

Chairman's Award - Team 5672

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2019 - Team 5672

Team Number

5672

Team Name, Corporate/University Sponsors

Metal Supermarkets/Microsoft/RBC Wealth Management PH&N/Economic Club of Canada/TD Bank/Argosy Foundation/Jazz Solar/TestMark/SNO Lab&Wikwemikong High School

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2018/2019 year and the preceding two to five years

Team 5672 participants take pride in the challenges they face. We embrace our culture as First Nations people. We teach our students the importance of having an indigenous perspective in the ever growing STEM fields and job market. The remoteness of our area and lack of STEM engagement in our community offers an array of learning opportunities for our students that allows them to be more resourceful and think critically about problems using strategies not otherwise considered.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2018/2019 year and the preceding two to five years

FIRST has allowed our students to benefit from robotics year round as our team has moved from a small extra curricular club to the first computer science and manufacturing dual credit course in Wiikwemikoong. As a means of expressing our belief in the importance of First Nations people working in STEM fields, our team has met with other schools around the island and started one FRC team, and 5 FLL teams. Our team is definitely a source of community and cultural pride.

Team's innovative or creative method to spread the *FIRST* message

We are working to provide sustainable FIRST and STEM programming throughout Manitoulin. This is a two pronged approach: Assisting Manitoulin Secondary School in maintaining its FRC team and developing FLL teams. With FIRST, we have ensured every community on Manitoulin Island with an elementary school, has exposure to FLL programs. This allows us to inspire and involve a new demographic of students, key to sustainability in STEM.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

Our team is the longest established and most successful, all First Nations team in Canada. We define our success as our ability to spread the FIRST message to students in places where extracurriculars focused on STEM are extremely rare. We have the pleasure to take our cultural teachings and meld them with FIRST values to aid in making robotics more relevant, fun, and exciting to our students.

Describe the team's initiatives to help start or form other FRC teams

Our team is compelled to share the FRC experience with others. Our lead mentor met with the current mentor of Team 6865 to generate student interest in starting an FRC team. As a result, both of the secondary schools on Manitoulin Island now have a robotics team. We also provide Team 6865 with team spirit buttons, as well as several core mechanical elements and general advice for operating a FRC team.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

The student led outreach events have successfully started 5 *FIRST* Lego League teams on Manitoulin. 2 of which have gone to provincials (including an all-First-Nations, all-girls team). These teams have sustained the Sudbury District FLL event. To aid the teams in their journey through *FIRST*, we coordinated a full day workshop for Annika Pint, of *FIRST* Canada and Toronto District School Board, to meet with the FLL mentors on Manitoulin in September of 2018.

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

With the help of students of our team, our initiatives on assisting other FLL teams keep growing over the years 5672 has been a team. We have assisted the the 4 FLL teams on Manitoulin last year. We continued to assist those teams this year and started another. Our pursuit of outreach to these teams has contributed greatly to the sustainability of the Sudbury FLL events at Science North and Dynamic Earth.

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Throughout the short years FN-STEM has been in the FRC league, we have gone from being the rookie under the wing to having the honour to serve as an advisor to the teams we helped form. Our includes one on one student mentoring with Lakeview School during coding workshops we organized. Outreach of our team does not only extend to elementary schools but FRC teams like Manitoulin Secondary School. We assist by answering questions and providing materials.

Describe your Corporate/University Sponsors

Our gracious sponsors make it feasible for us to share our enthusiasm with the rest of the Manitoulin District. Our sponsors are both corporate (TD, Microsoft), as well as smaller organizations involved in STEM. We have had sponsors that range from a judge to a hock shop owner. We value sponsors such as Metal Supermarkets, Manitoulin Transports, SNOLAB for their in-kind sponsorship. Other sponsors like TD Bank, Microsoft, RBC Wealth Management, Test Mark, Argosy Foundation, Jazz Solar

Describe the strength of your partnership with your sponsors with special emphasis on the 2018/2019 year and the preceding two to five years

The presidents of Metal Supermarkets and Jazz Solar have visited our school, team and build room. The president of Metal Supermarkets flies in yearly to the North Bay event to join us. Microsoft has interviewed our team members while at the Girls in STEM Conference as part of their initiatives to include us in their video. We show appreciation to sponsors by recognizing them on our team shirts and our sign boards. We also send them cards and team photos.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

There is a big emphasis on real life. It provides an opportunity for all students to get engaged in STEM and the 21st century. It teaches you future skills. It is more than just building a robot. We feel like we are making history. It teaches us about our potential as future Anishinaabe leaders. We have never seen a program like *FIRST* that has this capacity for cooperation and genuinely wants to build you and your team. *FIRST* shows us our capabilities in STEM regardless of background. Nishin!

Briefly describe other matters of interest to the *FIRST* judges, if any

We strive to incorporate our indigenous heritage in our robotics team with elements like our culture and language. When we went to North Bay and were asked to do the opening ceremony where we were honoured to show our regalias and pride for our team. In our culture women have always had a strong role in leadership. We respect that knowledge by having many aspects of the team such as our team captain, drivers on the drive team, and build team be led by indigenous girls.

Team Captain/Student Representative that has double-checked this submission.

Aaryn Zoccole

Essay

FIRST Team 5672, First Nation-STEM, is in our fifth year. We are the longest running all First Nation robotics team in Canada. We are from Wiikwemkoong Unceded Territory, Manitoulin Island, Ontario, Canada. Team members are Anishinabe of the Three Fires Confederacy: Ojibwe, Odawa, and Potawatami. We promote First Nation involvement in STEM first by the very nature and existence of our team as an all First Nation team, as well as by our active outreach programmes. As with most teams in FRC, we strive for inclusion and diversity in STEM.

In an all First Nation school of 150 students, the initial group of 5 student members has grown to 20-25 students actively involved in the robotics team year-round. Our team itself provides an opportunity for First Nation involvement in STEM, as well as providing a means by which First Nations' voice can be part of the larger conversation of STEM. This is a key value of our team.

Challenges

As much as we would love to, we cannot reach hundreds of kids in one event, our location does not make this a realistic course of action; however, our location is a challenge we welcome. Some challenges include the lack of a hardware store, local sponsors, large industry and corporations, as well as general travelling issues. Not to mention the limited connectivity on Manitoulin Island where the power goes out at times and to where the internet has an off day. These "problems" may seem like a huge issue when looking through perspective of other FIRST teams, but without exception we always keep going. We resort to using hand tools, going back to the old ways of our culture. Times like these are seen as learning opportunities for our students. Teaching them cooperation and critical thinking skills preached in our culture that make us strong. The longer we are FN-STEM Team 5672, we become better, faster, and smarter. We adapt faster everytime we overcome a challenge in a forever changing environment. We become more confident in our experiences every day.

Women in STEM

We are greatly aware of the role of women in STEM. Our culture holds a deep respect for women, and the importance of women and girls to a functioning community. As a result, more than half our team is female, and our drive team in the 2018 competition season had 2 female drivers. As of this season, one of our priorities was to have a more established team, and consequently, we have women in leadership roles on our team. Another aspect we deeply appreciate is our cooperation with Vice President of FIRST Canada, Kim Cooper, and her passion for our team. She's mentioned our team in her book "Girls In Science: Voice for Change", emphasizing the role of women on our team, and has met with our female team members at the Girls in STEM Conference. In addition, one of our greatest achievements is inspiring an all-girls, all-First Nations FLL team with our CanCode outreach. Our culture has cooperation at its heart. We are proud to share how our culture works in tandem with FIRST's core values.

Outreach

Inspired by the core values of Discovery, Impact, and Inclusion, our team members participate in a wide variety of STEAM based opportunities. We attend the FIRST Gateway conference in North Bay annually. Team members have taken part as representatives in panel discussions. One of our founding team members, Eileen, previously held a place on the FIRST Canada Girls in STEM Executive Advisory Council. Our team members have participated in the Xplore STEM conference organized by Glenforest CI in Toronto, where our team was interviewed by the Prime Minister's Award team. We have been actively followed by former Prime Minister, Paul Martin, after he attended a provincial Chiefs of Ontario conference, in which the chief of our community live-streamed a district event we competed at. We have been featured in Pow Wow guides and are regularly interviewed by First Nation press. In addition, our team members have been active participants in the Girls in STEM Conference, including being on the steering committee and diversity panel. We have provided land recognition in FIRST events. This will be our second year performing the healing Jingle Dress Dance at opening ceremonies at the North Bay FRC event. Through this, we serve as cultural ambassadors and we build bridges between First Nations and non-First Nations' communities. Our team provides a forum for exploring and articulating strengths and insights that First Nation communities bring to the larger conversation of science and technology. It provides a place where First Nation youth can see themselves as leaders in STEM fields.

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Our team also has an active outreach program. When we started we were the only FIRST team on Manitoulin Island. In a unique role reversal, we have worked to help start an FRC team at the only other high school on the Island. This team is currently in its 2nd year. Typically we are the ones that have to catch up with the technology of the 21st century. The community we live in didn't even have electricity until the 80s. We were excited to use our cultural teachings and values to educate individuals in a non-native school. It is culturally embedded that the Anishinaabe people are meant to teach others. In addition, our CanCode outreach has provided our neighbouring First Nation with the opportunity to learn robot design process and coding from grades 1 to 8. We also now have five FLL teams on Manitoulin, including an all-First Nation, all Girls team, which is going to the Provincial Championships this year. As of now, with the exception of one, every community on Manitoulin Island with an elementary school has had opportunity to experience robotics and coding. In total, we taught approximately 45 students and a few teachers through a CanCode grant. Of the 13 teams at the regional FLL Qualifying Tournament at Science North in Sudbury, Ontario, five were from Manitoulin Island as a direct result of our team, and two are going the Provincial Championships. In our outreach, we are First Nation role models and STEM leaders for other First Nation youth.

Sponsorship

In our mission to spread the FIRST experience, we have been generously and continuously sponsored by our good friends all across North America. Our relationship with our sponsors grows every year, and we say 'Gchi Miigwech' (a big thank you) for making it possible for us to not only build a robot, but for us to travel to events, and to share our story with the world. Our ability to share the capabilities of a rural, minority team would absolutely not be possible without our generous sponsors. In fact, Chris Hare, president of Metal Supermarkets Vaughan, actually joins us at competition. In the future, we hope to increase our sponsor base, offering more opportunities for us to increase our impact on First Nations students.

Student Voices

Our team is proud to have the participants that it does. We appreciate the all the work our students put in every year. We believe it's important to have everyone's voices included as explicitly as possible, as it offers a sincere representation of our team.

"As First Nations in STEM we push ourselves to put ourselves out there so all of us can be involved together." - Raven Pheasant, Grade 9 rookie

"It's a real sense of community. And when we made our LGBT buttons, they were our most popular, so you know that there are other kids who feel safe and welcome in robotics." - Grey Neganegijig, Grade 12

"It really makes me feel included." - Anonymous Grade 9 rookie

"It gives me an opportunity to be in a leadership role in something I otherwise wouldn't have an opportunity to be involved in. FIRST is allowing me to show my strengths in other areas that I've never seen before." - Mary Pangowish, Team Captain, Grade 11 student.

"Robotics taught me how to be more comfortable working with other people." - Sterling Pangowish, Grade 11

"I learned to be gracious and professional in my life." - Bernadette Pangowish, Grade 12

"I think that all team members are clearly paving the path for many others behind them to take an active interest in science [and] technology." - Duke Peltier, Ogimaa (Chief) of Wikwemikong

Our Driving Force - Let's Work Together

Our First Nations peoples and their voices are vastly underrepresented in STEM fields. Our team sees this as an issue. Many First Nations' and Indigenous peoples' teachings involve sustainable ideas and respect to all people, as well as appreciation for the ecosystem. As a result of the status of the current misuse of the world resources, indigenous teachings are more important and relevant than ever. Science, technology, engineering, and mathematics are currently deeply involved in reconciliation, equilibrium and sustainability. It's our mission to share our cultural knowledge in ways that benefit STEM through FIRST.

As recipients of this award we would use it to further our team profile. We plan to be the first all-First Nation robotics team to compete in the Ontario Provincial District Championship and the FIRST Championship. An increased profile would allow us to be more effective in our outreach and influence and our ultimate goal of growing the circle of First Nation involvement in STEM. We are starting off on a clean slate. We want to aid FIRST to include as many youth as possible, to inspire a more diverse and comprehensive future generation of leaders, to create a new history with FIRST, to create a new variety of Indigenous people. We are First Nations of Wikwemikoong. We are FIRST Team 5672.