

TITLE: CIRCUIT GIRL POWERED!!!

SUMMARY

This is the story of our team and what being Girl Powered means to us. We are the CIRCUIT GIRLS!

**Elaine Chi,
Charlene Liu,
Claire Liu, and
Sierra Leinenbach**

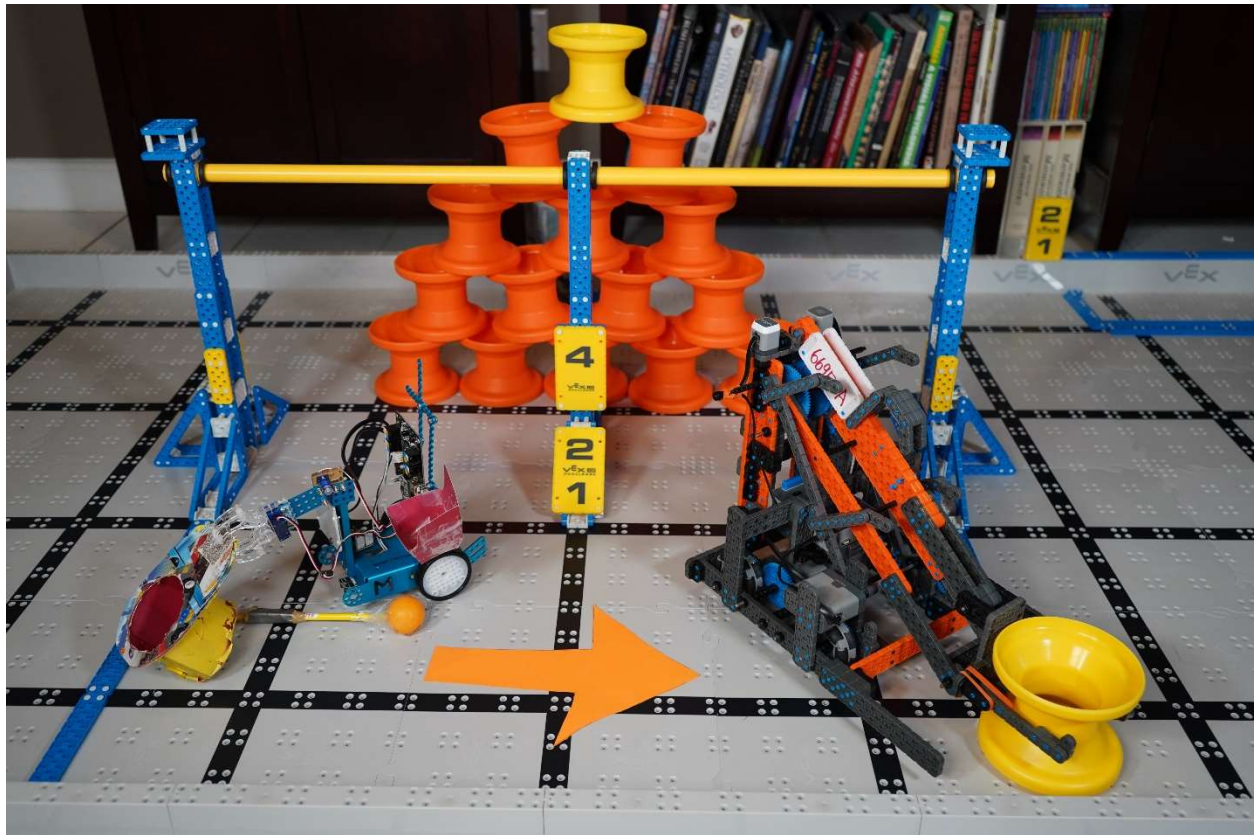
When we hear the phrase, “Girl Powered,” we think of girls doing the same things boys do. We believe that girls can do anything that boys can do, and we hope that all girls have the chance to realize that. Our experiences on the team have taught us that this statement is true. We are the Circuit Girls. We’re an all-girls VEX Robotics team and we were last year’s Florida state champions. We are proud to say that even though we are all girls, we have earned the respect of other teams.



Us, the Circuit Girls, winning an award!

Before we started doing VEX, two of us participated in a robot related problem in Odyssey of the Mind. Although there were both boys and girls on the team, most of the designing, building, and programming were done by the two girls. In the end, the Odyssey team earned first place in the regional tournament, and fourth place in the state tournament. Afterward, the next year, we couldn't find any robotics related problems, and building the robot was our favorite part, so we decided to create a robotics team and join VEX. We then invited two more girls to join us. We then began

our adventure of learning how to program, design and build a robot, and write an engineering notebook.



From Odyssey of the Mind Robot (on left) to Vex IQ Robot (on right)

Being on a robotics team requires many skills. We have a diversity of skills brought by different girls of our team. Elaine's artistic ability helps us with the engineering notebook. Sierra's game programming experience helps us program the robot. Charlene's engineering skills help us to design the robot. Claire's quick scoring helps us save time after matches. We have also developed other skills along the way. One skill that helps us is problem solving. In robotics we look for solutions to a problem. If there is a problem we can use our problem solving ability from robotics. Another skill is troubleshooting. In robotics we make designs and if they fail we figure out what went wrong and fix it. Sometimes we help other teams by troubleshooting their robot problems. These other teams, mostly boys, then realize that we really know what we're doing. Not only does this help *our* reputation, but it helps other girls they meet as well.

Other important skills, especially for girls, are teamwork and negotiation. In robotics we work together with other teams to create a strategy based on our strengths and weaknesses. In our very first competition, we were paired with a middle school team that told us to just stay out of their way. They probably underestimated our capability as girls. As it turned out, we were paired with them for the finals because we were

ranked first and second, so we had to learn how to work together after all. From this day on, we learned to negotiate with other teams.



The Circuit Girls thinking about design changes

VEX IQ Challenge is challenging, especially for Claire, the youngest member of the team. She was determined to make a difference in the team, and she was motivated to learn to build, drive, and program a robot. It was hard, but she did not give up. On January 5th, 2019, we competed in the Seaplane City Showdown tournament. We ranked 5th after the qualification matches. Charlene and Claire drove the finals match. We got 25 points and won the teamwork championship. From this experience, she learned that perseverance, hard work, and a supportive team will conquer any challenges.



Working together to create a new design.

An inspiration to our team has been the fictional character Rosie the Riveter. Rosie the Riveter was from around the time of World War II. When all the men were in the war the women had to fill in for all the jobs that were considered “men's jobs”. Although Rosie the Riveter was fictional, she inspired women in that generation and many generations to come. In the book *Rosie Revere Engineer* written by Andrea Beaty, Rosie the Riveter's niece, Rosie Revere had some problems in engineering and nearly gave up. But then Rosie the Riveter said to Rosie,

**“Your brilliant first flop was a raging success!
Come on, let's get busy and on to the next!”
She handed a notebook to Rosie Revere,
who smiled at her aunt as it all became clear.
Life might have its failures but this was *not* it.
The only true failure can come if you quit.”**

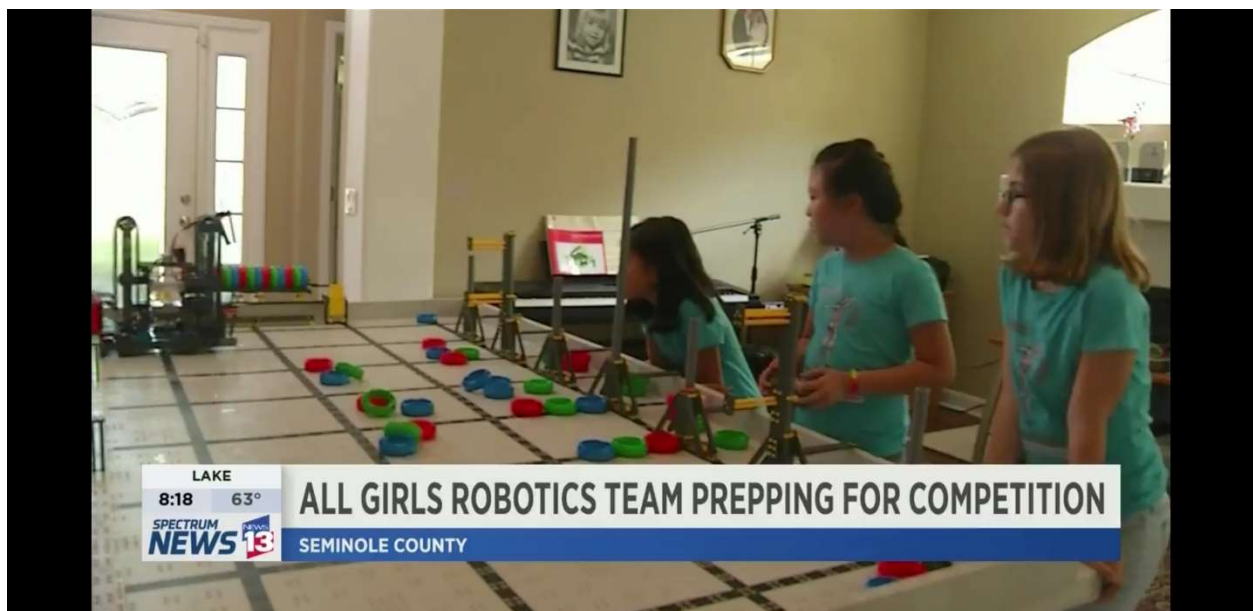
This last sentence is our team motto and can be found on the front of our team shirts.



Our team shirt with the motto

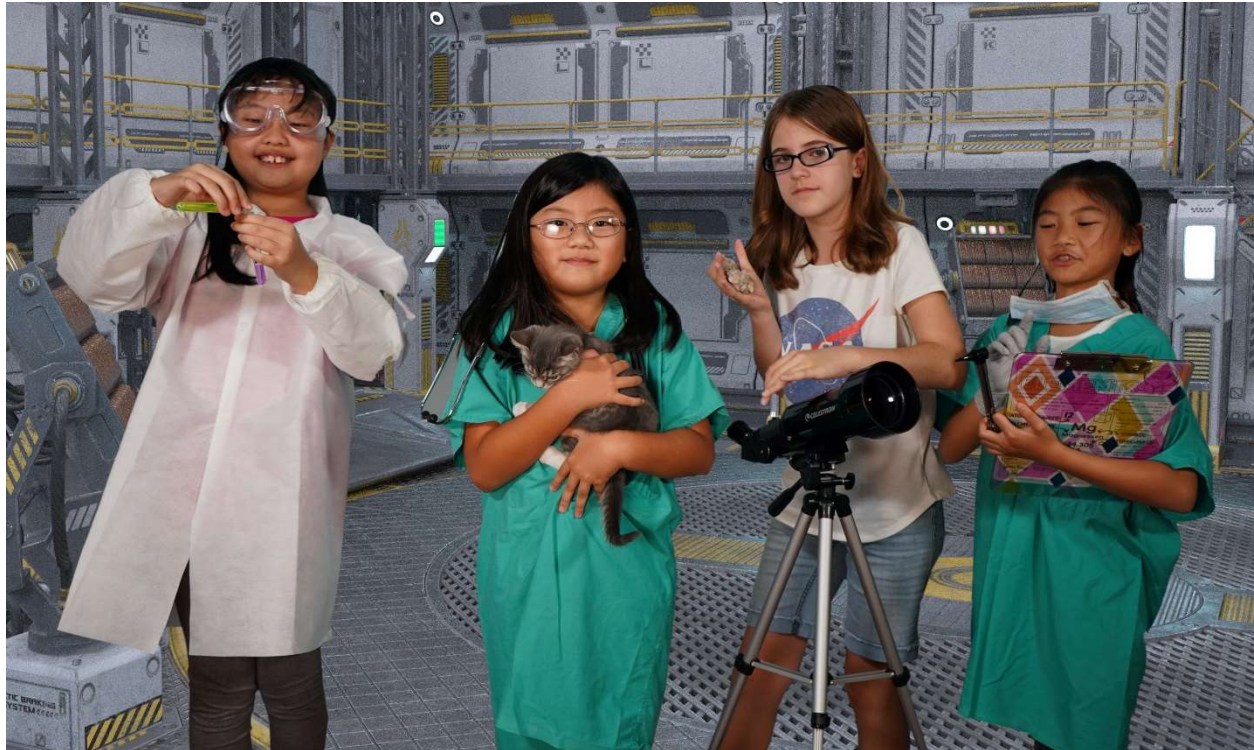
My team and I thank Andrea Beaty for writing this inspirational story. It really does show that nothing is a failure and to NEVER GIVE UP!!!

We also take pride in being an inspiration to other girls. Our team won state and was featured twice by our local news channel, not only for winning state, but also to show that girls can do anything that boys can. We then went to Worlds and got 4th in our division. I believe that our team is a perfect example that gender does not affect ability.



The team on television

However our story is only just beginning. We will all grow up to be successful, confident, and happy women. Being on a robotics team will give us the skills that could potentially help us in the future. When we grow up we want to be engineers, doctors, and scientists. VEX Robotics has given us the confidence and enthusiasm we need to be successful in whatever career we choose.



Our future in STEM

When I hear about experiences other girls have in robotics, I feel we all have the same main challenges. Whatever challenges we face, they all lead to one main question, how long will it take society to figure out that we are all equal in the STEM field and all other fields? Nearly all girls feel this way, and so does our team. As girls involved in STEM, we all must remember the importance of unity. As girls, we must all stick together and celebrate each other's accomplishments. We must support each other in order for all girls to succeed.

Credits and Dedications

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We thank our parents and coaches for supporting us! We also thank our teachers, swim and tennis coaches, and piano teachers for putting up with frequent absences and tardiness! We also thank the Oviedo Women's Club and the many people who have given us contributions during our hours and hours of fundraising. We also thank Andrea Beaty, author of *Rosie Revere, Engineer* for writing this truly inspirational book. When we think of Rosie, we're reminded of something all girls should remember when things fail:

““Yes!” said her great aunt. “It crashed. That is true.
But first it did just what it needed to do.
Before it crashed, Rosie... before that... it flew!”
Andrea Beaty, author of *Rosie Revere, Engineer*