

Our mission is to share our enthusiasm for STEM to motivate everyone we meet to become champions for *FIRST*. We do this by providing a strong foundation for our future STEM leaders, inspiring our community through STEM awareness & empowering teams to guarantee *FIRST*'s success. Our long-term partnerships with our sponsors, school, *FIRST* teams & community allow us to connect with kids of all ages, abilities and backgrounds, leading many through all levels of *FIRST* to become successful alumni.

We provide a strong foundation for our future STEM leaders

1511's strong foundation starts by getting kids as excited about *FIRST* as we are. We brought *FIRST* to all Penfield schools, as well as homeschoolers. We partnered with Town Rec Dept. to introduce FLL to the community. In the last 3 years, we started 42 FLL/FTC teams, mentoring 36 at our weekly help sessions, giving them resources to be sustainable. We revamped our FLL camp curriculum to add exciting challenges. More importantly, these camps are low cost and spread across Rochester to bring *FIRST* to underserved & refugee kids.

We don't settle for the status quo; each year students champion new ideas that evolve 1511. Leadership roles are created by students based on interest and current team needs. With mentor guidance, we have authority to make team decisions from t-shirt design to robot strategy. By doing the work, we learn skills that will make us successful in future endeavors. We hone these skills by presenting to the Board of Ed, event planning, and developing relationships with local businesses for support through our Patron Drive fundraiser.

Our innovative preseason curriculum, ThunderTech, features CAD, Safety & Tools Trainings, Engineering Design Process challenges, Mock Build Season and a summer swerve drive project. Team rapport is built through fun, challenging activities: corn mazes, tennis ball launcher designing, laser tag & team picnics.

Our Achievements System rewards effort. Students reduce their costs for competition by participating, such as organizing outreach events or attending weekly meetings. This gives every 1511 student equal opportunity to compete without financial worry.

Our alumni add a new level of mentorship because they understand our perspective. Alumni aren't just mentors; they share advice, expertise and 1511 lore. Our 1511 Alumni Association helps us support them when they mentor & volunteer at *FIRST* events. 1 in 5 of our alumni are *FIRST* mentors; 11 mentor 1511. 90% of our alumni have gone on to STEM majors, working at Toyota, NASA & L3Harris. In memory of an amazing 1511 alum, we created the Tommy Murphy Scholarship, which has helped 7 students in the last 3 years pursue STEM education.

We inspire our community through STEM awareness

1511 plays an active role in integrating *FIRST* into our community. Our newest innovative event, [Grateful Red Music Fest](#), mixes rock and robots at the town amphitheater. We demo our robot while bands play for an excited crowd of hundreds. We partner with AutismUp and Ronald McDonald House because of our personal team connection to them, raising \$2000. "The event was such a success in its first couple of years that we plan on having the event held again every year."-Town Rec Director.

1511 provides access to STEM virtually. "[We Can Robot](#)" is our informative 7-part YouTube series that kept the community engaged in STEM during COVID with topics like programming, simple machines & advocacy. It had 1100+ views and was shared by

FIRST! Our events reach a wider audience because they're featured on local news and streamed on Roku, Apple TV, Spectrum TV, Penfield TV, [Twitch](#) & [YouTube](#), reaching 9500+ people in 29 countries.

We focus on high-impact interactive demonstrations to promote *FIRST* to the masses. We run a *FIRST* expo at the Rochester Maker Faire, inviting teams from all levels of *FIRST* to showcase their robots for 1000s. At NYS Fair (10 yrs), we run exhibits in 2 different buildings for 2 days. We talk to as many of the 250,000 visitors as we can about how to start & join teams. NYS Fair introduces *FIRST* to a large non-STEM audience, as do demos at the NYS School Boards Assoc. & Red Wings baseball games. We share *FIRST* with 40,000 attendees at our demos at [Imagine RIT](#), Penfield & Rochester STEAM fairs, [Girls in STEM fair](#) and St. John Fisher College Day of Science. We average one STEM promotion event per week!

We partner with our school district to make them a champion for *FIRST*. Our school presence includes a mural of our robots, teachers wearing our camo pants, the robot at the homecoming football game and plenty of workspace. Our Robot Cage Match had faculty go head-to-head driving our robots to understand *FIRST* in a fun way! Our new principal became a *FIRST* fan after attending Kickoff! Our Robotics Board of Representatives works with our school board to revise team policies and make sure we're achieving our goals. We continue to work with our district to provide LEGO kits to our schools and coach stipends.

Our longest running service project is the *FIRST* MegaDrive for Make a Difference Day. We donate 3000+ kids' books, toys, food items & school supplies each year. As a Giving Partner with Bombas Socks, we made 1194 STEM kits to go with 8500 pairs of socks (their most needed item) and food to the Rochester homeless. The organization said, "Our partner schools are thrilled to have the opportunity to introduce their students to STEM with such hands-on fun!" These events combine outreach with STEM promotion such as Books and Bots at the library (storytime for kids pre-K to grade 3 with robot demo), STEM Nights for refugee families, and Girl Scout robotics badge trainings that resulted in a FLLJr team!

During COVID, we refocused our energy & resources on our community's immediate needs. We 3D-printed 255 face shields that went to 3 hospitals & 2 nursing homes. A hospital professional said of our shields, "The 1511 design was superior as it afforded greater lateral protection and improved comfort. It seems you went over and above the NIH regulations." To thank our frontline workers, we used the money earned at our Trivia Night to purchase 100s of meals from our sponsors, delivering them to 3 hospitals, a nursing home & an urgent care center. We worked with local businesses to provide 9 carloads of coffee and snacks to hospitals and urgent care facilities.

We empower teams to guarantee *FIRST*'s success

In the last 3 years, we assisted 74 FRC teams, mentoring 9. We helped *FIRST* teams in 19 countries sustain *FIRST* globally. We sent mentors to China and mentored 4 Chinese teams on all aspects of *FIRST*. We assisted Turkish team 6838 on robot design and outreach. Last summer we mentored Team Seychelles and Team Uruguay in the *FIRST* Global Challenge.

1511 keeps *FIRST* active year-round! In winter we run Rally, a scrimmage for local teams to test and improve their robots before competition. In spring we run All-Rookie Meet and Greet at Champs to help rookie teams with sustainability. In summer we ran

Rochester Recharge scrimmage with teams 578 & 1559 to bring *FIRST* competitions back after COVID restrictions were lifted. In fall we run [Rah Cha Cha Ruckus](#), the only off-season event in western NY, where teams recruit and test new pit crews/drive teams. STEMley Cup and Robot Rumble off-season s were modeled after Ruckus with our resources.

As an open-source team, we help teams be equally competitive and make *FIRST* stronger so that we can make a bigger impact together. We share all that we know and do: we have 6 resources in the *FIRST* Fundraising Toolkit, leadership trainings on our website, a [team wiki](#) with our designs, our CAD in the book "*FIRST* Robots: Behind the Design," and a *FIRST* Updates Now "Behind the Bumpers" video. We've been a control systems beta-test team for 11 years, presenting results at Kickoff. At Champs & Regionals we present on advocacy and leadership. We host Chairman's and Leadership Boot Camps to strengthen local teams. Using our materials, we help them start their own camps.

1511 starts & sustains all *FIRST* programs. We started FTC6996 at our middle school with 80% of alumni joining 1511. Our grant program has given teams \$11,000 (3 yrs) in addition to travel & registration fees we covered. Rumble, our FLL off-season event, keeps teams excited to continue next year. We run & support local FLL/ FTC qualifiers and FLL Champs every year. We saved the 2021 FLL qualifier by making it happen virtually with 100% of the volunteers from 1511.

Our most significant impact is advocating for legislation that funds STEM programs like *FIRST*. We train teams to do the same at the National Advocacy Conference (NAC) and our NY Advocacy Conference (NYAC). NAC & [Student Assoc. for STEM Advocacy \(SASA\)](#) founder Steve Hyer, "1511 is an integral piece in building a coordinated STEM advocacy effort. They are a mentor and leader to teams across the United States." Our reputation as an advocacy leader has led to cross-country connections. We are SASA charter members, we shared our NYAC resources with FRC2412 to start a WA state conference, and presented our advocacy efforts in Texas. Our work is leading to real change!

We speak to all levels of government to educate them and make them fans of *FIRST*, from the Governor's office to the US Secretary of Education! This year we repeatedly met with NYS Assemblymember Jen Lunsford & our representatives to advocate for [Bill A1219](#), which allocates \$250,000 to start NY *FIRST* teams. Lunsford, "It was inspiring spending time with these engaged young people and I can't wait to host them in Albany."

We are champions of *FIRST*

To motivate everyone to join the *FIRST* effort, we create a strong group of students who will become our future STEM leaders. Those students become part of our community so it values and invests in 1511 and *FIRST*. We help other *FIRST* teams with our resources strengthening them and *FIRST*. With everything we do, the thunder just keeps getting louder!