21037D

Central Middle School, Edgewater Maryland

WE ARE CAPABLE!

By: Julia S. and Addison B.

"If they don't give you a seat at the table, stand on it with a microphone."
- Mari Copeny, an activist for clean water in Flint, Michigan, she sent a letter to President Barack Obama to help, he came to see, and afterwords created a $100 million fund to go toward fixing the water crisis

Our Team:

Our team, 21037D is made up of Addison, Noah and me, Julia. This is all of our first years. On our team Addison is the one that takes charge. While Noah is really good at coming up with prototypes for our brainstormed ideas. I am the main troubleshooter and simplifier (I try to keep it so that we don't have long, inefficient solutions, and try to find the best one possible).

At the Hereford Zone Competition, last minute adjustments!

Photo of (almost) everyone in the Central Middle Robotics Club:

Far left in the middle row is me, in the back row on the far left is Addison and Noah is next to her. Taken at Hereford Zone Robotics Competition.

What Girl Power Means to Me:

For me the Girl Power initiative is the call of "We girls are here and capable." I think Girl Power has become a slogan drawing girls into STEM and also showing girls why they belong and how women have succeeded in and <u>enjoyed</u> STEM careers! It hopes to catch the female STEMies and keep their goals up with the stars.

Why Girls Quit STEM:

There are many reasons why girls start quitting STEM classes/extracurriculars, but I think the biggest one is that when there are less girls and women working in STEM jobs or STEM classes, then the girls that work in that field feel much more pressure to do really well. Since there are less women in these fields these girls worry that they need to do even better than boys because if they don't they will let down all of girls. And this is where a tough choice comes in, do they want to change this, or stay safe and keep to other jobs. I think this is where we lose the most girls, even girls who want to help the change will have days that it just feels too much, and that they feel they might as well quit.

Does Being a (mainly) Girl Powered Team Affect our Approach to Robotics?

This is such a hard question, because it can be looked at in many ways and I will give the most honest answer I can, sort of. To better explain this opinion I bring in the question of Nature v.s. Nurture. For nature we have the fact that Addison and I are girls, and biologically our brains are not the same as males. But on Nurture this is how we have been growing up, what we are interested in, how we learn the best. So the fact that I have grown up believing I can be whoever I want to be, knowing that the fact I am a girl doesn't have to control what I do. And yes this is probably partly due to the fact that the Girl Powered initiative has been trying to get this mindset into girls, but without it would I still be interested in robotics, I would like to think so.

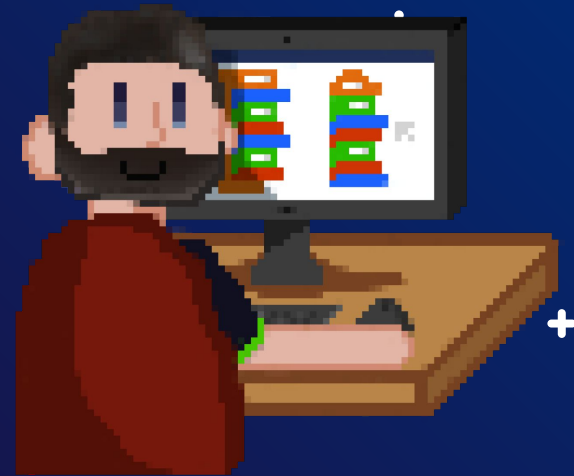# How does diversity of perspective affect our team?

There are so many ways that different perspectives affect our team, and how the fact that we have our own unique set of people that make up our team. When you have more than one person on anything just that different set of eyes will notice different things than you that make problem solving MUCH easier. It removes the "it must work" because I was very careful and replaces it with "it doesn't work because of this silly mistake" which can be more difficult when you are going though your own work, and can't find the problem!

All Sorts of Team Roles!

Throughout this season we have been trying different roles, the main ones are building, driving, coding and journaling. Generally speaking, Addison has been working on our shooting mechanism, Noah has been working on the release mechanism for the blue dispenser and reservoir, and I have been working on release for the purple dispenser, odd-jobs on the robot and hopefully soon a more efficient way to get yellow from the dispenser to our reservoir. For journaling, it tends to fall not on one person (we all want to build so it doesn't really seem fair to us) but instead each week we add what we have done that week and we each put up what we worked on. Then for slides on breaking down key systems it is the person with the most knowledge of the system who will explain them. This (most of the time) keeps it so that we can be most efficient when we are building and journaling. Before our first competition, we had not had any practise time for driving and at the first competition we all took a spin at driving, from this we learning that the best drivers are Addison and Noah, so it is safe to say when we have the choice Addison and Noah are there it will be them who are driving.

Mr. McCoach!

Our team role model is Mr. McCoach, he is the Comp and Auto (coding) teachers at our school. The reason he is my role model is because his class is what really got be hooked on computer programming, Throughout last year and this year we have been doing many exciting projects (possibly often inspired by "The Office"). The way he inspires a more inclusive team is that he proves that to enjoy or pursue a STEM you don't have to love every aspect, Mr. McCoach was not a huge fan of math, until a high school computer programing class and still isn't a huge of math by itself. Which you might this doesn't make sense (I did too) because he teaches coding, which you might think is 90% math but then he explained that when you think about it you don't need super complex math in computer programming. After all the first reasons computers were invented was to solve the really long, hard problems nobody really wanted to complete! I think something that scares kids off from STEM is that they think they have to be really good and already fully enjoy science, technology, engineering, and math. Before this year I will admit, Engineering rather scared me, I didn't understand it but if I had decided I didn't want to do any STEM I think I would have regretted it massively and never have learned!

How Do We take Initiative to Create a More Inclusive Environment?

There are a few words that sum up this question, "Encourage her, feed into her interests, and go out and be that person that makes one more girl stay in STEM" -Amber Yang. She is a developer of a computer program that detects space debris to warn spacecrafts, so they can stay clear of it. But once, in a Middle School Robotics Team, she was told "Do you even know how to do anything? You can just sit and watch," by one of the male members. We try to never make remarks that discourage, or make assumptions about anyone based on how they identify or their ethnicity. On our VEX IQ team, we all contribute to the building, journalling, and coding of our robot making all of our voices heard!

Citations:

- Template from Slidesgo "Basic Template: Glassmorphism Style for Business"
- Quotes by Mari Copeny and Amber Yang from: "Good Night Stories for Rebel Girls 100 Inspiring Young Changemakers"
- Photo of Mr. McCoach courtesy of Mr. McCoach
- Photos from the VEX IQ Hereford Zone Competition taken by Mrs. Dominguez (Noah's mom)