FIRST® LEGO® League

FIRST LEGO League (FLL®) is a global robotics program created to get kids excited about science and technology. Geared for ages 9 to 14 (up to 16 outside of the US and Canada), FLL utilizes real-world scientific theme-based Challenges to engage children in research, problem solving and engineering. The cornerstones of the program are its Core Values, which emphasize Gracious Professionalism®, teamwork, friendly competition, discovery, community involvement and having FUN!

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.

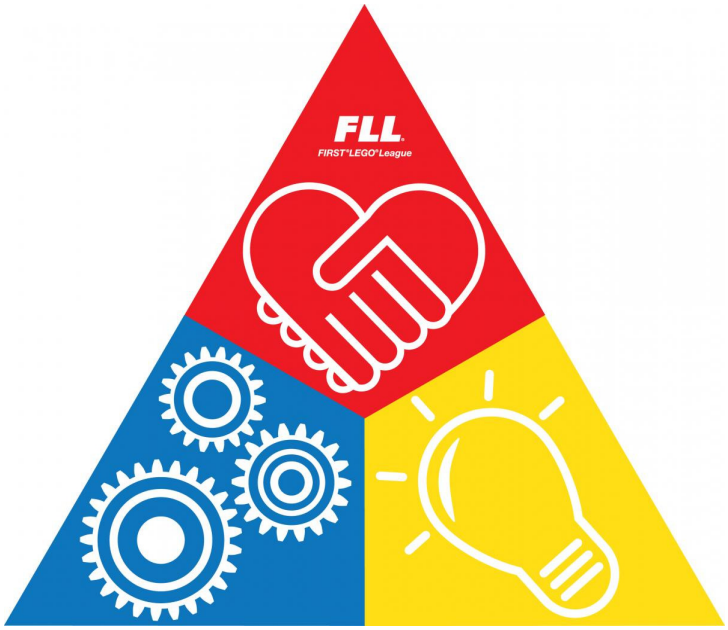
What we discover is more important than what we win.

We share our experiences with others.

We display Gracious Professionalism® and Coopertition® in everything we do.

We have FUN!

FLL Challenge



Every September, FLL releases a Challenge, which is based on a real-world scientific topic. Each Challenge has three parts: the Robot Game, the Project, and the FLL Core Values. Teams of up to ten children, with one adult coach, participate in the Challenge by programming an autonomous robot to score points on a themed playing field (Robot Game), developing a solution to a problem they have identified (Project), all guided by the FLL Core Values.

Most teams choose to participate in official FLL Tournaments, which are much like sporting events. Referees monitor and score the Robot Game, Judges review team presentations, and Teams earn awards and trophies. It's an environment overflowing with music, excitement and team spirit!

FIRST® LEGO® League – Tournament Activities

Robot Game

The Robot Game is the most visible part of the tournament. Robot performance matches are held on the competition field tables near the main bleachers in the gym. Two teams play simultaneously for each match. Matches last 2.5 minutes as teams try to complete as many of the Challenge missions as possible. Each team has one practice round and three performance rounds. Only the highest of the three performance round scores counts towards the Robot Performance Award. Teams can make robot and program modifications in the pit area or at the practice tables between rounds.

Judging

During the practice round and the first performance round, each team will be scheduled for three judging sessions with panels of judges: Robot Design, Project and Core Values. Teams that submitted applications will also be scheduled for Ambassador Team judging sessions. Unless otherwise noted, coaches, mentors, family members and guests may observe, photograph and videotape the judging sessions as long as they do not disturb the teams or the judges. Only student team members are allowed to interact with the judges. After the judging sessions, the judges will deliberate to decide which team should receive each judged award. Each team is only eligible to receive one judged award. Judges may call back some teams for additional interviews.

Robot Design Judging

Robot Design judges evaluate teams on their mechanical design, programming and strategy & innovation. The judges will observe one robot performance match for each team. Then the team will have 4 minutes to present its Robot Design Executive Summary followed by an interactive interview for 3 minutes near the gym.

Project Judging

The Project judges evaluate teams on their research, innovative solution, and presentation. Each team is required to complete and present four steps:

1. Choose a Community
2. Identify a Problem
3. Create an Innovative Solution
4. Share with Others

Each team's presentation to the judges is limited to 5 minutes including setup time followed by a 5 minute interactive session. Project judging sessions are scheduled in classrooms.

Core Values Judging

Core Values judges evaluate teams on their inspiration, teamwork and Gracious Professionalism®. Teams will be asked to perform a teamwork exercise for up to 5 minutes while being observed by the judges. Then they will have a 5 minute interactive session. Core Values judging sessions are scheduled in classrooms.

Roving Core Values judges will also observe and interview teams during the event. The behavior of team members, coaches, mentors and parents are included in these observations.

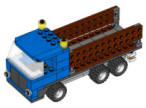
Ambassador Team Judging

Ambassador Team judges evaluate teams on their demonstration of FLL Core Values and ability to explain the FLL program in a positive, enthusiastic and clear manner plus how well the team has engaged in outreach activities. Teams are scheduled for 10 minute interactive interviews in classrooms.

2013 FLL® - Nature's Fury℠ – Robot Game - Missions

In the Nature's Fury robot game, you and your robot will manage a mix of challenges and activities related to being independent, engaged, or connected.

SUPPLY TRUCK: Robot moves the supply truck into the yellow region. Truck is touching mat. **25**

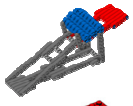


EVACUATION: Robot pushes against the slider to move the sign in the upright position. The sign is obviously up, held in place only by the slider's friction with the mat. **30**

CARGO PLANE: Robot releases the plane from the launcher into the yellow region **20** or into the blue region. **30**

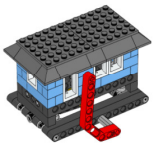
TREE BRANCH: Robot removes east tree branch such that east tree branch is closer to the mat than the electric cables. The tree and electric cables are upright. **30**

TSUNAMI: Robot releases the three waves onto the mat. **20**



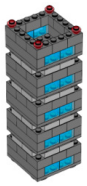
AMBULANCE: Robot moves the ambulance into the yellow region. All of the ambulance's wheels are touching the mat. **25**

RUNWAY: Nothing except wave water and/or plane is touching the mat anywhere on the runway at the end of the game. **30**



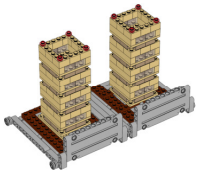
HOUSE LIFT: The house is locked in its high position at the end of the match. **25**

CONSTRUCTION RELOCATION: There are no gray building units anywhere in the light green region at the end of the game. **20**

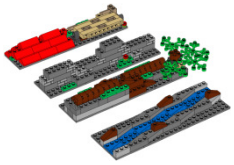


CODE CONSTRUCTION: Robot creates a multi-story building in the pink region. Only the highest building is scored. **5 EACH SEGMENT**

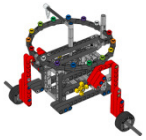
BASE ISOLATION TEST: Robot moves rolling frame such that the west tan building is undamaged and the east tan building is obviously damaged. The damage is caused entirely by the rolling frame **30**



OBSTACLES: Robot crosses over the west line of the noted region from the west only. Robots cross dark blue region **10** or dark green region **16** or purple region **23** or red region. **30**



PROGRESS: Robot moves red lever to turn the pointer. **2 EACH COLOR REACHED**

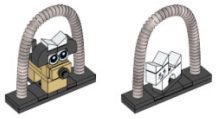


FAMILY: Robot moves people to same colored region. Two people in same region **33** or three people in the same region. **66**

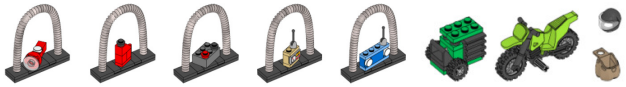
SAFETY: Robot moves people into the yellow region **12 EACH PERSON** or red region **18 EACH PERSON**

WATER: Robot moves water and people into same colored region. People with at least 1 water **15 EACH PERSON**

PETS: Robot moves pets and people into the same colored region. Pets with at least 1 person **15 EACH PET**

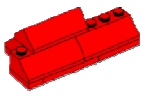


SUPPLIES & EQUIPMENTS: Robot moves non-water item(s) into the yellow region **3 EACH** or red region **4 EACH**



SAFE PLACE: Robot is in the red region at the end of the match **25**

GAME PENALTY – If you touch the robot while it's outside Base, the referee places roof debris model on the mark located on the runway. Roof debris are placed in light blue region after 4th touch penalty. Roof debris in light blue region **-13 EACH** or outside of light blue region **-10 EACH**



FIRST® LEGO® League Awards

FLL Core Awards

Champion's Award

This award recognizes a team that embodies the FLL experience, by fully embracing our Core Values while achieving excellence and innovation in both the Robot Tame and Project.

Robot Awards

Mechanical Design

This award recognizes a team that designs and develops a mechanically sound robot that is durable, efficient and highly capable of performing challenge missions.

Programming

This award recognized a team that utilizes outstanding programming principles, including clear, concise and reusable code that allows their robot to perform challenge missions autonomously and consistently.

Strategy & Innovation

This award recognizes a team that uses solid engineering practices and a well-developed strategy to design and build an innovative, high performing robot.

Robot Performance

This award recognizes a team that scores the most points during the Robot Game. Teams have a chance to compete in at least three 2.5 minute matches and their highest score counts.

Project Awards

Research

This award recognizes a team that utilizes diverse resources to formulate an in-depth and comprehensive understanding of the problem they have identified.

Innovative Solution

This award recognized a team's solution that is exceptionally well-considered and creative, with good potential to solve the problem researched.

Presentation

This award recognizes a team that effectively communicates the problem they have identified and their proposed solution to both the judges and other potential supporters.

Core Values Awards

Inspiration

This award celebrates a team that is empowered by their FLL experience and displays extraordinary enthusiasm and spirit.

Teamwork

This award celebrates a team that is able to accomplish more together than they could as individuals through shared goals, strong communication, effective problem solving and excellent time management.

Gracious Professionalism™

This award recognizes a team whose members show each other and other teams respect at all times. They recognize that both friendly competition and mutual gain are possible, on and off the playing field.

Judges Awards

During the course of competition, the judges may encounter teams whose unique efforts, performance or dynamics merit recognition. Some teams have a story that sets them apart in a noteworthy way. Sometimes a team is so close to winning and award that the judges choose to give special recognition to the team. Judges Awards allow the freedom to recognize remarkable teams that stand out for reasons other than the Core Award categories.

Special Recognition Awards

Outstanding Volunteer Award

The FLL program would not exist without its volunteers. This award honors an extraordinary volunteer(s) whose dedication to the FLL program has a positive impact on the team experience.

Adult Coach/Mentor Award

Many teams reach significant milestones thanks to their close relationship with an adult mentor. This award goes to the coach or mentor whose wisdom, guidance, and devotion are most clearly evident in the team's discussion with the judges.

Young Adult Mentor Award

FLL presents this award to the young adult, high school or college mentor whose support, impact, inspiration and guidance are most clearly evident in the team's discussion with the judges.

Other *FIRST*® Programs

Junior *FIRST*® LEGO® League (Jr.FLL®) captures young children's inherent curiosity and directs it toward discovering the wonders of science and technology. This program features a real-world scientific concept to be explored through research, teamwork, construction, and imagination. Guided by adult Coaches, students work with LEGO® elements and moving parts to build ideas and concepts and present them for review.

Junior FIRST® LEGO® League

Children ages 6 to 9 get to:

- Design and build a challenge solutions using LEGO elements
- Apply real-world math and science concepts
- Research challenges facing today's scientists
- Learn team building and presentation skills
- Develop Show-Me poster

***FIRST* Tech Challenge (FTC®)** is designed for students in grades 7-12 to compete head to head using a sports model. Teams are responsible for designing, building, and programming their robots to compete on a 12 X 12' field in an Alliance format against other teams. Robots are built using a TETRIX® platform that is reusable from year-to-year using a variety of languages. Teams, including Coaches, Mentors, and Volunteers, are required to develop strategy and build robots based on sound engineering principles. Awards are given for the competition as well as community outreach, design, and other real-world accomplishments.

FIRST® Tech Challenge

Students get to:

- Design, build, and program robots
- Apply real-world math and science concepts
- Develop strategic problem-solving, organizational, and team-building skills
- Compete and cooperate in alliances at tournaments
- Earn a place in the World Championship
- Qualify for nearly $12 million in college scholarships

Dubbed a varsity Sport for the Mind™, ***FIRST* Robotics Competition (FRC®)** combines the excitement of sport with the rigors of science and technology. Under strict rules, limited resources, and time limits, teams of 25 students or more are challenged to raise funds, design a team "brand," hone teamwork skills, and build and program a robot to perform prescribed tasks against a field of competitors. It's as close to "real world" engineering as a student can get. Professional Mentors volunteer their time and talents to guide each team.

FIRST® Robotics Competition

High-school students get to:

- Learn from professional engineers
- Build and compete with a robot of their own design
- Learn and use sophisticated software and hardware
- Compete and cooperate in alliances and tournaments
- Earn a place in the Championship
- Qualify for nearly $18 million in college scholarships

Los Angeles Region *FIRST*® LEGO® League

2013 FLL® Challenge: Nature's Fury℠ Prepare. Stay Safe. Rebuild.

316 FLL teams registered, up 7% from 2012. 26 teams received regional financial support.

274 FLL teams attended 18 Practice Tournaments

DAY	DATE	TEAMS	LOCATION	CITY
Saturday	10/12	16	Roosevelt Middle School	Glendale
Saturday	10/19	6	135th Street Elementary School	Carson
Sunday	10/20	12	Notre Dame High School	Sherman Oaks
Saturday	10/26	6	Eagle Rock Plaza	Los Angeles
Saturday	10/26	24	La Canada High School	La Canada
Saturday	10/26	30	Lancaster High School	Lancaster
Saturday	10/26	8	Santa Barbara High School	Santa Barbara
Saturday	10/26	6	St. Bartholomew Youth Center	Long Beach
Sunday	10/27	12	Culver City Elk's Lodge	Culver City
Sunday	10/27	12	Mt. San Antonio College	Walnut
Saturday	11/2	24	Monte Vista Middle School	Camarillo
Saturday	11/2	18	Olga Reed School	Los Alamos
Saturday	11/2	14	St. Anthony School	El Segundo
Saturday	11/2	28	La Canada High School	La Canada
Sunday	11/3	16	Windward School	Los Angeles
Sunday	11/10	16	Mesa Union School	Somis
Sunday	11/10	6	New Roads School	Santa Monica
Sunday	11/10	12	Walden School	Pasadena

286 FLL teams attended 11 Qualifying Tournaments

DAY	DATE	TEAMS	LOCATION	CITY
Saturday	11/9	23	Helen Bernstein High School	Los Angeles
Saturday	11/16	25	Joe Walker Middle School	Quartz Hill
Saturday	11/16	23	Lakeview Junior High School	Los Alamos
Sunday	11/17	24	AGBU Manoogian-Demirdjian School	Canoga Park
Sunday	11/17	23	Culver City High School	Culver City
Saturday	11/23	26	Monte Vista Middle School	Camarillo
Saturday	11/23	32	Harvey Mudd College	Claremont
Saturday	11/23	26	Boys & Girls Clubs of Venice	Venice
Sunday	11/24	32	La Canada High School	La Canada
Sunday	11/24	25	West Ranch High School	Santa Clarita
Sunday	11/24	27	Cal Lutheran University	Thousand Oaks

Los Angeles Region FLL web site: http://fll.larobotics.org/ (shortcut: http://LARFLL.org)

Google group for coaches and team volunteers: http://groups.google.com/group/LARFLL/

For additional information, contact:

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Next year's challenge …

2014 FLL WORLD CLASS Challenge

NAME: **FLL WORLD CLASS℠**
TAGLINE: **Learning Unleashed**
THEME: **The future of learning**

TEASER:
Coming August 2014

What is the future of learning? FIRST® LEGO® League teams will find the answers. In the 2014 FLL WORLD CLASS℠ Challenge, over 230,000 children ages 9 to 16* from over 70 countries will redesign how we gather knowledge and skills in the 21st century. Teams will teach adults about the ways that kids need and want to learn. Get ready for a whole new class – FLL WORLD CLASS!

FLL challenges kids to think like scientists and engineers. During the FLL WORLD CLASS season, teams will build, test, and program an autonomous robot using LEGO MINDSTORMS® to solve a set of missions in the Robot Game. They will also choose and solve a real-world question in the Project. Throughout their experience, teams will operate under FLL's signature set of Core Values.

*9-14 in the US, Canada, and Mexico

See more at:
http://www.firstlegoleague.org/challenge/2014fllworldclass

Information about Starting New FLL Teams

The *FIRST*® LEGO® League (FLL®) program is an excellent way for young people to experience the excitement of technical creativity and gain insights in the possibility of technical careers. No previous technical or programming experience is required to join a team or to coach a team.

The Team

FLL teams are made up of 2-10 young people between the ages of 9 and 14. Teams can be organized at schools, at clubs or troops, or in neighborhoods. The main requirement is that an adult take the responsibility for registering a team and scheduling the meetings. Most teams meet 3-6 hours per week, after school or on weekends, in September, October and November.

The Season

The FLL season starts in May with team registration at https://gofll.usfirst.org/. Team registration continues until the end of September or until capacity is reached. In late August, the FLL Challenge including the Research Project, Robot Game and Core Values will be released online. Teams design, build and program their robots and complete the research project during September, October and November. Teams participate in practice and qualifying tournaments across the Greater Los Angeles from October to November. The top 20-30% of teams will advance to the Regional Championship Tournaments in mid-December.

For more team information, please visit us: http://fll.larobotics.org/NewTeams.html

The Rockwell Collins New Team Support and Coach Stipends

Intended to help establish FLL® teams in economically and/or socially disadvantaged schools or communities. Primary consideration will be given to teams that meet an economic eligibility criterion: teams from schools with a free/reduced meal population of 40% or more and/or teams from zip codes with median household income less than 80% of the state per city-data.com.

New Team Support covers FLL Team Registration and FLL EV3 Robot Set (estimated cost including shipping and sales tax is $840). For new school teams that meet an economic eligibility criterion, New Coach Stipends of $500 are also available. Additional details and requirements are included in the grant application.

For more funding information, please visit us: http://fll.larobotics.org/Grants.html