



LIGERBOTS

FIRST® Robotics Team 2877

LIGERBOTS **FIRST**® Robotics Team 2877



FIRST - It's not just about the robots

“The only sport in which every kid can go pro”

- **FIRST:** *For Inspiration and Recognition of Science and Technology*
- **Mission** - *Inspire students to become science and technology leaders*
- **Established** - *by Dean Kamen in 1989*
- **Four Leagues** - *FLL Jr., FLL, FTC, and FRC*
- **Over 500,000 kids in 60,000 teams and 250,000 adult volunteers**

What is FIRST?



FIRST Pipeline

As your child gets older, there are different programs that FIRST offers:

- FLL Jr. - Kindergarten - 3rd grade. Typically 2-5 kids
- FLL - 4th-8th grade. Ranges from 4 - 10 people
- FTC- 7th - 12th grade. Lower budget robotics competition
- FRC- 9th-12th grade. Us! We make 120 pound robots with over 30 active members, and rely heavily on Sponsors.

FLL JR.



What is FLL?



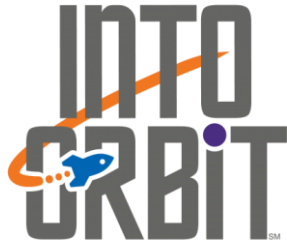
General FLL Team Logistics

- FLL Teams have:
 - *2 adult coaches*
 - *4-10 students grades 4-8*
- Teams can be based in schools, organizations, or homes
- A student can only be on one team, but coaches and mentors can work with multiple teams
- Teams compete in both official and unofficial events

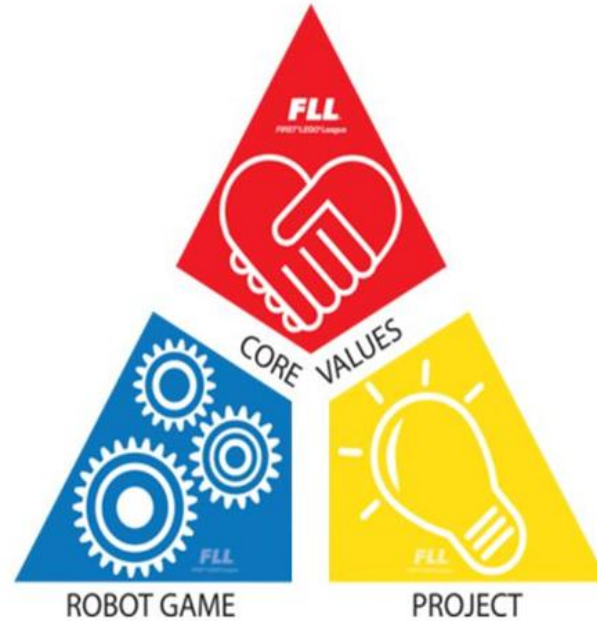


The Challenge

- Each year has a robot game and a project that share a common theme
 - *The robot is assembled from Lego parts*
 - *4'x8' field layout is new every year*
 - *Research project proposes solutions to real life problems*
- The challenge is announced in August, when a detailed manual and highlight video are released
- This year:



Main Components of FLL



Core Values

- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We know our coaches and mentors don't have all the answers; we learn together.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others
- We display Gracious Professionalism® and Coopertition® in everything we do.
- We have FUN!

What is the Project?

- Related to the theme of the competition
- Research real-world problems
- Develop an innovative solution
- Come up with a creative presentation

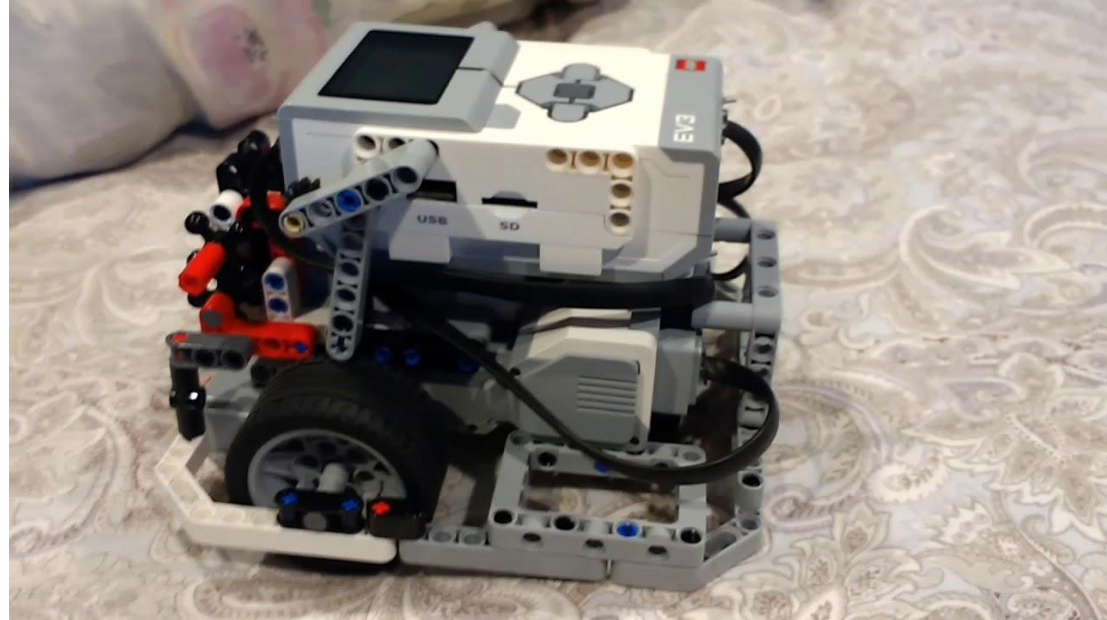


Day Dragons Project 2017



How is the Robot Made?

- Start with Lego EV3 Kit
- Add parts to perform tasks
- Write software
- The robot must be completely autonomous
- Designed and Programmed by students



2017 Hydro Dynamics | Missions



2017 Hydro Dynamics | Day Dragons Match



Benefits of FLL

Working with robots and developing a real world solution are nice, but the real benefits of being on the team are:

- *Learning how to work together*
- *Positively working through conflicts*
- *Building confidence even under scrutiny*

Other benefits include:

- *Applying engineering concepts*
- *Applying software development concepts*
- *Applying prioritization and time management*
- *Applying fun and achievement*



Season Schedule

- Start up over the summer
 - *Registration is currently open*
 - *Registration closes when all slots are filled (typically in mid-September)*
- The challenge is announced August 1st at noon EST
- Build season is fourteen weeks
- Teams usually meet one to two times per week, but it is up to you to decide

Parent Responsibilities

- Communicate scheduling conflicts
- Be supportive
- Drop off and pick up on time
- Be involved and motivate your child
- Get involved with the team!
 - *Treasurer*
 - *Graphics*
 - *Administration (T-shirts, fundraising, snacks, videos, pit management, food, carpool, etc.)*
- Help with fundraising or attaining sponsorship

Student Responsibilities

- Be positive toward everyone
- Be supportive of everyone
- Contribute to the team
- Respect coaches and others
- Do your share of the work- and more
- Know your schedule and manage your time
- Make mistakes and share all ideas
- HAVE FUN

Coach Responsibilities

- Encourage and structure the process but let the team develop the content
- Ask questions to encourage the team's thinking and problem solving
- Read and understand the rules
- Keep parents informed
- Balance fun and competition

These are not coach responsibilities:

- Build and program the robot
- Do research and design project solutions
- You are NOT a football coach
 - *Don't call the plays*
 - *Winning isn't everything*

Personal Experiences

- Let's hear from some of our coaches
- John Fitzpatrick
- Day Dragons

Starting A Team :)

- One great way to start a team: friends! One huge way kids stay engaged is through friendships.

<https://tinyurl.com/ligerbotsfll2018>- Be sure to fill out this form before you leave

- *We can help find coaches and mentors and students*
- *Costs are usually between \$500- \$1000 per team*
- *Teams need to have space for a table*
- *Timeline:*
 - Registration closes when spots are full
- *Registration process*
 - Start on the FIRST website: www.firstinspires.org

Costs

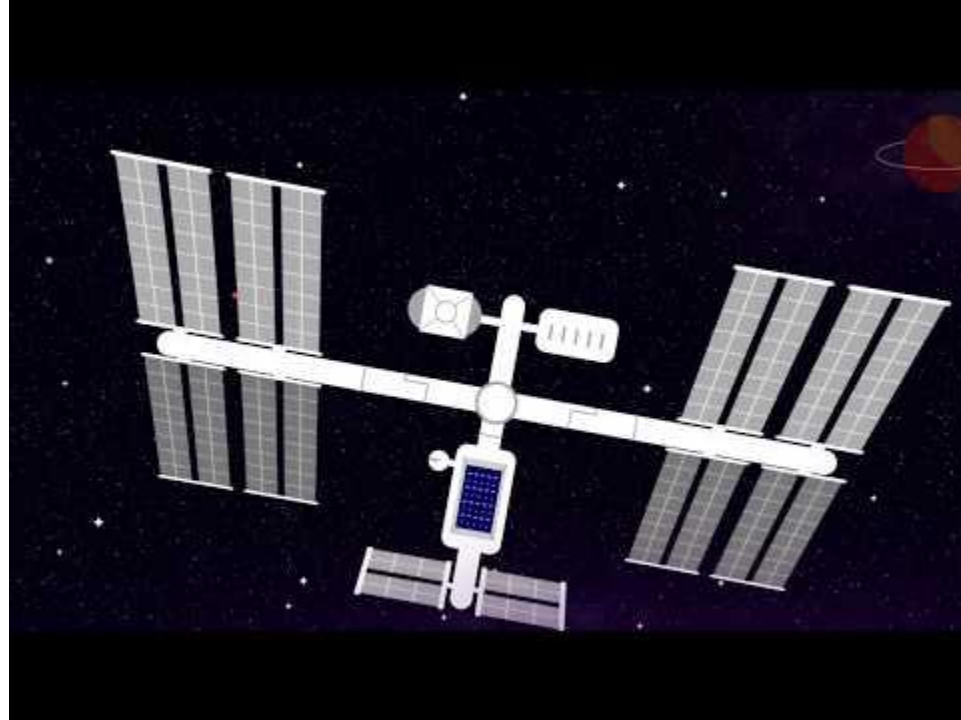
- Cost depends on number of mentors and sponsorships.
 - *Registration which includes field kit - \$299 - every year*
 - *EV3 Robot set - \$490 (discount at team registration) - one time cost*
 - *Robot table - build 4' x 8' table - one time cost*
 - *Event fee \$75 to \$125 for each event --every year*

Resources

- Running an FLL Team can be confusing. Don't Worry! You can be a coach!
 - *We may have coach workshops + teen assistants!*
 - *FLL Coaching Manual (FIRST website)*
 - *Google is your friend. Every problem has been solved before!*
 - *No programming or mechanical experience?*
 - *Empow Studios Opportunity*
 - Some LigerBot Team members are willing to become mentors!
 - Reach out to us for specific help! (Email at the End)
 - *However, we will not build or program the robot FOR you.*



2018 Intro Orbit | Teaser



This Year in FLL



Newton Competitions

Free for spectators - come visit if you're not competing

- Qualifier in November
- Eastern Massachusetts Championship in December

Past events have included

- Maker fair: exhibitors and STEAM activities
- FLL Jr. expo
- Concession stand

The LigerBots, Newton's FIRST Robotics Team



FIRST Robotics Challenge (FRC)

- ***High school, ages 14-18***
- ***Big robots:***
 - 120 lb robots
 - Typically 2ft x 3ft x 4ft
 - Metal chassis with other material
- ***New game announced each January***
- ***Six-week build season - 24+ hours/week***
- ***Eight-week competition season***



The LigerBots

- *Two schools - one team*
- *Brings together Newton North and Newton South high schools*
- *First registered in 2008*
- *50 Students, 20 mentors, 2 robots*
- *Mentors are parents, teachers, and industry professionals*
- *Organized like a business*
- *Nineteen major sponsors + many individuals and small businesses*

FRC Match Video



Sponsors

Thank you to our team sponsors!

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McVittie Tax Advisors



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**BAE Systems • Bose • Dunkin Donuts • Empow Studios • Gamewright • Home Advisor
Tanowitz Law • Twilio • Wolf Greenfield • "You-do-it" Electronics Center**

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Questions?

If you have any outstanding or personal questions, please talk
with us after the presentation, or email me at
fll@ligerbots.com



