

## 1511: Thunderous Impact

Rolling Thunder has stormed through the ranks of FIRST for 10 years. With Harris as a sponsor, our school behind us, and more students than ever, we've built a strong base for growth and development. We hold annual events, and continue to create new ones to promote FIRST.

For 3 years we've joined forces with FRC340 to hold the FIRST MEGADrive on Make a Difference Day: 65 blood units, 1250 food items, 3704 kid's books and over 7000 lbs of recyclable electronics were collected. We also hosted games at Family Fun Night at the mall to raise money for Haitian disaster relief. In 2013, we were National Honorees and won \$10,000 for our efforts, which we used to sustain an Albany FRC team and to create a Rochester FTC team. We were featured in USA Weekend Magazine with 22.5 million copies distributed!

Our impact is global. 1511 sorted medical supplies for international relief efforts at InterVOL. At competitions, we've donated baby gear in Boston, eyeglasses in DC and LEGOs in St. Louis. We boxed food for over 800 families at FoodLink and spent time at a nursing home. At Toys for Tots, we packed toys for over 2000 kids in 2 years with the Marines! We've been recognized by the Town Board, Monroe County Legislature and NYS Senate for our efforts.

We impact our community through a Patron Drive fundraiser. Students visit 150+ businesses to spread FIRST and receive sponsorship through money and parts; raising over \$10,000. Patrons enjoy our newsletters, event invites and robot demos.

This year we held 20 robot demos at Penfield schools, NYS Fair, FIRST Night at the Ballpark, ImagineRIT (with FLL and FRC bots) and a Science Center Android Exhibit where we were featured on the news. We had a booth at Greentopia, an environmental fair with over 50,000 people in 3 years, selling FIRST LED light bulbs. Rampage is a 5-day expo that we held at the Monroe County Fair with over 30,000 attending. We invite other teams to show off their bots and inspired a 4H FLL team!

1511 introduces FIRST through our large events publicized via local news channels and our press releases. We're one of few teams who host a Week 0 scrimmage, an offseason, a Championship event, and 2 FLL events to keep teams motivated.

We support each other. We raised money for our mentors' baby who had prenatal surgery, organized a blood drive when a 1511 student was diagnosed with leukemia and participate in Light the Night Walk for the Leukemia and

Lymphoma Society; raising over \$5,000 in the last 4 years! We raised over \$3,000 for Multiple Sclerosis and Cystic Fibrosis that affect team members.

Our team integrates leadership into everything we do, encouraging students to organize demos, fundraisers, community service, leading a subteam or presenting a design. Students attend Leadership Boot Camp to learn public speaking, personal development, time management and more! Camp materials are used in the school leadership class. Elected student leaders organize meetings, communication, recruitment, training and team building activities. Students organize over 30 events a year and our 7 BIG events.

Alumni volunteer at 1511 and FIRST events; 6 are 1511 mentors. We keep track of our 65 alumni using the 1511 Alumni Association. They have secured over \$50,000 in FIRST scholarships, working at Harris, NASA, Philips and Toyota.

Harris has supported us all 10 years. They provide 10 mentors, make student-designed parts, donate 7 military-grade tablets for our portable scouting system and feature us in its annual report and newsletters. They hold an annual all-Mentor lunch where we give our Chairman's presentation.

New this year, mentors gave talks on various engineering fields, from Systems to Environmental, and about jobs, colleges and majors. They demonstrated products they work on. Mentors work with students on engineering projects in Project Lead the Way classes. They push us to apply for scholarships and colleges, writing recommendation letters.

Our school supports us. They renovated the tech wing to meet our needs, tripling our workspace! Our advisor worked with PHS to fill our shop with machinery. PHS gives us the school for events and robot building, like keeping a 9-foot pyramid in the cafe for a week. We thank the school board yearly with a robot demo and presentation.

The School Board President said, "We're always impressed. Thank you for representing Penfield so well. You're a fine example and a great model."

We've got spirit! We recruit through FLL/FTC, and by driving robots at the Clubs & Activities Fair, Freshman Orientation, Talent Show and Pep Rally. We actively work to recruit females, doubling their numbers each year for the last 3 years. School staff, from custodians to the Superintendent, wear red camo pants to our competitions and on Spirit Days. The PHS IT provides us with software and equipment we need and compete in our Game Nights! Our advisor said we inspired him to get a degree in District Administration.

Weekly Legacy Talks promote team culture by informing students of our history. Veteran students carry on the legacy by training new ones to keep the thunder rolling! Our expert CAD student led a training session this past summer. Fall trainings expose us to different types of engineering. We build newspaper towers, spaghetti bridges and wind turbines, and do a mock Build Season, like tennis ball catapults. We divide our large team into subteams to develop skills ranging from mechanical to marketing.

We roll into all FIRST programs. In 10 years, we've sponsored 127 FLL/Jr. FLL teams and mentored 42 FLL teams. This year we started 14 FLL teams and our first FTC team. We started Penfield Jr. FLL in 2010. Kids played catch with our bot at the 2013 RIT Jr. FLL Expo. We provide grants, mentors and volunteer at 3 qualifying events and local Champs. For 9 years, we've run FLL coach seminars, help-sessions and 4 summer camps for over 100 students, and a Big Brothers Big Sisters camp. We expanded our FLL outreach into Orleans County, teaching teams to fundraise! We put FLL in 4 Penfield schools and the district bought 28 NXT kits for the middle school tech classes. We raised funds to send 4 Finger Lakes FLL Champs to the World Festival!

We host our own FLL events: Rumble, an offseason; and Razzle Dazzle, a pre-competition; inviting Jr. FLL teams. These events prepare teams for competition and keep kids in FIRST.

This year, we helped run the first Rochester FTC event with 2 mentors on the planning committee and 21 members volunteering in major roles. We financially supported our FTC team to go to Regional Champs and taught them to be sustainable. We helped them make a part, gave them a shop tour and they taught us about their bot! For our annual SouperBowl, we competed with them to collect food for our local pantry.

We're a FIRST resource. We've beta-tested FIRST's control systems for 5 years, presenting our findings at Kickoff and open houses. We help at competitions as FTAs, emcees, refs and judges. Team adults helped form Rochester NEMO, and ran meetings at other events. We've run the All Rookie Meet & Greet at Champs since our first year to help rookies network through a fun scavenger hunt. Over 20 rookies attended in 2013!

We're a team resource, helping with sustainability, team structure, recruitment and fundraising. We presented to FRC578 on these topics. We've mentored inner-city STEM HS FRC73 since 2006. We helped a Mexican rookie FRC team with their business plan, a Louisiana team with team structure and management, a new Michigan team with fundraising and an Israeli FRC team

with mechanical advice and translating files. Many use our handbook for their team structure. Our Rookie Resource page is on the FIRST website. We recorded a webinar on the Patron Drive for the new FIRST fundraising toolkit!

We're an open-source team with a Build Season webcast and an online wiki engineering notebook. Other teams use our facilities to build. Teams named our pit ThunderMart because they can use our tools and parts. The Finger Lakes Regional (FLR) pit admin sends teams directly to us for help! We built a crate for FLR Rookie All-Stars to ship their bot to Champs. Another team used our student-designed safety program that's also used by our school! In the spirit of FIRST, last year we funded trips to Champs for neighbor FRC1405 and FRC1551's Dean's List Finalist and her mom. At Champs and Regionals, team members have given seminars on PR, leadership, safety, starting FLL teams and how to run an offseason event. We hosted a presenter from National Instruments for LabVIEW training, attended by a FTC team & 6 FRC teams. We've assisted 400+ FRC teams with everything from programming and team structure to emergency robot support.

Rochester Rally is a week 0 event we've held all 10 years for local FRC teams to test their new bots on a full field we build. Afterwards our shop and tools are available to them. We have sponsors and alumni speak about their FIRST experiences.

Rah Cha Cha Ruckus is an offseason event we created 9 years ago that has outgrown a school gym, and moved to the Main Street Armory; hosting 38 teams, including two 2013 Champions. 1511 leads a committee of FIRSTers to get others involved in running the event. Teams donate to the MEGADrive, which we've hosted there the last 2 years. They use Ruckus to recruit and prepare for next season.

We pride ourselves on being a go-to team for the FLR committee, arranging robot demos at TEDx Rochester, Robot Quick Builds at Kickoff, FIRST events and presentations to new sponsors like PTC. This year we organized the first FLR Social in 7 years, created a Welcome to Rochester packet for visitors and a FLR 10<sup>th</sup> Anniversary video.

1511 impacts our community, FIRST, other teams and ourselves, using our resources to reach millions around the world. We plan to keep impacting others by devoting ourselves to FIRST. As our motto states; the Thunder just keeps getting louder!