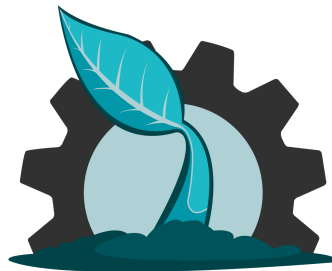

SPARKIN'STEM

2020 ANNUAL REPORT



SPARKIN' STEM



TABLE OF CONTENTS

3	GENERAL INFORMATION
4	COVID IMPACT
5	VIRTUAL INITIATIVES
10	IMPACT
11	NEWSLETTER
12	THEME
13	DELEGATE DIVERSITY
14	SPONSORSHIP
15	WHAT WE LEARNED
16	FUTURE PLANS
17	TESTIMONIALS
18	GET INVOLVED



WHAT IS SPARKIN' STEM?

Sparkin' STEM is a student-run conference that was organized by FRC Team 4939: AllSpark9. This organization continues to promote STEM education through community initiatives that enable young, like-minded individuals in middle school to interact with each other in an inclusive and accessible learning environment.

WHO WAS INVOLVED?

Sparkin' STEM 2020 was led by students of FIRST Robotics Team, AllSpark9. Due to the COVID-19 pandemic, all the activities, workshops, and webinar sessions were held on a virtual platform. Community involvement was integrated into the events through sponsors such as Balsamiq and Rising Youth. Sparkin'STEM received a diverse range of youth in its activities as children from multiple different backgrounds participated in the initiatives that were held in 2020.



IMPACT OF COVID-19

Sparkin' STEM ran its first event 2 years ago, where we had over 100 delegates from all over the Greater Toronto Area. We began planning our 2020 conference at the beginning of the year, however, due to the pandemic, our original vision was no longer feasible. Nonetheless, we became resourceful and completely digitized the structure for Sparkin' STEM, prioritizing our mission of providing interactive STEM opportunities for middle school students through a virtual platform.

OUR PLAN

JUNE

WEEKLY STEM TRIVIA
GAMES



JULY

WEEKLY STEM
WORKSHOPS



AUGUST

WEEKLY SCIENCE
EXPERIMENT TUTORIALS



SEPTEMBER

HIGHSCHOOL Q&A
SESSIONS



LIVE KAHOOT

Sparkin' STEM engaged the community through exciting live Kahoot sessions. Kahoot is an online trivia platform where students can join the fun from the comfort of their home! The Kahoots were STEM-themed and were streamed on set days every month/bi-weekly, providing a consistent event for kids to look forward to



SPARKIN' STEM VIRTUAL INITIATIVES

LIVE WORKSHOPS

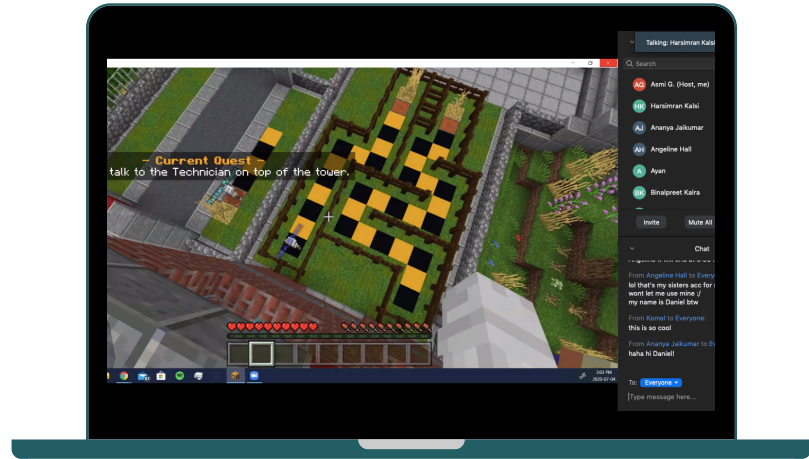


Sparkin' STEM hosted 4 live workshops revolving around **coding, astronomy, physics, and sustainability** to teach students about **STEM**. Each workshop was divided into an educational portion and a group activity! Each workshop lasted approximately **90 minutes**, with three team leads serving as instructors for the workshop. In total we had **154 students** attend the workshops!



MINECRAFT BLOCK CODING

Who doesn't like Minecraft? With the use of educational minecraft, students were given an opportunity to complete coding activities in the game! Sparkin' STEM first taught the students about programming, computer science, and future outlooks in technology to enhance the student's standpoint on software technology.



LIVE WORKSHOPS

AWESOME ASTRONOMY

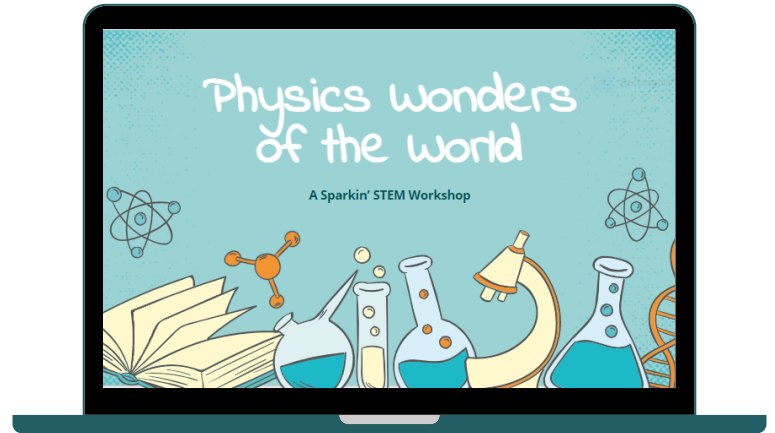


Space is infinite, and so is our learning! Sparkin'STEM hosted a workshop revolving around the concepts in space, NASA, Apollo 13, and SpaceX. We had questionnaires, activities, and a mini contest where students had to create their own planet!



PHYSICS WONDERS OF THE WORLD

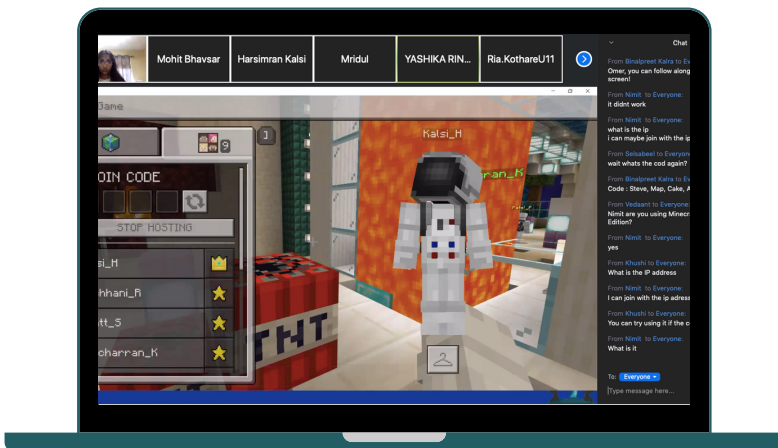
Sparkin' STEM gave students an opportunity to learn basic physics concepts and see them applied in unique phenomena around the world. From magnetic hills to fire in a waterfall, we explored physics by demonstrating 4 interactive virtual experiments related to waves, gravity, magnetism, and electricity!



LIVE WORKSHOPS

SUSTAINABILITY BY MINECRAFT

Students learned about sustainable transportation, green cities, renewable energies/resources, the importance of studying sustainability, and various STEM career opportunities within! They completed 3 mini-activities together and then the ones on Minecraft.





Q&A SESSIONS

With Regional program applications starting in November, and course selection for Grade 9 beginning in January, Sparkin'STEM hosted three Q&A sessions from August to November 2020. In the **first session**, we covered general questions for the regional programs and discussed extracurriculars, benefits, and the course contents for grade 9. In the **second Q&A session**, senior students in various regional programs in the Peel District School Board talked about their experiences. Finally, in the **third Q&A session**, we talked all about choosing the right courses in high school!



IMPACTED 66
STUDENTS





SCIENCE EXPERIMENTS

EXPERIMENT #1

Inverted Balloon Test



EXPERIMENT #2

Invisible Ink Experiment



EXPERIMENT #3

Lemon Volcano Experiment



EXPERIMENT #4

Invisible Ink Experiment



EXPERIMENT #5

Penny Transformation





IMPACT

Sparkin' STEM 2020 was truly an unexpected, yet worthwhile year as the students still had an incredible experience through our virtual activities!

154

Students participated

25+

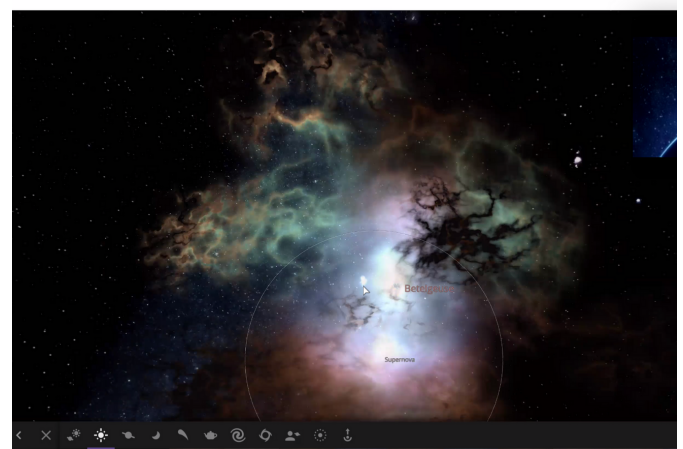
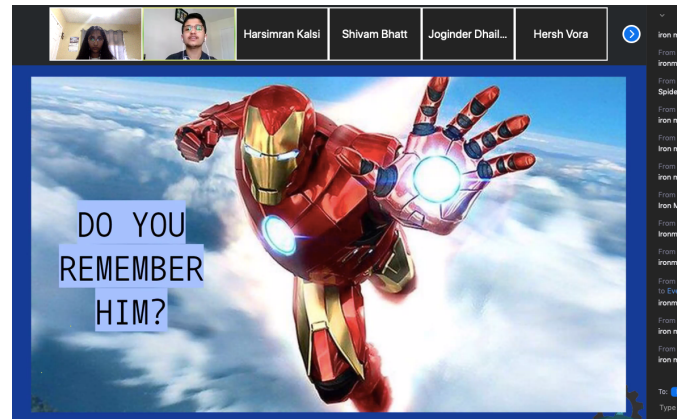
Volunteers and Executive members

260+

registered for our newsletter

BREAKING BARRIERS

was the theme representing Sparkin' STEM in 2020





NEWSLETTER

Sparkin' STEM released its new monthly newsletter initiative in April of 2020, where student leads from the team created content for middle school students based on monthly STEM themes. Each newsletter features articles, videos, and fun challenges for students to learn more about the theme. Themes ranged from math to coding to chemistry for our audience of over **260 students!**

MONTHLY THEMES

01

APRIL 2020

Mathematics and Statistics
Awareness Month

02

MAY 2020

Healthcare

03

JUNE 2020

Environment and Climate
Change

04

JULY 2020

People of Colour in STEM

07

DECEMBER 2020

Coding and Computer Science

05

AUGUST 2020

Invention and Imagination

06

SEPTEMBER 2020

Innovation in Aerospace
Engineering

06

OCTOBER 2020

Chemistry

07

NOVEMBER 2020

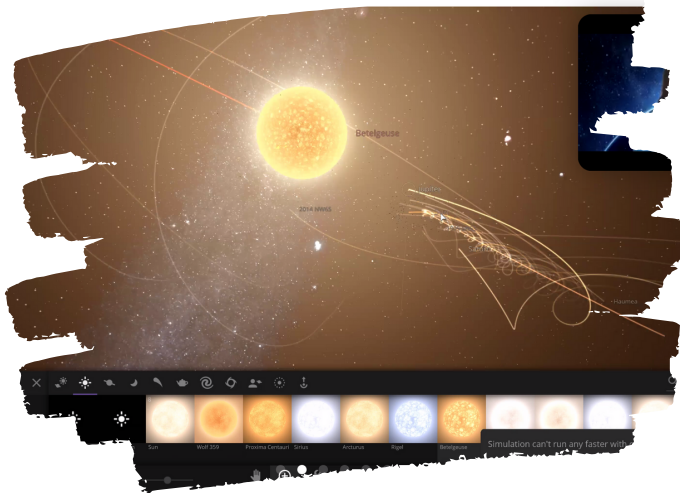
Daylight Savings & Light
Pollution



BREAKING BARRIERS

STUDENT ENCOURAGEMENT

Prompting kids to go above and beyond!



PERSISTENCE

Teaches students to overcome any obstacles/hurdles that may come in their way!

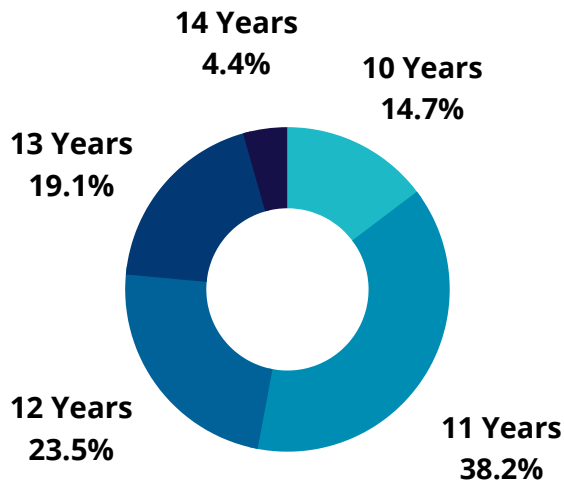
SUCCESS

Learning how to improve understanding and communication between others to truly **break barriers!**

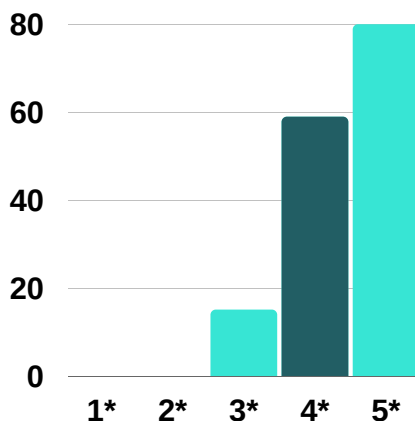
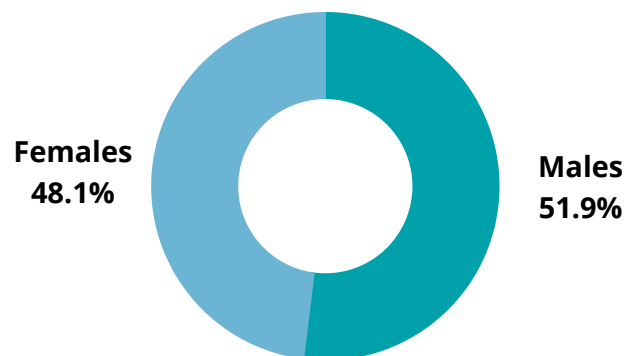




DELEGATE DIVERSITY



MALE TO FEMALE RATIO



EVENT EXPERIENCE

(5 being a fantastic experience)



OUR SPONSORS

THESE ORGANIZATIONS TRULY SUPPORTED SPARKIN' STEM AND HELPED US MAKE THE ONLINE INITIATIVES FEASIBLE AND ACCESSIBLE FOR STUDENTS!



balsamiq®

BALSAMIQ

"Started in 2008, our goal is to help people create software and websites that are easier to use. We do this by providing software tools, teaching UI Design to non-designers, and by building a long-lasting company. We like to compete on usability and customer service."

RISINGYOUTH

"RisingYouth is a program led by TakingITGlobal to help youth build Canada and develop life skills by giving back to their communities. Created for youth by youth, we are building a program to increase involvement through community service."



#RISINGYOUTH
community service grants

#JEUNESACTION
subvention de service communautaire



WHAT WE LEARNED

LESSONS LEARNED IN 2020

2020 was truly a unique and impactful year as Sparkin' STEM's yearly action-packed conference of scientific discovery had to be transformed into multiple virtual initiatives due to the challenges posed by the pandemic. Nevertheless, students were able to explore science, technology, engineering, and mathematics from the comfort and safety of their own homes as we hosted live workshops, activities, and meetings to deliver an interactive and engaging learning experience. Sparkin' STEM was able to widen its services by providing teens and parents with sessions on high school course selection, regional program applications, and even Q and A sessions. Not only did we keep STEM-learning active through this pandemic, but we also provided engaging tutorials of live experiments, newsletters, Kahoot games, and Q&A sessions for the students.





FUTURE PLANS

SPARKIN' STEM 2021 INITIATIVES

Sparkin'STEM is excited to announce our new partnership with Viamonde School Council for our Virtual leadership and technological workshops,

an 8-week program that offers weekly workshops on STEM subjects for students

from the 6th to 8th grade. Sparkin'STEM will also train student leaders and content translators in a complete 1-2 week program to prepare them to run the 8 workshops which are meant for elementary students.

Sparkin STEM a le plaisir de vous annoncer de notre nouvelle partenariat avec le Conseil Scolaire Viamonde, Nous offrons des ateliers de leadership,

d'apprentissage technologique et virtuel en forme d'un programme de 8 semaines qui offre des ateliers hebdomadaires sur les sujets STIM aux élèves



SPARKIN' STEM



de la 6ème à la 8ème. Sparkin 'STEM formera également des étudiants et des traducteurs de contenu dans un programme complet de 1 à 2 semaines pour les préparer à diriger les 8 ateliers destinés aux élèves de l'élémentaire.



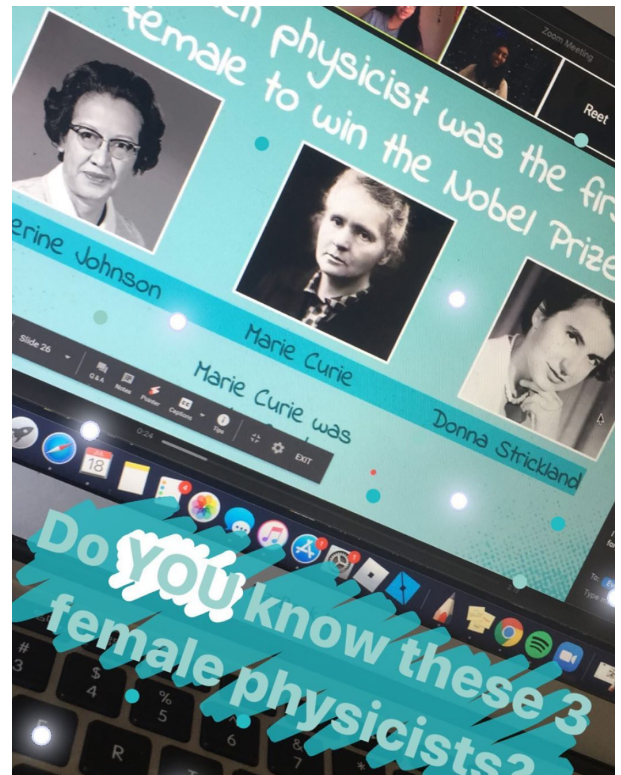
TESTIMONIALS

CHECK OUT WHAT STUDENTS HAVE SAID ABOUT OUR INITIATIVES!

“

“I thought it was very fun and inspiring. I was very excited for it and it did turn out to be very enjoyable! It was also very educational. Not only were we having fun, but we were also learning new things related to science, technology, etc. I also really liked how there were questions based off of movies/shows as themes. That just made the learning even more fun! Generally, I thought it was very exciting, I loved it and I can't wait to play again! “

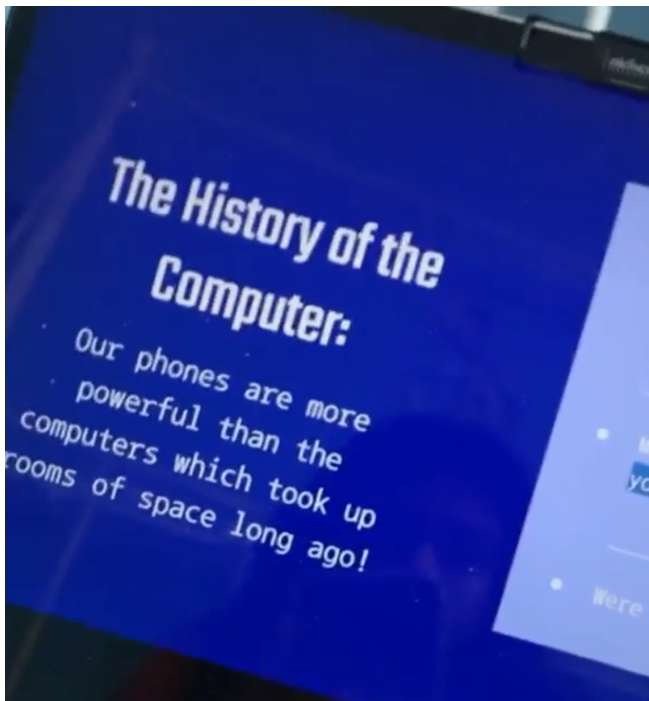
- Diya Singh (Grade 7)



“

“I thought the workshops were amazing and educational as I learned a lot about coding, space, physics and sustainability. The part I liked the most was the interactive activities that they had planned for us, and that they did not just show us a presentation for the entire time”

- Khushi Bhavsar (Grade 7)





GET INVOLVED NOW!

Got a question or request? Contact us to get involved!



[@sparkinstem](https://www.instagram.com/sparkinstem)



sparkinstem.ca



[@sparkinstem](https://twitter.com/sparkinstem)



sparkinstem@gmail.com



[Recap Video](#)



www.linkedin.com/company/sparkinstem

