SISTERHOOD IN STEM

by:
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of Team 4606M
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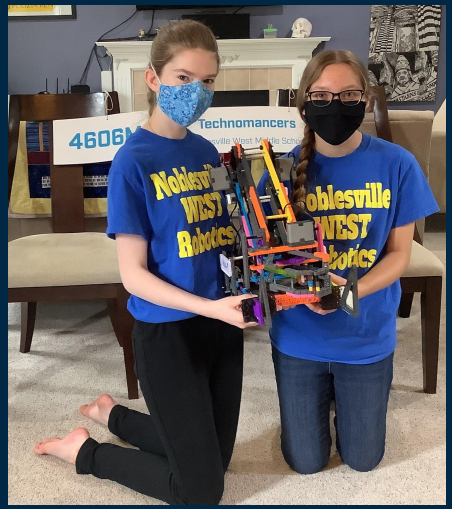
sis·ter·hood

Our Definition:
the solidarity of women and girls based on shared conditions, experiences, and passions around a common cause

WHO WE ARE

We are a dynamic duo of 8th grade girls, who have been doing robotics together for three straight years, and have become amazing friends because of it! We are both extremely passionate about robotics and STEM, and look forward to pursuing them in the future.



Pictured left to right: Paela Madsen and Mina Vendt with our robot Serendipity after competing at the 2021 VEX Robotics World Championship, our second time qualifying!

To us, being Girl Powered means being a part of something bigger than yourself.

We are each members of our team, but further than that, we are a part of our robotics club or organization; we are a part of all of VEX; we are a part of everyone in STEM; we are a part of our world; we are part of our universe.

We are connected to every person, male and female, in a never-ending cycle of the Engineering Process, which is a part of every passion, and is a tool that belongs to and is used by everyone, everywhere.

We each have a unique voice and way of seeing things, and we each belong to all that we are a part of, which is, in essence, *everything*.

As not only members but girls in robotics, we are especially connected to the other girls in robotics on our team, in our school, within the rest of VEX, and within STEM.

Celebrating with a member of our sister team!

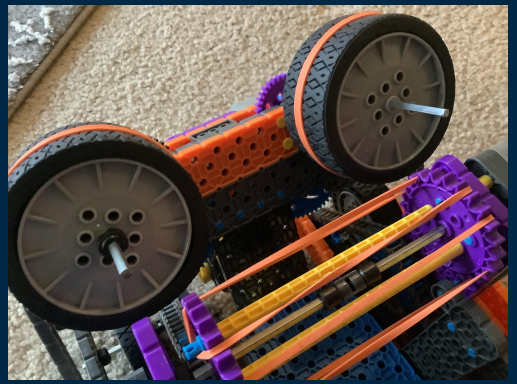
Since there are so few of us, we are connected, and we band together. When one of us is successful, we are all successful, because being a girl in robotics means being a part of a sisterhood, where one person's win is a win for us all!

-INCLUSIVITY-

Inclusivity is extremely important when it comes to women and girls in STEM. In the past, there has been massive amounts of exclusion of women in STEM fields and careers. Though this is getting better, it is still not perfect! We must and will continue working toward a future for the inclusion of all!

Inclusivity in Our Team

On our team, every member is included when making any major decision, no matter what it is. We make sure everyone's voice has been heard before a decision is finalized. And it doesn't matter what one person's role or specialty is; everyone's voice deserves to be heard.

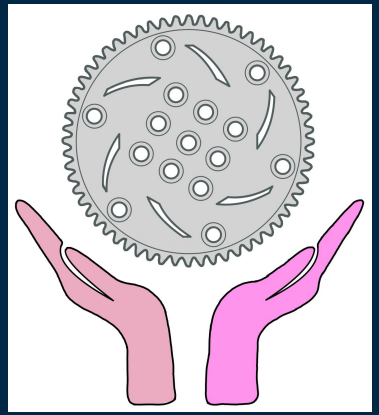


Our robot's design this year was decided upon by all of us!

At every meeting, we start out by discussing what we want to do. This gives everyone the ability to share their ideas. We also all work together when it comes to building, and especially decisions in building. These decisions will affect everyone heavily, whether they work on programming, driving, the Engineering Notebook, or anything else in between. We want to be sure everyone agrees and believes that the route we choose is going to be the most beneficial when trying to meet the challenge, so we include everyone in the decision.

Inclusivity in Our Club

We are the longest-standing team in our school's robotics club. We are the team with the most experience and most success. Despite the fact that our team consists of one-fourth of the total girls between all 15 teams, *we* are the team that is looked towards for guidance and advice.



The way our school's robotics club is set up, each team has a table, which means all the teams are fairly close to each other. This encourages talking amongst teams and sharing ideas. Our team, especially, gives praise, assistance, and encouragement to other teams. We include everyone who will be included, whether they are on our team or not. All we ask is that others do the same. We are examples; our choice is to spread light instead of darkness.

-TEAM ROLES-

There are lots of elements that we all work on together and agree on together including strategy, building, and driving. We all understand that these are very important elements of robotics that we all care about, and we want everyone to be heard.

Through sharing roles on the team, we can understand our teammates better. For example, Paela and Mina both share the role of working on the engineering notebook. This helps us understand each other because we can see how we each think about things and our shared interests and values.

We have also tried out different team roles in the past, which has helped us this season as well. It it because of our previous experiences trying out these roles that Paela and Mina both gravitated to the Engineering Notebook, and why Paela is our main programmer, but prefers not to drive.

-DIVERSITY OF PERSPECTIVE-

Diversity of perspective is invaluable to our world. We need many different people working on projects, people who will see things differently. This is necessary in all facets, but especially robotics, as the more ideas you can come up with, the better the final product will be. And it can be said of any career path that new voices will change our world for the better.

Everyone brings a different perspective to the table, and this is why diversity of perspective is both necessary and important. Everyone has different values, morals, and life experiences, and lenses through which they view the world.

This is why it is so important to have women in STEM; their perspectives are immensely helpful, just as all different perspectives are. Because everyone's perspective is important, because everyone's perspective is different, all types must be present, and that includes women and girls.

Diversity of Perspective on Our Team

Everyone on our team has different ways of looking at things, which has helped us throughout the year. An example of this is when we are looking at solving problems on our robot. Mina will look for solutions that fix the immediate problems that are right in front of us, while Paela will look at the big picture. This is extremely beneficial, because not only do we give different perspectives, we even each other out.

We have also all done robotics for different amounts of time, and we all started in different programs. Different lengths of time being active in robotics is very beneficial to our team, because the more experience you have, the more differently you look at things. This isn't to say that those with less experience aren't as helpful; to the contrary, they bring in another, different perspective, one which can help the team immensely.

-STEM ROLE MODEL-

Our STEM Role Model is Greta Thunberg, a teenage climate activist from Sweden. When she was 15, Greta decided to strike from school and protest outside of the Swedish Parliament building for action on the climate crisis. She gained international recognition for this and is now one of the most well-known climate activists in the world, speaking at many climate-related events as well as the UN.

Greta inspires us to have a more inclusive team and program because she has shown that many, many people are necessary for true change to happen. Yes, she was the one who gained international appeal and recognition. But it was those who were inspired by her, and followed her example, that showed our leaders that we want change made.

We wholeheartedly believe that it doesn't matter who we are, or where we come from, because we are all needed, we are all tied together in an infinite chain. Change cannot exist without people coming together, to empower each other, to work side by side. One person can be the spark. But it takes everyone to set the fire of change.

Greta stands for the truth. No matter how much the authorities may try to hide it, or how much the general populace may try to ignore it, she is still there, reminding us all of the hard, science-proven facts. She is there, and when she isn't, those of us who believe in the same cause will be. Whether we are there to prove the science, to showcase the truth, to stand up for what is right, or something else entirely, we will be there, standing together. We will be bonded through our passion for STEM, and that bond will be impossible to break.

To our fellow girls in STEM, wherever you might be:

- We welcome you. We care about *you*, and relate to your struggles. Let us all choose to open our minds and hearts to those we share this passion with, this world with, this universe with. Because we are part of a sisterhood. **We are.** And that is a bond far too strong to break.

Photo Sources:

https://www.roboticseducation.org/documents/2020/09/girl-powered-style-guide.pdf/

https://www.britannica.com/biography/Greta-Thunberg

https://theconversation.com/greta-thunberg-emerged-from-five-decades-of-environmental-youth-activism-in-sweden-171043

https://www.theverge.com/2019/8/28/20837520/greta-thunberg-boat-new-york-city-climate-change