercraft to constructing and programming a robotic arm to building and flying drones.

Ryan wants to be a veterinarian. His first lab experience included learning about the impact of human activity on ecosystems, food webs and food chains. Afterwards he completed a project to examine how climate change can affect the metamorphosis of Painted Lady butterflies (*Vanessa cardui*). He also worked with Antonio Prince, 7th grader at Detroit Academy of Arts and Sciences, on a project to understand the social behavior and feeding habits of freshwater hermit crabs (*Paguroidea*). Ryan is currently working with Kessonga Allen and Kayla Young, both 4th graders at Detroit Edison Public School Academy, to build and maintain a variety of living labs.

Having Jamie, Jack and Ryan in Ecotek Lab has provided many benefits. First, they have brought a different cultural perspective to the overall research portfolio. Second, they have encouraged other student scientists to become more engaged. As the trio becomes more integrated into the Ecotek Lab framework, it is expected that they will become catalysts for enhancing STEM education in schools throughout Windsor, Canada.



Ryan examining the impact of decomposers on organic matter



Jack doing background research on Ni-Ti in preparation for temperature setting experiment



Jack explaining to Ryan how energy is transferred between producers, consumers and decomposers in a forest ecosystem

About the Ecotek Science Program

Ecotek is a science research lab program for young inventors and researchers. Student scientists work on projects aligned with the issues being addressed by world leaders at the United Nations. To learn more about Ecotek Lab go to <http://www.ecotek-us.com>