

Welcome  
to  
Kickoff!

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# FIRST LEGO League (FLL)

## Who's Doing What

- FIRST
- LEGO
- Perot Museum of Nature and Science
- FIRST Senior Mentor / Head Referee – Joe Varnell
- Regional Judge Advisor – Michael Callahan

# FIRST LEGO League (FLL)

## How to Start a Team

- <https://www.firstinspires.org/robotics/fll/start-a-team>
- Learn about FLL
  - 3 equal parts – Robot Game, Core Values, Project
- Form your team
  - Up to 10 members ages 9-14
- Register (and Pay) with FIRST
- Challenge Set
- LEGO Mindstorms Robot
- Support Resources
- Youth Protection Program
- Review Challenge Resources

# FIRST LEGO League (FLL)

The screenshot shows a web browser window displaying the FIRST website. The address bar shows the URL <https://www.firstinspires.org/robotics/fll>. The navigation menu includes "Programs", "Community", "Ways to Help", "About", "FLL", "Sign Up", and "Log In". The main content area features a photograph of three young girls smiling, wearing orange and blue FIRST-branded clothing. Below the photo is a horizontal banner with four colored arrow-shaped buttons: a green button for "FIRST LEGO LEAGUE JR.", a red button for "FIRST LEGO LEAGUE", an orange button for "FIRST TECH CHALLENGE", and a blue button for "FIRST ROBOTICS COMPETITION". Each button contains the FIRST logo. At the bottom right, there is a "Leave a message" button with an upward-pointing arrow. The browser's address bar also shows the URL <https://www.firstinspires.org/robotics/fll>.

# FIRST LEGO League (FLL)

## Into Orbit

The screenshot shows a web browser window displaying the INTO ORBIT Challenge, Updates, & Resources page on the FIRST website. The browser's address bar shows the URL: <https://www.firstinspires.org/resource-library/file/into-orbit-challenge-updates-and-resources>. The website's navigation bar includes links for Programs, Community, Ways to Help, and About, along with a search icon, Sign Up, and Log In. The main content area features the FIRST LEGO LEAGUE logo and the title "INTO ORBIT Challenge, Updates, & Resources" with a date of Sep. 13 2018 and a size of 10 KB. Below the title, the content type is listed as "FIRST LEGO League" and the tags are "Field Setup, Game/Challenge, Team, Technical". A heart icon indicates that 182 users have liked this resource. The main heading is "INTO ORBIT<sup>SM</sup> Global Challenge and resources". A list of resources follows, including a Coaches' Handbook, FIRST Steps, and a section for INTO ORBIT Challenge & Resources with sub-links for the challenge, guide, updates, videos, mission model instructions, field setup guide, engineering notebook, and event guide. Other resources include a field overview photo, score sheets (coming soon), logo/poster/certificate, and participation rules. A link is provided for jump-start teams looking for a past season's challenge. A "Leave a message" button is visible in the bottom right corner.

INTO ORBIT Challenge, Updates, & Resources  
Sep. 13 2018 | 10 KB

**Content Type:** FIRST LEGO League  
**Tags:** Field Setup, Game/Challenge, Team, Technical

♥  
(182)

### INTO ORBIT<sup>SM</sup> Global Challenge and resources

- Coaches' Handbook
- FIRST Steps - recommended for new coaches, these online modules will help you plan activities for your meetings. [Request access here.](#)
- INTO ORBIT Challenge & Resources:
  - INTO ORBIT Challenge
  - INTO ORBIT Challenge Guide
  - INTO ORBIT Challenge Updates (updated September 11, 2018)
  - Welcome to the Season Videos
  - INTO ORBIT Mission Model Building Instructions
  - INTO ORBIT Field Setup Guide
  - INTO ORBIT Engineering Notebook
  - INTO ORBIT Event Guide
- INTO ORBIT Field Overview Photo
- INTO ORBIT Score Sheets - *coming soon!*
- INTO ORBIT logo, poster, and certificate
- Participation Rules

• Are you a Jump-start team looking for a past season's Challenge? [Click here.](#)

• Questions?  
- Robot Camp questions: [flrobotcamp@firstinspires.org](mailto:flrobotcamp@firstinspires.org)

Leave a message

# FIRST LEGO League (FLL)

## Competitions

- First Round Qualifiers
  - December 1<sup>st</sup>
  - December 8<sup>th</sup>
  - December 15<sup>th</sup>
- Second Round Qualifiers
  - Dates to be announced
- Regional Championship
  - February 9<sup>th</sup> at Parish Episcopal School
- Registration opens on Oct. 24<sup>th</sup> at 10:00am

# FIRST LEGO League (FLL)

## Competitions

- 3 Judged Categories
  - Robot Design
    - Robot Design Executive Summary

# FIRST LEGO League (FLL)



## Robot Design Executive Summary (RDES)

To help the Robot Design Judges quickly and consistently learn about your robot and the design process used, we are requiring a short presentation. An "executive summary" is often used by engineers to briefly outline the key elements of a product or project. In other words, the purpose of the RDES is to give the Robot Design Judges an outline of your robot and all that it can do. The RDES is intended to help your team consider in advance the most important information to share with the Judges. What you chose to share will enable the Judges to effectively evaluate your team and provide more helpful feedback.

Your team is free to determine how much time you invest, but realistically it should only take a few hours to develop and practice the RDES. The RDES is NOT intended to be as extensive or time consuming as your Project.

Your team will present your RDES at the beginning of your Robot Design judging session. The entire presentation, including the trial run, should not take any longer than **four (4) minutes**. Following your Robot Design presentation the Judges will pose questions for your team to answer. You are not required to provide a written version of the RDES to leave with the Judges.

**Basic Outline:** The RDES should include the following elements: *Robot Facts*, *Design Details*, and a short *Trial Run*.

**Robot Facts:** Share with the Judges a little bit about your robot, such as the number and type of sensors, drivetrain details, number of parts, and the number of attachments. The Judges would also like to know what programming language you used, the number of programs and the amount of memory used by each program, and your most consistently completed mission.

### Design Details:

1. **Fun:** Describe the most fun or interesting part of robot design as well as the most challenging parts. If your robot has a name, who chose the name and why. If your team has a fun story about your robot please feel free to share.
2. **Strategy:** Explain your team's strategy and reasoning for choosing and accomplishing missions. Talk a little bit about how successful your robot was in completing the missions that you chose. Judges may like to hear about your favorite mission and why it is your favorite.
3. **Design Process:** Describe how your team designed your robot and what process you used to make improvements to your design over time. Briefly share how different team members contributed to the design and how you incorporated all the ideas.
4. **Mechanical Design:** Explain to the Judges your robot's basic structure, how you make sure your robot is durable and how you made it easy to repair or add/remove attachments. Explain to the Judges how the robot moves (drivetrain), and what attachments and mechanisms it uses to operate or complete missions.
5. **Programming:** Describe how you programmed your robot to ensure consistent results. Explain how you organized and documented your programs, as well as, mention if your programs use sensors to know (and ensure) the location of the robot on the field.
6. **Innovation:** Describe any features of your robot design that you feel are special, different or especially clever.

**Trial Run:** If a Robot Game table is available, demonstrate the operation of your robot for the Judges performing the mission(s) of your choice. Please do not do an entire robot round; time will be needed for Judges to ask questions of your team.



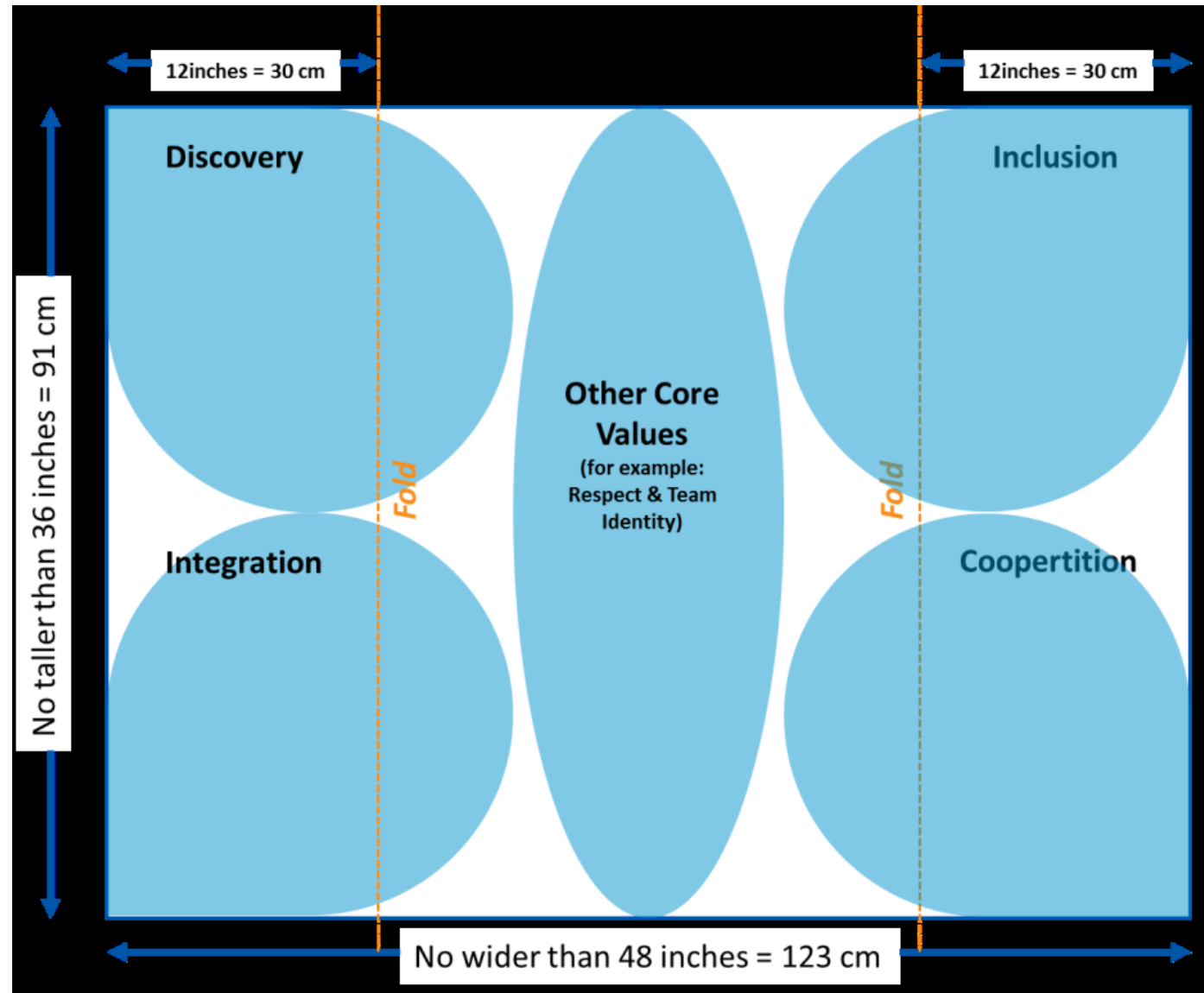
# FIRST LEGO League (FLL)

## Competitions

- 3 Judged Categories
  - Robot Design
    - Robot Design Executive Summary
  - Core Values
    - Core Values Poster

# FIRST LEGO League (FLL)

## Core Values Poster



# FIRST LEGO League (FLL)

## Competitions

- 3 Judged Categories
  - Robot Design
    - Robot Design Executive Summary
  - Core Values
    - Core Values Poster
  - Project
    - Identify a physical or social problem faced by humans during long duration space exploration within our Sun's solar system and propose a solution.

# FIRST LEGO League (FLL)

## Competitions

- 3 Judged Categories
  - Robot Design
    - Robot Design Executive Summary
  - Core Values
    - Core Values Poster
  - Project
    - Identify a physical or social problem faced by humans during long duration space exploration within our Sun's solar system and propose a solution.
- Robot Game
  - Identify one or more Missions to solve and design a robot using LEGO MINDSTORMS that can solve the Missions .

# FIRST LEGO League (FLL)

## Non-Official Events

- Workshops and Clinics
- Scrimmages

<https://roboplex.org/>

# FIRST LEGO League (FLL)

## Information and Resources

### Official Websites

<https://www.firstinspires.org/robotics/fll>

<https://www.perotmuseum.org/educators/first-lego/index.html>

### Community Resources

<https://roboplex.org/>

<https://groups.google.com/forum/#!forum/northtexasfll>

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