Mater Lakes Academy

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Robotics Without Borders



The Team: Katheryn Plata, Broudy Negron, Alexander Gonzalez, Helen Ho

What fuels a team? Where does their power come from? At its heart, the principle of Girl Powered is that females are equal to their male counterparts and thus are able and have every right to partake in STEM fields, like Robotics. Referring to the initial question, in Mater Lakes Academy, the response to what fuels a team may vary greatly, but in essence, the answer lies in the same foundation. Teamwork. In our team, there would be no fluency nor harmony if it were not for the grace in our teamwork. Stemming from our 50% female and 50% male team, our group has found a perfect equilibrium in the way we work. However, this system we developed did not come without its faults and hardships. Taking into consideration the things learned in Girl Powered seminars, our group has taken on an egalitarian partnership in which each individual's voice is both heard and valued. In the beginning, a major point was explicitly made to enable cooperative communication. These issues may range from miscommunications that result in

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things like setbacks or mistakes in the actual creation of the robots or may result in a feeling of inferiority developing between members.



The team working hard and collaborating on their build at a competition, along with a picture of each of their involvement in the build.

That being said, the development of our team is most comparable to the trial and error method. The initial formation of the people in our group was that Helen, now the team captain, was a mechanical engineer, initially. Another member, Broudy, had previously coded on free time and naturally found his niche in the team; in addition, Katheryn joined the team as a secondary mechanical engineer, but quickly found that she was the most apt driver the team had; and finally, Alex was first a programming engineer, but quickly found his passion in building. The team now is at its most efficient and productive because each member has a job that they enjoy and find meaning in.

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The evolution of the team's build.

On the diversity front, our team was aided as a result of the melange of individuals that encompass the team. In the team, not only is there an equal ratio of females to males, but the team also includes an ethnically diverse group of students by including Hispanic as well as Asian team members. To further elaborate, the team consists of Helen, the team captain which is a female Asian in 10th grade, Katheryn, a female Hispanic in 12th grade, Broudy, a male Hispanic in 10th grade, and Alex, a male Hispanic in 10th grade. Diversity not only in ethnicity and gender but also in age range allowed different creative ideas that allowed the team to produce the best possible robot. This not only improved the team's productivity and outcome, but it improved team chemistry. Because of the heterogeneous group, some initial qualms were quickly settled as roles were established with no animosity. Qualms such as general communication issues and the time constraint pressures were challenging to tackle, but the team was able to get through it. This finally resulted in a sort of fluency and ease in the team's production. This, however, does not mean that we have the perfect team; there are at times minor disputes, though these are quickly dismissed by open communication.



The team communicating in order to work hard and effectively.

In the communication regard, our team learned how to be not only amiable throughout, but also organized and skilled through our STEM role model. Our role model is not only a strong and independent woman, but she is kind as well which is admirable because of the adversity that she faces daily as a woman in the STEM field. She inspires our team to incorporate more inclusivity by not only reiterating that everyone is created equal and deserves the same opportunities but by going above and beyond to show that. Taking charge, our role model leads GirlPowered Seminars in which all girls are invited to get a taste of what the STEM field and engineering can offer girls if they just persevere. She inspires more of an inclusive group of people into our team because she demonstrates by not just words, but actions as well that all people can be integrated into the robotics field with the knowledge that fear and judgment of failure are normal and surmountable. In these, she shows how - in the face of so much adversity she has managed to overcome the gender stigmas and create a club that is based on opportunity and equality. She is what many would call a success story and a true inspiration to our team, our school, and our community. Our role model is our team's coach. Our role model is an inspiration. Our role model is a fighter. Our role model is Ms. Amy Trigoura.



Ms. Trigoura, one of the team coaches, with her Robotics summer camp attendees.



One of Ms. Trigoura's GirlPowered Seminars.



Paola Aleman, the author of *Robotics Without Borders* and team assistant.

## Credits

## Team 91104C

- 1. Helen Ho Team Captain and Mechanical Engineer
- 2. Broudy Negron Computer Engineer
- 3. Katheryn Plata Mechanical Engineer and Primary Notebook Author
- 4. Alexander Gonzalez Mechanical Engineer
- 5. Paola Aleman, Team Assistant, and Essay Author
- Teacher and Coach: Ms. Amy Trigoura

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