Technology

Technology is integral to life as a scientist. Within the very broad topic of technology we chose to focus on fundamental skills relevant to many fields, which are electrical circuits and coding. To design and deliver these sessions a team of scientists was gathered, Matt Coles, Vincent Wong and Dr. Jenny McQueen. We were also fortunate to have the software development company SAP get in on the action. The theme was divided over four sessions in the early fall.

First we tackled understanding electrical circuits. Students were on their own to complete several circuit themed stations, up to a maximum of five. The stations developed student's ability to identify electrical components, draw and create simple, parallel and in series circuits with copper tape and copper wire. Two challenge stations tested their ability to light up the multiple LED's or determine the layout of a circuit hidden in a black box. Thank you to Vincent who was the mastermind behind the black box!

For our second session we met downtown for a tour and lively programming session at SAP. We were met by a team of SAP professionals that worked in small groups with students as they learned to program with Scratch and Raspberry Pi's. A tour took us through the normally off limits data centre which was a wild experience. Some students even got to check out the impressive kitchens and free coffee at SAP!

Our third session was led by our resident mathematician, Matt with help from fellow mathematician Cole. After covering the basics of Python students worked with Python to create their own "choose you own adventure" games and mathematical puzzles. Python is very handy to know for any future Raspberry Pi programming.

Our last session was about making things do stuff. One half of the group started with making a drawing machine. To mimic real life scenarios, students needed to complete a plan and parts list prior to building. The volunteers helping with this station made sure the parts list was very specific The other half of the group started with coding an Arduino to blink lights. By playing with the codes they discovered new blinking patterns and how to control multiple lights. The session completed with switching stations.

Programming skills are becoming part of the core sets of competencies required in the job market. We hope that through our technology sessions we have given confidence to students to push themselves further in developing these skills. Whatever the future has to hold for our students, being comfortable with technology is key to success within science.

Special Guest

We went to SAP! SAP is a large international software development company with its headquarters in Germany. We had great hosts that challenged us with Raspberry Pi programming with Scratch. We were also treated to a tour through their data centre. This data centre can hold 1 petabyte of data! If you had 1 petabyte of MP3s to listen to it would take you 2000 years! Fun facts, a great tour, lots of programming made this a great field trip!
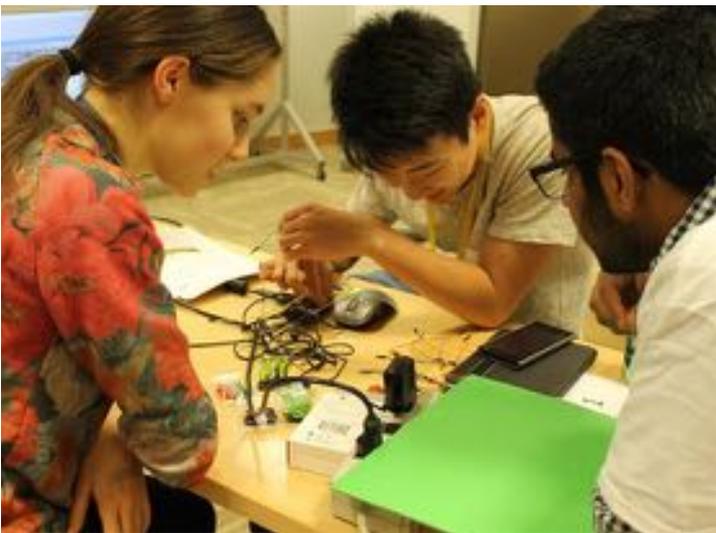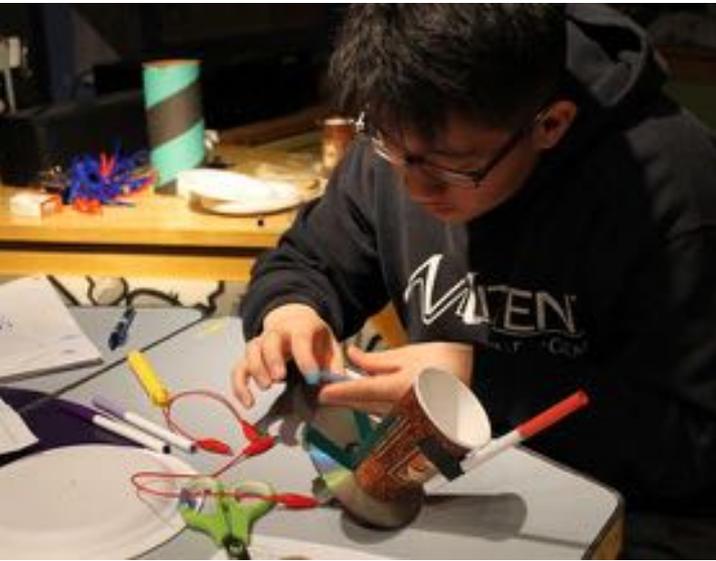
FSL Coordinator

Dr. Jenny McQueen
Ph.D. Genetics, UBC
FSL Fellow and Program Coordinator,
Science World

Beyond all the regular roles involved with being the coordinator for the FSL program, Jenny was very eager to help develop this theme. Being aware of the importance of technology and in particular coding in all of today's science fields she believes it is a skill that students need to acquire. Not being a computer programmer herself, helps her to see the hurdles observed by students.