

Diversity in the World of STEM
Team 37X X Borealis



Our team consists of 5 sixth grade girls, Chloe, Iris, Lauren, Rhea, and Sophie. We all have a mix of different personalities, which allows us to see each action from many perspectives. We believe that this is one of the things that makes our team the best that

it can be. We are a diverse group of people, ideas, and skills. In this group of people, we know that we can count on each other to do our best, and that our thoughts are appreciated and recognized. This is something that we call Girl Powered. When we think of the phrase Girl Powered, we think of a community of inclusive, collaborative people. A place where everyone is valued, where we girls can all communicate our thoughts in a civilized manner, with everyone respecting each other's views. We're really proud of how inclusive the environment here has become. Even though we are not finished yet, we definitely are finding large numbers of girls taking the initiative, signing up, and going to the practices. We try to encourage everyone and anyone who has a possible interest in robotics, and STEM in general. We've been surprised countless times at how diverse the group of people we've talked to has been; people that you would've never guessed they would be interested in this subject otherwise. Another way we've been able to be in contact with a large group of people is through our school's open house. We have volunteers from our robotics program demonstrate the this aspect of STEM.

Earlier this season, we participated in a tournament where it felt like everything was going wrong. We didn't earn as high a score as we thought we would in the teamwork finals, which could have earned us the Teamwork Championship award. Our autonomous programs which were working perfectly on the test runs, but they failed to achieve the usual scores on the Skills field. However, as we sat down on the spectator side of the gymnasium, nervously waiting for the much-anticipated award ceremony to begin, we all agreed that we improved a lot since our first tournament, and how we would continue to practice, have faith, and succeed as a result.

"Although we didn't do as well as we hoped, we know how we can improve and learn from this in the future," Chloe said. We all knew that although we felt disheartened, we could learn from this and continue to practice, improve, and learn in all the aspects of robotics.

Then, the closing ceremony began. First, an award was handed out to the hilarious MC, whose quips about the 'yellow money' and 'orange friends' kept the atmosphere positive. Then, the student awards were announced. We all looked at each other. We knew that no matter what happened, we would go through everything together. We can count on each other. We quietly waited as the atmosphere felt

"The judge's award goes to....37X- X Borealis!"

We didn't even stand for the first 10 seconds, as we were all completely stunned from the news. But it didn't take long for us to rush off the bleachers. We were overjoyed. While we knew that the Judges Award didn't qualify you for anything, it felt like this was the boost we needed to work harder and to ultimately succeed, and we know that we are one step closer to qualifying.

Our team is very diverse, and we consist of many different backgrounds. Even though we have different personalities, we include each of our five teammates. Including

everyone is something our team does best. We share the belief that diversity of perspective makes our robot design better, because we discuss and decide on the best designs in everyone's opinion. This is one of our strengths and definitely affects our ability to succeed in a good way. It helps us consider every option before making any decisions. When we are working together we include everyone's ideas, and we like to have team conversations and discuss everyone's ideas, and we also debate over them. When we are working together, we assign different people to do different tasks.

In order to include everyone, we have a system where each person specializes in what they are good at when driving, and during practice. At the start of the season, we began by splitting into groups to build our original robot. Once we started driving, we conducted countless tests by using a timer to see who was the best in which area. At this point, we have devised a system that makes use of each person's skill. Iris and Rhea are "second drivers" which means they switch at the end and get to finish off the job. Chloe and Lauren specialize in both driving first and last, and they also strategize. Sophie is our main first driver.

When we were building, Rhea, Iris, and Chloe built the base and Lauren, and Sophie built the arm. During our usual practices, Chloe writes in the notebook (Lauren does the drawing), Lauren works on our programs, Sophie practices driving with Rhea and Iris switching, while the person who isn't driving times, and comes up with different strategies to try. However, it is not possible to work on programming and driving at the same time. Therefore, when Lauren is doing programming, one of us helps her with our observations and ideas on how to improve, and when driving, the same actions apply. We find that rotating the jobs that each person does is the most efficient way to complete our goals for the day.

When trying to include each and every one of us, we all learned that if each person does a different thing at a time it helps our practices go more productively. Our robotics teams only meet once per week so we need to make use of our time and be productive. We assign people jobs and tasks to work on during our two-hour practice based on what each person specializes in. We will rotate tasks, which vary between practicing driving, working on our 'Engineering notebook', fixing up our autonomous program and much, much more.

Our STEM role model is Rosalind Franklin. Her story is one of much controversy and in our opinion, unfairness. She had been very close to finding the structure of DNA, when one of the people in her lab that had disregarded her previously took Photo 51. Then, a team member studying under her had taken it, which contained crucial evidence for the structure of DNA, and showed it to 2 other scientists who then published an article on it, and received most of the credit. We never want something so unfair to ever happen again to anyone. This is one of the reasons she is our STEM role model. Another reason is that she was an expert in her field when women working in science was

frowned upon, even by her father!

Our team looks up to Rosalind Franklin, She was shunned upon because she was a female. X Borealis is a team full of young girls, and we think we can make changes in this world just as much any boy can. Rosalind Franklin achieved so much during her study of the DNA structure. When her team took the picture, Photo 51, a lab coworker, Wilkins, showed her picture to Watson and Crick, who published this photo in articles explaining and did not give credit to Franklin. We strongly disagree with this and are very hurt by Wilkins' cruelty. We want to prove that we can win with our smarts and determination. We will stay strong like Franklin, for even though she was pushed down by many people, she changed history.