

***FIRST* Impact Award - Team 4**

2023 - Team 4
Team Number
4
Team Nickname
Team 4 ELEMENT
Team Location
Van Nuys, CA - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in <i>FIRST</i> programs as mentors/sponsors.
FIRST has allowed students from our team to visualize their passions through coding, machining, designing, and public relations. Students who have gone through the Team 4 ELEMENT program have all graduated from high school. About 90% of these students are pursuing a variety of fields that were inspired by FIRST. Every leader on the team from the past three years is pursuing STEM fields in colleges like Stanford, RIT, Purdue, UCI, UCSB, UCSD, UCLA, and UC Berkeley, among others.
Describe your community along with how your team addresses its unique opportunities and circumstances.
As the only competitive team offered at our small school, many of our 350 students get involved with robotics in some way. Whether it's out of interest or necessity for projects, much of our student body uses the shop at least once throughout their four years. Additionally, our open shop allows many other FIRST teams to visit and outsource services from it. Therefore, we are able to spread STEM through robotics to our students, the many schools surrounding us, and the other teams in the valley.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> message in ways that are effective, scalable, sustainable, and creative. How does your team measure results?
Team 4 aims to spread the FIRST ideals of teamwork, gracious professionalism, and creativity to kids and teens. We run a summer camp for children ages 8-14, introducing them to FIRST ideals through FLL and FTC games. As a result, we inspired and started two FLL teams and an FTC team that grow every year. Many of the campers end up attending our school and joining our FRC team, helping us measure our effectiveness. Lastly, we are publishing a children's book to promote FIRST and STEM as a whole.
Please provide specific examples of how your team members act as role models within the <i>FIRST</i> community with emphasis on the past 3 years.
Team 4 never misses an opportunity to help out. We are known for volunteering at FIRST events such as LA Regional 2019, Beach Blitz 2019, Battle at the Border 2019, LA North 2020, Beach Blitz 2021, Port Hueneme 2022, and more. At any competition, a member of Team 4 can be spotted helping to set up and

take down the game field, filling ambassador spots, helping rookie teams, and lending a hand wherever is needed. We also consistently host FRC Kickoffs and FLL tournaments at our school.

Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

Team 4 is renowned within the wider FIRST community for our dedication to helping and supporting other teams, large and small. We've helped Team 6000 with transporting and driving their robot on Shabbat during a competition, machined parts for teams 599 and 1661, and lent a hand to Team 4501 at Beach Blitz. We're also prolific team starters, starting FLL Team 56069, FLL team 11995, FTC team 21341, and FRC team 8060. We send our students weekly to mentor the FLL teams and help run their programs.

Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years?

Team 4 has been penning and illustrating a children's book to cover all the steps of robotics specifically for younger kids, to help inspire and educate their journey into FIRST. Team 4 has also been running a summer camp since 2016 with the aim of introducing children and teens to the wider world of robotics. To really drive home just how spectacular robotics can be, Team 4 has been running demos in local elementary schools to demonstrate our robot and its capabilities.

Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years

With a large Armenian presence on our team, Team 4 has always dreamt of bringing FIRST to Armenia. We partnered with FLY, a non-profit organization that focuses on providing support to underprivileged children worldwide. FLY is in the process of accomplishing their goal of building a school in Gyumri, Armenia. Team 4 has graciously agreed to help set up a robotics room at the school, establish an FRC team to further their interests in STEM, and help them compete in California competitions.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Team 4 is dedicated to promoting an equal and open team environment. We work to abolish the unfair disadvantages faced by women in STEM. We have managed to create a welcoming and safe space for women. We now have a higher percentage of girls leading our team compared to that of the rest of the school. Specifically, women fill half of the lead positions on our team. Finally, to inspire leadership in our freshmen members, we created FTC team 21341, which is exclusively run by ninth graders.

Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future

To ensure Team 4 continues to thrive into the future, we have taken steps to create a team manual that details all the workings of each department. Graduating seniors pool their knowledge and experiences to the manual, in order to be implemented by future generations of the team. To ensure that our freshmen members are ready to transition into FRC, we introduce them to FTC team 21341, which we started for this reason. We also boast a strong alumni presence who are happy to help the community.

Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the

past 3 years

Team 4 dedicates itself to gaining sponsors and spreading FIRST ideals. To recruit, we not only contact companies, but also travel to local businesses with pamphlets. We engage our sponsors by informing them about FIRST and how they can help the community. We also run demos to showcase what their time, money, and aid ultimately contributed to, simultaneously helping retain them as sponsors. Finally, we machine and gift individualized thank you plaques as well as team shirts, photos, and letters.

Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.

This year, Team 4 worked to remedy the shortage of student leadership. Over the years, students became too reliant on mentor assistance. We worked to ensure that every department had a lead and designated badges indicating so. Students stepped up to fix common problems. Our team created workshops and virtual meetings with alumni to learn coding. Our efforts this year were built around ensuring every student had the opportunity to lead and problem-solve together instead of leaving it to mentors.

Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals.

Team 4 aspires to fulfill the mission of FIRST by spreading worldwide access to STEM. We partnered with Freedom Loving Youth (FLY), a nonprofit organization aiming to help impoverished children and families across the globe. FLY is working to build an educational center in Gyumri, Armenia. Team 4 has helped raise \$20,000 to fund a room at their school to establish the first FRC team in Armenia. Our goal is to mentor this team and help them travel to the U.S. to compete in our local competitions.

Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy.

At Team 4, we pride ourselves on aiding our local community. However, our impact reaches much further than that. Team 4 leverages media and communication to promote the ideals of FIRST. We appeared on an episode of Black-ish, consulted for the Oscar winning Big Hero 6, performed on The Fosters, and drove forward STEM in a Honda commercial. These studios seek us out for our experience, insight, and mentorship, and through these we are able to impact a much wider community.

Essay

Establishing Team 4 ELEMENT in 2005, we built it on the premise that the future holds endless possibilities for advancement. Engineering, Leadership, Equity, Mentoring, Education, Networking, and

Teamwork are consequently critical components of our vision. Our goal is to inspire future generations to apply their intellect and curiosity to advance science, technology, engineering, and communication. This is our motivation, and we demonstrate that through our background and demographics as well as an emphasis on volunteer work, efforts for community outreach, and familial team dynamics. Team 4 is making an impact by sharing FIRST as it truly is: a family that works to push everyone beyond their greatest imaginations.

Before we began soaring to new heights, we were members of FRC Team 22 Double Deuce at Chatsworth High School. In 2005 we relocated to the newly established High Tech Los Angeles and were given team number 4 by FIRST. We grew to become a crucial component of High Tech LA. Our organization has been successful in inspiring other students to join our program; Team 4 has become the most populated and notable club in our school. 75% of our alumni have subsequently pursued STEM fields beyond high school, also demonstrating Team 4's positive impact on its members' futures. Our team consists of a 73:3 student-to-mentor ratio, which makes us primarily student-run and with a strong inclination towards helping others, leading us to our efforts in volunteering.

Volunteering is one of the hallmarks Team 4 prides itself on. At any event we attend, one can find Team 4 members resetting the field or giving tours as ambassadors. We pride ourselves on having a reputation of reliability within the FIRST community. Both on and off-season, we help at many FRC, FTC, and FLL events. Volunteering not only allows members to further learn the games, scoring systems, and competitive hard working nature of teams, but it allows for a deeper understanding of the community and safety standards FIRST is trying to promote. Volunteers are much of what makes FIRST robotics events possible, so lending a hand as a Team 4 member is why it's all the more rewarding. Beyond just volunteering, Team 4 has a greater reputation of being prolific team starters and dedicated helpers.

We at Team 4 aim to follow FIRST ideals in fun ways. From hosting events to starting, mentoring, and helping teams, Team 4 does it all. We host an annual kickoff for any teams that wish to attend, allowing multiple teams to start their building season in a community-driven way. Here, we can learn the game together, go through the manual, and help each other in a positive environment. We also branched into FLL in the past couple of years, even hosting some tournaments like Superpower 2022 and Cargo Connect 2021. Another quality of Team 4 is that we welcome teams anywhere around the Valley to use our resources for their own, and have become renowned for always being willing to help anyone in need across Southern California. For example, we helped team 6000 by transporting and driving their robot because they had religious priorities for Shabbat. We wanted to let their work over the season pay off and, because of our efforts, we won the Gracious Professionalism Award at that regional. Team 599 came to us for help machining plates, and teams 1661 and 5678 both requested our shop's help. We offered Team 4501 supplies and machine help when their robot broke down at Beach Blitz, and we provided both teams 1836 and 7645 with supplies. At the 2019 LA regional we lent a hand with electrical and mechanical issues to team 4019. Teams 4578 and 7871 got wiring help at LA Regional and, at LA North, we passed supplies to team 7645. Finally, we transported team 1836's robot and pit to and from their school and translated for the Chilean teams in 2019. We're fully committed as a team to helping with all aspects of FIRST and also ensure that we take the time to spread awareness as well.

Our top priority is spreading the principles of gracious professionalism, safety, communication, and STEM to the future FIRST robotics students. We have had the privilege of providing demos at many different events: the Encino Farmers Market, Lorne St Elementary, FIRST Day Dodgers Stadium, Darby Elementary School, Google Dress Code, Woodland Hills Private School, the Navasartian Festival and

Games, and, most recently, XPrize Avatar. We also try to start teams in underrepresented areas, like FLL teams 11995 and 56069, FTC team 21341, and FRC teams 8060 and 7517, which was the first official Armenian-based team to compete in a FIRST event. We provide continuous mentorship to these teams, as shown by our bi-weekly visits and aid to team 56069 at High Tech Middle School. Another example of our emphasis on reach is our usage of media productions. This includes being a consultant for Disney's Big Hero 6, displaying our robot in a Honda commercial, and making appearances in The Fosters and Black-ish. We try to share FIRST in the most meaningful ways we can, hoping to not only inspire the next generation but also bring plenty of awareness to our world.

Of course, none of this would be possible without our generous sponsors. We recognize our sponsors as a vital part of our community. In addition to putting them on our merch and robot, we personally thank all of our sponsors by sending them gift boxes each season containing our updated merch and a student-made thank you plaque that's machined here in our shop. We also provide our sponsors with demos of our robot to personally show them the results of their investment in our team.

Team 4's prominence and ability within FIRST allow us to give back the opportunities and skills that FIRST gave to us to everyone.

On the topic of outreach and sharing FIRST ideals, Team 4 strives to do this in new and creative ways. For starters, we have hosted an annual two-week summer camp for children ages 8-14 since 2016. We began this to introduce FLL and FTC through games and activities where campers would eventually design and build their own robots to compete with. This allowed campers to get the full robot design experience and hopefully inspire them to join FIRST later on, as proven by the presence of many past campers on our team now.

Another project in process is a children's book series, called The Adventures of Felix and Phoebe, about different aspects of FIRST to get children in elementary school interested in a future in robotics. The first book, Felix and Phoebe's Robot, shows FIRST Robotics from the perspectives of our lovable characters Felix, a programmer, and Phoebe, an engineer. It focuses on the creative design process, solving real problems with cool robots, and introducing shop safety.

Finally, our most notable project is our work to bring FIRST to Armenia. We have been working with a non-profit organization called Freedom Loving Youth (FLY), which works to help underprivileged kids worldwide. Team 4 and FLY have been working to build a new school in Gyumri, Armenia, with a designated robotics room for the school and a team established for the school. With this partnership and a donor, we have gathered funding through galas and other fundraisers for our mission. We are proud to say that the school is now in the process of being built, with a designated robotics room already secured! We ultimately hope to have this team perform in California to promote FIRST in unrepresented areas and give these kids the chance to experience something great.

Team 4 has extensive relationships throughout FIRST. These relationships, however, are only possible with a strong and vibrant team life. We recently implemented a new system to ensure every member feels welcome and important by creating an FTC team for the freshmen members, mentored by us, that introduces the basics of STEM and allows for learning experiences in a league they control. Once they graduate to their sophomore year, they can move on to the core FRC team to learn a much wider range of machinery, as well as compete in larger-scale tournaments. This inspires freshmen and allows learning at a much slower pace, giving our new members the chance to focus and find what they love

most without too much pressure.

Another big part of our team is that we prioritize the enjoyment of robotics rather than the competition. We do this by having team bonding activities that are hosted by the students for the students. This includes pumpkin carving, pool/beach parties, paintball, sports games, team dinners, and more. These help us feel closer to each other and more like a family. As such, the connections between us last forever, proven by our ever-present alumni connection, with consistent visits, sustained contact through Slack, the team's Google Drive, and the resources they left behind for us. The Leaf, a compilation of information, discoveries, and tips to teach new members and help anyone if they're stuck, is the culmination of many years of alumni connections. Our alumni are always open to helping any new members because, like the rest of us, they see Team 4 as family.

Team 4's commitment to robotics extends far beyond the field; from the shop to the TV screen, our influence can be felt across FIRST and the wider world. We believe in sharing FIRST because we know that everyone deserves to experience the family that they could have in this organization. Through the production of our children's book and the pioneering of FIRST in Armenia, we are spreading the FIRST message to as many people as possible, inspiring the next generation of engineers, thinkers, planners, and innovators. We genuinely care about upholding everything FIRST stands for and, at the end of the day, Team 4 ELEMENT is more than a team; it's a movement. We do what we can so that when the new generation of thinkers enters the world, they enter it mentored, taught, and inspired. ;

