To my team, “Girl Powered” means that girls are not only involved, but they also lead. This year’s VEX Robotics team 8301C is the first robotics team in San Ysidro High School to have a female captain. Said captain, and author of this challenge, is also the manager of the team. Last year, I joined robotics and became the manager of my team, also 8301C, due to my unique writing and organizational skills, which later helped us win the Design Award at the last South Bay Regional tournament of the season. This year, I took the initiative of applying to become the captain of my own team and my school’s robotics club made it possible for me to lead a team composed of all boys.

In addition to being led by a girl, my team greatly focuses on being inclusive to others regardless of experience or race. A few months before the new robotics season begins every year, my robotics team holds two weeks of tryouts for new members. My team members and I talk to people we know in order to encourage them to try out. Many of them are too intimidated to join because they believe they have to have experience with robots or programming. In tryouts, however, the captains select members for the four teams based mostly on their determination. Experience is beneficial, but even students with experience are not always as committed to robotics as is required of them. In the process of preparing for competitions, our members will learn about robotics on a daily basis and thus acquire the necessary information to be successful. Commitment and passion, however, is not something that can be easily taught. Because of my team’s diverse and inclusive nature, it is composed of four Mexican boys, one Japanese-American boy, and a Mexican girl, all with different levels of expertise. We have four seniors, one sophomore, and one freshman on our team, each of which displayed the necessary commitment to robotics when they attended tryouts.

Each member of my team has their strengths, such as either programming, building, or documenting. As captain this year, I make sure to assign tasks not based only on their strengths, but most importantly on their weaknesses. Though it seems counterintuitive to do so, it ultimately helps us become stronger as a team. For instance, Sebastian, one of my teammates, is more of a programmer than a builder; however, despite his strength in programming, I assigned him tasks such as assembling the robot’s base and lift in order for him to become skilled in multiple areas. Abraham, another one of my teammates, is mostly a builder. Regardless, I have assigned him the task of taking notes on our design notebook and have helped him perfect said task. Assigning tasks to my team members in such way allows them to become versatile and capable of helping out wherever their assistance is needed. It makes each member self-sufficient and thus helps speed up the building process since more than one person becomes experienced enough to work on each task.

Furthermore, my team has weekly meetings every Monday in which we discuss the success, challenges, and progress of the previous week; from there, the tasks for the week are assigned to each person. We also have team meetings after every competition in order to confer

about the things we did well and the improvements we need to make. These team meetings give each member an opportunity to have their opinions heard because they all have something to contribute, regardless of their level of expertise with robots. This diversity in perspective allows us to grow as a team since we are able to understand each other better and address issues in our building process that one person might have recognized and some of us might have not considered, thus saving us much time. Because of my team's tendency to be inclusive to diversity, we have been significantly successful this season in the VEX Robotics In the Zone game. My team won the Excellence Award at the first tournament we attended this year, which thus qualified us for State Championships.

In conclusion, one of my main inspirations for enforcing inclusiveness and diversity in my team is mathematician Katherine Johnson. She contributed to NASA's calculations for Alan Shepard's Freedom 7 mission liftoff and trajectory in 1961, which was the first time an American man went to space. Despite the fact that the men working for NASA did not believe in her capabilities and excluded her from meetings because she was an African-American woman, she continued to work diligently and eventually proved them wrong. In my team, I refuse to have anyone's voice left out, like the men in NASA did with Mrs. Johnson, because everyone has a new perspective to contribute to the team, regardless of their experience with robots. The opportunity to contribute and be involved allows inexperienced members to become as experienced as any of their counterparts. This approach is how I personally transitioned from knowing nothing about robots at the beginning of last year, to becoming the first female robotics captain in San Ysidro High School's history this year.

Team 8301C's captain Yailin Chavez (left) researching mechanisms to pick up the cones from the field in VEX Robotics' In The Zone game. Abraham (right) as he works on the claw we will be attaching to the double reverse four bar lift.

Sebastian working on the base of the robot, more specifically where the mobile goal intake will attach.

Top row (left to right): Nick (builder and designer), Sebastian (builder and programmer), and David (builder and driver)

Bottom row (left to right): Abraham (builder), Yailin (captain and manager), and Jesse (builder, programmer, and designer)

The four managers carrying their teams' robots after a VEX Robotics Regional Tournament.