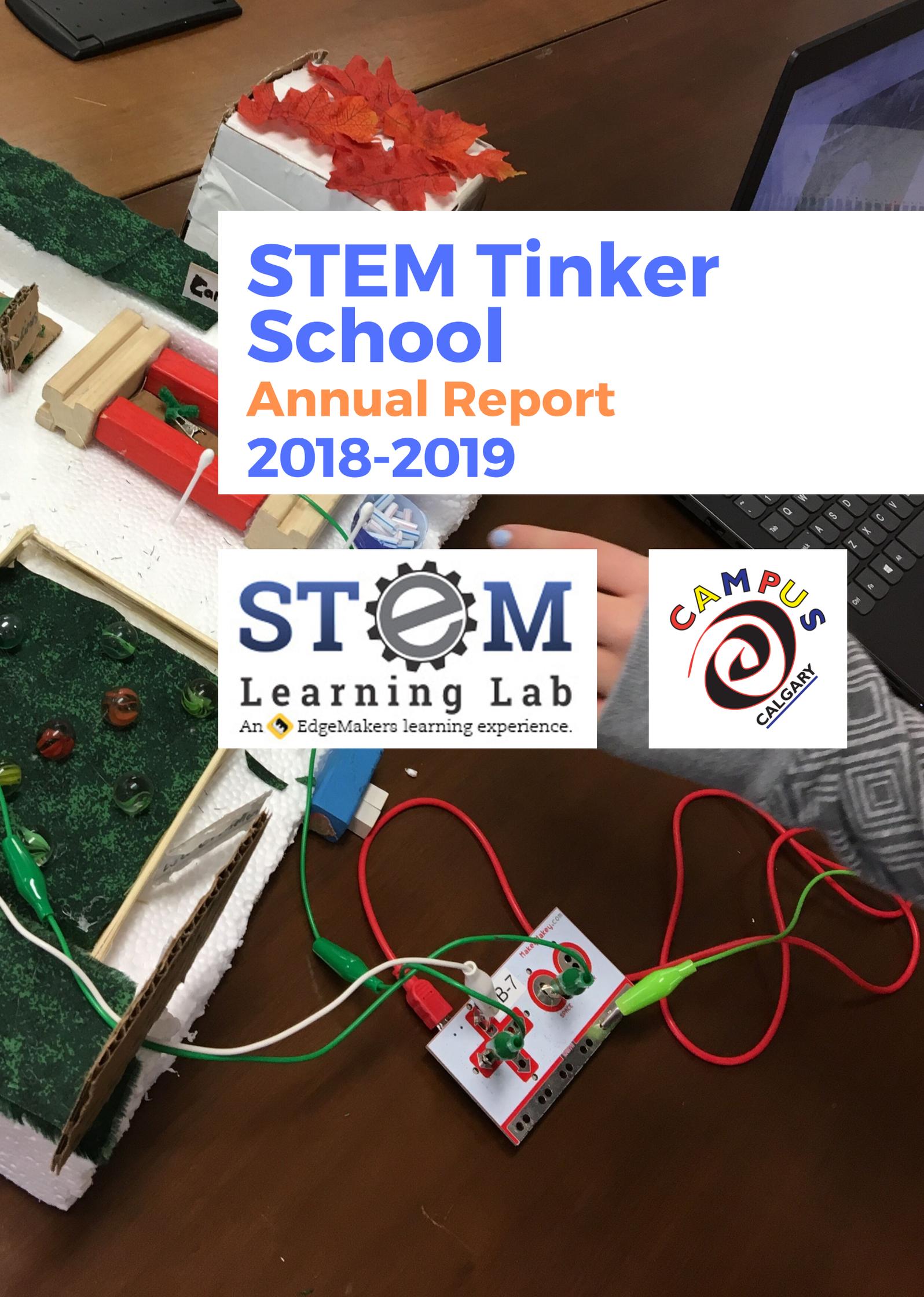


# STEM Tinker School

## Annual Report

### 2018-2019



# Curiosity, Creativity & Experimentation

STEM Tinker School is a place where students learn by doing. Held at STEM Learning Lab, education here is hands-on and based on curiosity, creativity, and experimentation. Computational thinking, design thinking, and growth mindset are at the core of Tinker School. Thanks to generous funding from Cenovus, students, teachers, and parents get the opportunity to try new things, learn cutting-edge skills, and view the world through a unique lens of technology, art, and design. Experiencing a classroom full of innovative thinking, cool ideas, and amazing technology allows students and teachers to advance past the 'wow' factor and really start to appreciate how their newly learned skills can be used for a purpose.

## Students are immersed

Teachers and students spend their week immersed in science, technology, engineering and math to innovate and solve different challenges.



## Build Capacity

These experiences develop and build capacity for the future - students gain critical skills in the STEM fields, while teachers learn new ways to meet the ever-changing needs of future learners.



# Inquiry Questions

## Grades & Inquiry questions

STEM Tinker School was home to 10 classes from 5 different schools across Calgary. Throughout their week, each class was motivated by a guiding question that influenced and informed their explorations.



5 schools

10 classrooms



- How do we create change?
- How can we turn the ordinary into the extraordinary?
- What brings us together?
- How can we speak for the trees?
- What is home?.

# Stories of two separate weeks



Auburn Bay School, Grade 3

How can we turn the ordinary into the extraordinary?

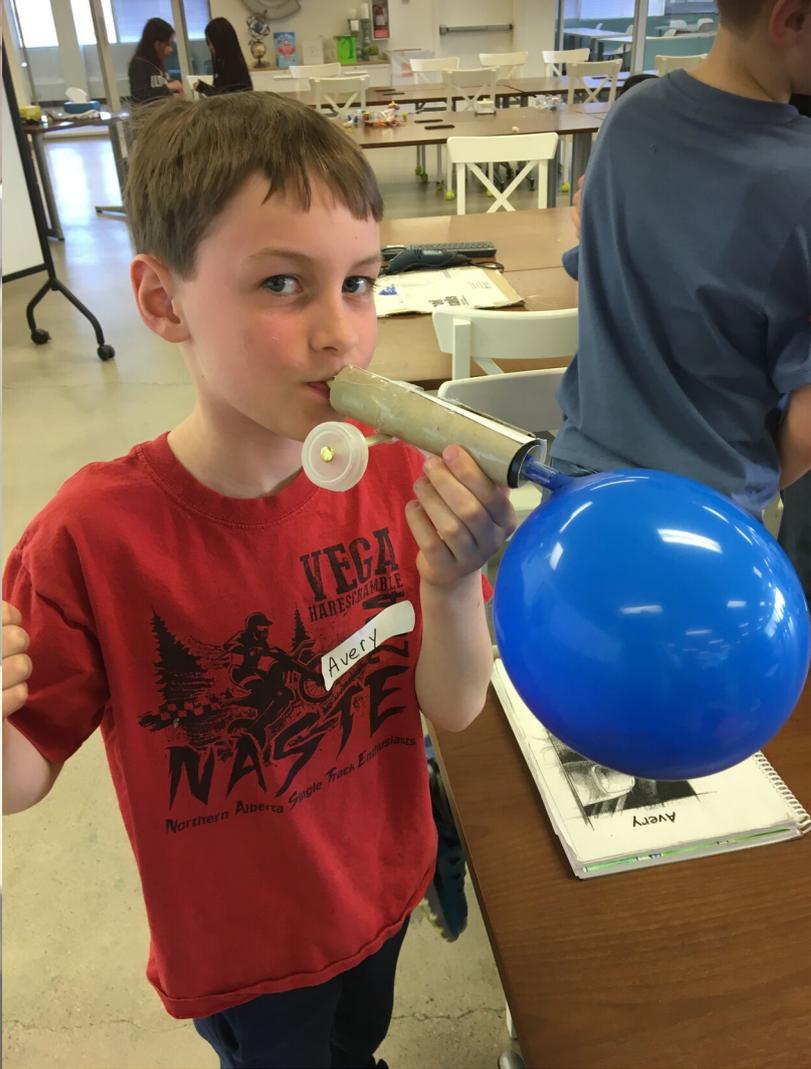
Students from Auburn Bay School joined us for a week of exploring how innovative ideas allow “ordinary” people to do some absolutely extraordinary things. Each day, the class took a fresh look at the world through the lens of a young innovator. In addition, each innovator was paired with an aspect of design or technology. The experiences of Malala Yousafzai motivated students to create stories in Scratch about changes they might make in their own community. Social media and website design were a great way to talk about Greta Thunberg, a young Swedish activist who is raising awareness about our climate emergency. Zibusiso Mafaiti, a local Calgarian, inspired the students with his experiences at Makers Making Change, an organization that connects people with disabilities to the maker community. On the final day, the students took some time to reflect on how they, as “ordinary” students with some newfound skills, could do something extraordinary.

**“This was an amazing opportunity to learn how to use a variety of technology integrated into the curriculum.” The most important thing my students will take away from their experience is “understanding the Design Thinking process and the willingness to try new things and work through challenges.”**

Teacher, Auburn Bay School

**The experience at Tinker School gave students a “deeper understanding and connection to the technology that is used all around them.”**

Parent Volunteer, Auburn Bay School



# Stories of two separate weeks

Guardian Angel School, Grade 1



## How can we speak for the trees?

Two Grade 1 classes from Guardian Angel School came to STEM Learning Lab to explore our relationship with trees. Throughout each week, we learned about a variety of technologies that would help us expand our understanding of Alberta's valuable forest ecosystem. Students created innovative tools to help our forests using LEGO robotics. We created amazing tree-themed art using a Sphero robot to generate high-tech marble paintings. The highlight of the week was when each class employed maker materials to "grow" a forest of giant trees and used Scratch and Makey Makeys to make the forest come alive with music! The class loved spending time in our musical forest, capturing their reflections in their journals.

**."My students "already love technology but now have a beginning understanding of how technology can be used to solve real world problems. Tinker School gave me so many amazing ideas for integrating technology into the classroom."  
"Teacher, Guardian Angel School**

# What's Next?



In the coming year STEM Tinker School and Social Enterprise School will be combined under the umbrella of **STEM Tinker School**. We will have 10 weeks total, but will endeavour to craft some of our weeks with a Social Enterprise lens.

With fewer weeks, there's more opportunity for growth! Building community and a cohesive cohort with our participating teachers. Opportunities for more school visits outside of Tinker School week, allowing students and teachers to see the process come alive in their classrooms.

More time for teacher support. Develop and refine processes for documenting and evaluating the program.

## Stats

- 42 applications for only 10 weeks
- 221 students
- 10 classes from 5 schools
- Grades 1, 1/2, 3, 4, 6, 7, 8
- 12 teachers
- 170 volunteer days



# Testimonials

## QUOTES - TEACHER, STUDENT, PARENTS

“Students loved the hands-on activities and connections to their real-world issues.”Teacher, Grade 6”

I feel that the students were very engaged and that this has perfectly matched with our year. I myself learned a lot about the capabilities of Makey Makeys and micro:bits and can now bring this back to the classroom.”Teacher, Grade 7

“As a teacher, I have a greater awareness of the variety of technologies and skillsets that we can use here at the school to extend our learning.”Teacher, Grade 4/5

“My favourite part about Tinker School was learning with lots of experts and having fun.”Student, Grade 6

