FIRST LEGO League 2013

Kickoff Objectives

- **What is FLL ????**

- **Season Timeline**

- **About the Competitions**

- **Field and Game Overview**

- **Project Overview**

- **Changes to Rubrics and Awards – NEW FOR 2013**

- **Roles of the Coaches and Mentors**

- **Resources**

What is FLL?

- *FIRST* – **For Inspiration and Recognition of Science and Technology—not-for-profit public charity designed to connect kids with fun learning opportunities and pursue careers in STEM fields**

- **Four programs for different age groups:**
  - **FRC, FTC (15-18), FLL (9-14), Jr. FLL (6-8)**

What is FLL?

- *FIRST* LEGO League (FLL) = partnership between *FIRST* and LEGO:
    - Kids use engineering, problem-solving, team-work and GRACIOUS PROFESSIONALISM to solve real-world problems based on a season-specific theme: Nature's Fury!
    - Teams present their solutions at competitions using LEGO Mindstorms robots, a robot playing field, and their own creativity!
    - FLL competitions are held at the regional, state, national, and international level!

- Official FLL competition season runs August 28-April 2014

Our North Texas FLL Region

- **Perot Museum = Regional Affiliate and Operational Partner since 2008—Kristi Cantu = contact for region-specific info!!!**

- **Phenomenal Regional Growth:**
  - **20 teams in 2008**
  - **155 teams in 2011 !!!**
  - **201 Teams in 2012!!!!**

- **North Texas holds one round of Qualifiers in December and a Regional Championship in February**

Season Timeline at a Glance

- **Aug. 28: 2013 Challenge announced:**
  - **Teams may begin registering with *FIRST* at www.usfirst.org – must do this first!!!**
- **September 18-25: Deadline for teams to register with *FIRST***
- **Sept.- Nov.Coaches workshops held at UTD Science and Engineering Center:**
  - **Sept. 21: Getting Organized for the Season**
  - **Oct. 5: Building Techniques with Technic Bricks**
  - **Oct. 26: Programming with Mindstorms**
  - **Nov. 2: Attachments and preparing for the Tournament**
- **Typically 1:00 PM to 4:00 PM, please monitor the NorthTexasFLL group**

Season Timeline at a Glance

- **Oct. 1-18: Teams may register to participate in a Qualifier**

- **Nov. 1: Teams will be notified which Qualifier they're in**

- ***Dec. 7 and Dec. 14: Qualifiers held at various locations***

- **Dec. 16-Jan. 10: Teams who advance may register to participate in the Championship**

- **Feb. 1: North Texas Regional Championship**

Most Fun of the Season: Participation in Competitions!!!

- **Several one-day competitions for teams to show off their projects and robotics skills!**

- **Qualifiers: Dec. 7 and Dec. 14**

- **Championship: Feb. 1**
  (for teams who advance from a Qualifier)

Qualifiers

- **24-32 teams compete in the 4 FLL categories:**
  - **Robot Design: judged by judges during a 5-min. presentation**
  - **Robot Performance/Robot Game: scored by referees during three 2.5-minute rounds of head-to-head w/ another team of your robots completing missions on the Game Field**
  - **Project: judged by judges during a 5-min. presentation**
  - **Core Values: judged by roving judges scoring your team throughout the day**

North Texas Qualifiers

DECEMBER

- **7: North Texas Qualifiers**
  - Parish Episcopal School
  - University of Texas at Arlington
  - Harmony School of Innovation

- **14th: North Texas Qualifiers**
  - Jesuit College Prep (Dallas)

Date TBD:
University of TX at Dallas
O.D. Wyatt High School
Somewhere else!

** October 1-18: Registration for Qualifiers

~9 teams from each qualifier will advance:

Teams must rank in the top 40%

of robot game scores

AND

Rank highly in all other

categories

Registration for Qualifiers

Opens October 1 at 9:00 am. Closes October 18 at 4:00 pm. No late registrations accepted!

Call Perot Reservations at 214-428-5555 ext. 8 M-F 9:00-4:00

Provide: - Team # and name

- Coach name, email and phone #

- $60 payment – checks must be received two weeks prior to your Qualifier

- Top 3 choices of Qualifier location

We will TRY to put you in a preferred one!

Championship!!!

- **The top ~50 teams that advance from Qualifiers WILL BE invited to compete in the North Texas Regional Championship**

- **Feb. 1!!!**

- **Runs the same way that Qualifiers did, same judging process, etc…just BIGGER! More awards given out…**

- **Winner of the 1st Place Champion's Award may have chance to compete in other competitions through FLL, and will be invited to show off at fun Museum events!**

CHAMPIONSHIP!

FEBRUARY 1st

* **North Texas Regional FLL Championship**
   Hosted by The Hockaday School (Dallas)

** December 16 - January 10: Registration for Championship
   Call MNS Reservations at 214-428-5555 ext. 8 M-F 9:00-4:00
   Provide: - Team # and name
                 - Coach name, email and phone #
                 - $75 payment – checks must be received by 16

NO LATE REGISTRATIONS WILL BE ACCEPTED!

What goes on at these competitions?

- **Qualifiers and Championship run basically the same way**

- **Your team will participate in several rounds of action-packed robot games alternated with several meetings with judges to present your projects and robots**

- **You will receive a schedule that your team must follow that day to be in the right place at the right time for the 4 judged categories**

4 Parts of the Competitions

- **Robot Game (scored by Referees)**
- **Robot Design (scored by Judges)**
- **Project (scored by Judges)**
- **Core Values (scored by Judges)**

Same format for Qualifiers AND Championship

About Each Part

Four components, weighed equally:

1. <u>Robot Performance/Robot Game</u>
- At least 3 rounds of 2.5-minute game
- Operated by students only – no coaches or mentors!
- Complete as many missions as possible

2. <u>Project</u>
- research project relating to natural disasters
- presentation can be a skit – have fun!
- students only, no coaches or mentors

3. <u>Core Values</u>
- how well do the kids interact? Was everyone included?
- may include an activity to demonstrate teamwork

4. <u>Robot Design</u>
- who built and programmed this thing?
- what strategies did they use?

Robot Game!

- **Takes place on the Field—to practice you need a tabletop for the Field Mat and the Mission Models—all must be built exactly correctly according to instructions!!! (See Challenge Document)**

- **Two of your team members at the tabletops at a time, completing MISSIONS with your autonomous robot**

- **Watch the Official Robot Game Video with creator Scott Evans and read the Complete Challenge Document to see what the Missions are**

- **Read all rules carefully—there are a lot of them!**

- **Each round puts your team up against another team for 2.5-minute competitions—you rack up points based on the missions you complete in this time—only highest score counts, except in ties**

Robot Game!

So...

Determine which missions to accomplish
- based on what you can achieve, a few high value missions or many low value?

Determine the order of the missions
- don't cluster too many missions in a program
- leave the most complex for the end

Determine attachments to build and complete the missions
- changing attachments requires skill and communication; takes time

Practice!
- learn all about it: how it works, what it is used for, why it is used, what improvements can be made, etc. The judges will want to know why you did what you did!

Robot Game Strategy

At the competition:

- **shared missions need to be completed by both teams**

- **protect the robot – carry it in a separate case if needed**

- **robots can be adjusted in pit between matches**

- **robot should look presentable to judges**

- **if it's not covered in the rules, it's LEGAL**

- **bring extra batteries**

NATURE'S FURY

FLL.
FIRST® LEGO® League

Rockwell Automation
3M
NATIONAL INSTRUMENTS
LEGO
Statoil

BASE

Judged Sessions

- **Robot Design**

- **Project**

- **Core Values**
  - **Individual teams meet with a pair of judges in judging rooms for each category**
  - **Teams will have 10 minutes with the judges—5 minutes to present, 5 minutes for the judges to ask questions**
  - **Judges fill out specific rubrics for each team**
  - **Judges will deliberate for 5 minutes after seeing each team**

Robot Design

- **Robot Design is judged based on the mechanical design and programming of the robot built for the Robot Game**

- **Interviews take place in a separate judging area with the Robot Game field set up**

- **Judging typically begins with a team interview initiated by the judges**

- **Judges will likely ask your team's robot to complete Missions**

- **It is more about the team's ability to present their robot and show all the thoughts and considerations that went into building and programming it:**

  - **Judges want to see the design processes the team used to make decisions, and make sure that they actually did all the work!!**

The Project

1. **Starting Point:**

    a. Read the project description and ALL THE DETAILS:

    b. http://www.firstlegoleague.org

2. **Identify a problem**

    a. Pick a community and a natural event that could threaten it

    b. Research this problem and find out if there is anything else being done to solve it, or anyone working on something similar you can talk to

    c. Be sure to share sources

3. **Create an Innovative Solution**

    a. Suggest a solution

    b. What will it take to make the solution happen? Improve something that already exists? Come up with something totally new?

    c. Have fun! Be creative! Be open to everyone's ideas!!!

4. **Share with Others**

    a. Give a talk, make a website, skit, comic book, song, etc.—you will have to show how you shared your plan with a relevant group

Presenting the Project

5. Present Your Solution at a Tournament (Qualifier!)

To be eligible for Project Awards your team must have a LIVE presentation that:

a. Describes the problem your team chose to research

b. Describes your team's innovative solution

c. Describes how your team shared its findings with others

d. Uses media equipment only to enhance the live presentation

Also be sure that your team:

a. Describes how this solution could actually work in the real world

b. Tells about at least one scientist, engineer, doctor or other professional who is working on the problem

c. Tells about the research your team did and the information sources that helped to define your problem and solution

d. **Can set up and complete your presentation in 5 minutes or less!**

Your presentation can include posters, slide shows, models, multimedia clips, etc. Remember, all AV support equipment must be provided by the team, and all team members must be included! BE CREATIVE!!!

Core Values

- **Teams will meet with judges (10 mins) and be given some type of activity, and will have to demonstrate:**
  - **Working as a team—everyone's participating, the coach isn't doing all the work!**
  - **Teams are cooperating with each other AND with other teams!**
  - **Teams are practicing all the Core Values spelled out by *FIRST:***

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!" (straight from the FLL site!)

Rubrics and Awards

- **Teams must participate in ALL 4 elements of an FLL competition (Robot Game and all 3 judged areas) to be eligible for any FLL Core Award.**

- **Tournament hosts will not provide final ranking information on the judged categories, but you can get your rubrics back after the competition. The only final rankings that will be released to teams are the Robot Performance scores.**

- **Judges use rubrics from *FIRST* to help them determine which teams will receive awards.**

- **No team is allowed to win two awards, unless one of the awards is for Robot Performance. Robot Performance is the only category based solely on score.**

AWARDS HANDED OUT AT QUALIFERS

1. 1st place Champion's
2. 2nd place Champion's
3. Core Values
4. Robot Design
5. Project
6. 1st place Robot Performance
7. 2nd place Robot Performance
8. Judges Award
9. Local Award

WINNING AN AWARD DOES NOT GUARANTEE A TEAM WILL BE INVITED TO THE CHAMPIONSHIP
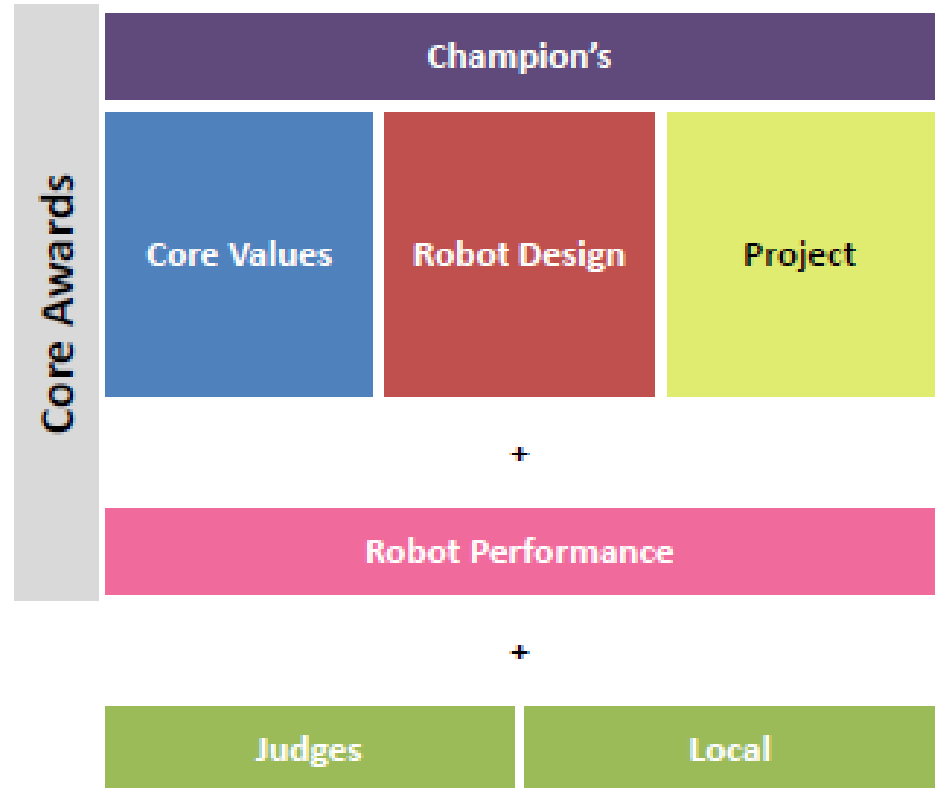
TEAMS ADVANCING TO THE REGIONAL CHAMPIONSHIP MUST SCORE IN THE TOP 40% IN ROBOT PERFORMANCE AND BE RANKED HIGHLY IN ALL OTHER CORE CATEGORIES. THIS DETERMINATION IS UP TO THE JUDGES AND IS FINAL.

AWARDS HANDED OUT AT CHAMPIONSHIP

1st place Champion's
1. 2nd place Champion's
2. Inspiration
3. Teamwork
4. Gracious Professionalism
5. Mechanical Design
6. Programming
7. Strategy & Innovation
8. Research
9. Innovative Solution
10. Presentation
11. 1st place Robot Performance
12. 2nd place Robot Performance
13. Judges Award
14. Local Award
15. Outstanding Volunteer
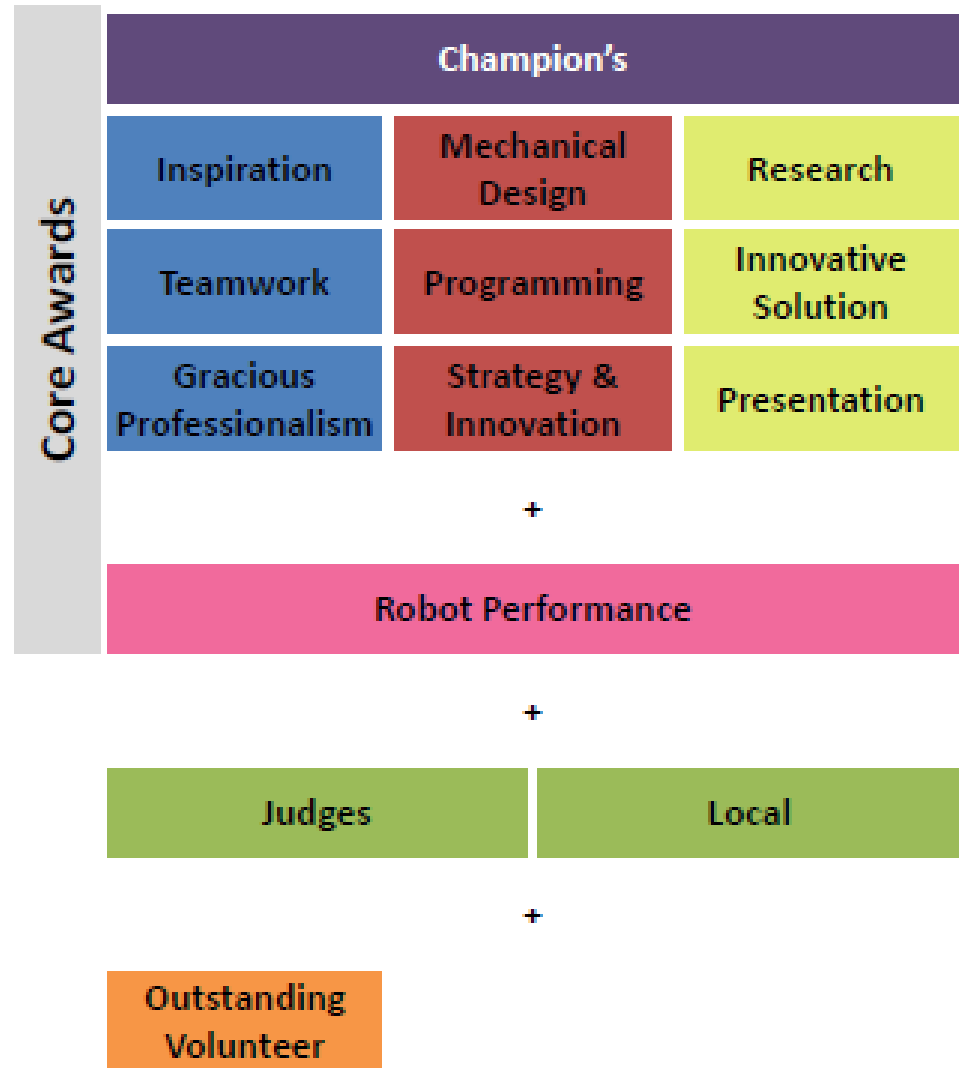
More on Judging

- **If a team does not exhibit Core Values at a tournament, they will be disqualified from winning any awards!!**

- **Adults are strictly prohibited from directing team members or interfering with the judging process or robot rounds in any way.**

- **Teams are eligible to win awards at one Qualifier, but are encouraged to attend other competitions as cheering fans!**

Coach and Mentor Roles

- **READING COMMUNICATIONS THOROUGHLY**

- **Keeping the team on schedule**

- **Managing team dynamics**

- **Keeping track of rules – Coaches Handbook**

- **Assisting with strategy, build and presentation AS A RESOURCE, NOT A DIRECTOR OR PARTICIPANT**

- **Managing the team during the competition – stay on time!**

- **Providing a successful environment where kids are encouraged to solve their own problems**

- **Consulting the Coaches' Handbook for Rules, Tips, Guidelines**

Your Job as Coach

- **Have fun!**
- **Register to participate in a Qualifier!!!!**
- **MOST IMPORTANT:**
  - Lead your team, don't do the work for them
  - Inspire your team, coordinate their season, don't do the work for them!
  - Serve as a resource for your team, don't do the work for them!
  - Participate in a Qualifier, and remember:
    - **IT'S NOT ABOUT WINNING—IT'S ABOUT WORKING TOGETHER TO SOLVE PROBLEMS AND SHARE YOUR SOLUTIONS!!! THE JOURNEY, NOT THE DESTINATION!!!**

Keep in Mind…

- **The Game is not the most important part of the competition**

- **You need to model gracious professionalism and proper response to adversity – what you say and do has a ripple effect on the team**

- **Kids need to support each other when problems arise**

- **Coaches need to let kids fix their technical problems**

- **ALL team members must participate in each aspect of the competition**

- **All 4 components (Robot Game, Core Values, Robot Design and Project) are required to be eligible for any awards**

- **Invite fans and friends to cheer on the teams!**

Resources and Support

- **USFIRST: www.usfirst.org**
  - **Problems with your products, rules of the game or project**

- **MNS: www.perotmuseum.org (for now just go to FLL under site search)**
  - **Sections: About FLL, Challenge 2011, Season Schedule, Volunteers, FLL Coaches' Resources, Qualifier Info, FAQs**

- **Each other: http://groups.google.com/group/northtexasfll**
  - **Scheduling scrimmages & practices, team personality issues**

- **Kristi Cantu, FLL Coordinator: kristine.cantu@perotmuseum.org**
  - **Specific questions about competition not addressed on *FIRST* or MNS sites**

- **Ken Berry, Head Referee: ksberry@utdallas.edu**
  - **Technical programming questions, workshops**
  - **Schedule of coach workshops will be posted on Perot website**

- **Joe Varnell, Head Referee: jvarnell@usfirst.org**
  - ***FIRST* Senior Mentor**