

# Oregon Robotics Tournament and Outreach Program

## *FIRST* LEGO League Jr Information

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*Opening doors to the worlds of science  
and technology for Oregon's youth*

# FIRST LEGO League Jr Commitee



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# Today's Goals

- ▶ Provide an understanding of FIRST, ORTOP, and the *FIRST* LEGO League Jr Program
- ▶ Provide an overview of the new materials
- ▶ An overview of coaching
- ▶ FIRST LEGO League Jr and Schools
  - ▶ After School - Small Group
  - ▶ In Class
- ▶ Highlight what happens at a *FIRST* LEGO League Jr Expo

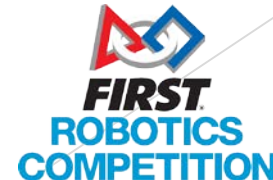
# FIRST



*"To create a world where science and technology are celebrated.. where young people dream of becoming science and technology leaders"*

## Programs from FIRST (For Inspiration and Recognition of Science and Technology)

- ▶ **FIRST** LEGO® League Jr Kindergarten - 4<sup>th</sup> grade - initial ORTOP pilot in 2006
- ▶ **FIRST** LEGO® League 4<sup>th</sup> - 8<sup>th</sup> grade - started by ORTOP in 2001
- ▶ **FIRST** Tech Challenge for middle & high school students - initial ORTOP pilot in 2006
- ▶ **FIRST** Robotics Competition for high school students



# ORTOP

(Oregon Robotics Tournament and Outreach Program)

*Opening doors to the worlds of science and technology for Oregon's youth*

- ▶ Runs the *FIRST* LEGO League Jr (as well as *FIRST* LEGO League and *FIRST* Tech Challenge) program in Oregon and Southwest Washington
- ▶ A 501(c)3 non-profit
- ▶ Heavily volunteer based



# FIRST LEGO League Junior



- ▶ *FIRST* LEGO® League Junior
  - ▶ 6-9 year olds (kindergarten - 4<sup>th</sup> grade)
  - ▶ Uses LEGO elements, LEGO motor, or WeDo kits
  - ▶ Challenge based on real-world scientific problems
  - ▶ Features hands-on experience and teamwork
- ▶ Show these youth that science and technology can be fun



# What Is a *FIRST* LEGO League Jr Team?

- ▶ 2-6 children
- ▶ Kindergarten through 4<sup>th</sup> grade
- ▶ Led by two coaches
  - ▶ Coaches - adults with overall responsibility for the team
  - ▶ No technical expertise required
  - ▶ Must pass basic background check administered through *FIRST*
- ▶ Sources of teams
  - Schools
  - Community groups
  - Neighborhoods
  - Libraries

# What teams do



- ▶ **Learn It** - Learn about the Challenge topic
- ▶ **Build It** - Make a LEGO model with one moving part and one simple machine on a 15x15 LEGO base plate
- ▶ **Show It** - Create a Show Me Poster describing your team, what you learned, and how your team accomplished the task
- ▶ **Share It** - Share your work at either the OMSI Expo, the Online Showcase, or any other local event. You can even plan your own event!





- Learn about bees with Elsa the Bee
- Learn about engineering design
- Explore an animal of the team's choice
- Research and talk with experts (most likely someone your team already knows!)
- Create a model to reflect your research and a ShowMe Poster to share it!

# Single Team Registration and Fees



- ▶ National Team Registration \$75
  - ▶ 6 Engineering Notebooks
  - ▶ 1 LEGO Inspire Model
  - ▶ Team Meeting Guide
  - ▶ Common Core Grids - grades K-3
  - ▶ Online Global Showcase
  
- ▶ ORTOP EXPO Registration \$40 - \$80 (sliding scale)

# Season Passes

- ▶ Small Season Pass- \$695
  - ▶ 12 Inspire Models
  - ▶ 12 Meeting Guides
  - ▶ 144 Engineering Notebooks
  - ▶ 1 Administrator Guide
  - ▶ Hold multiple teams in at least 2 sessions, up to 144 students
- ▶ Large Season Pass - \$1,295
  - ▶ 24 Inspire Models
  - ▶ 24 Meeting Guides
  - ▶ 288 Engineering Notebooks
  - ▶ 1 Administrator Guide
  - ▶ Hold multiple teams in at least 2 sessions, up to 288 students

Season Passes may be shared within School Districts,  
Libraries Districts, or through a community center

# FIRST Registration Process

- ▶ Create an account at [www.firstinspires.org](http://www.firstinspires.org)
- ▶ Create a Team and fill in ALL required information - including inviting a second coach.
- ▶ Make sure you use a physical address for your Inspire Kit and Engineering Notebooks. They can't be delivered to a P.O. Box
- ▶ Return to your dashboard and complete the Youth Protection Program.





# LEGO Options

- ▶ WeDo 2.0 Kit - \$189.95
  - ▶ Includes 6 Build to Express
  - ▶ 1 WeDo 2.0 Set + Software
  - ▶ 15x15" Base Plate
- ▶ Additional LEGO pieces (optional)
  - ▶ Community Starter Set - \$199.95 (enough for 2-3 teams)
  - ▶ Community Minifigure Set - \$54.95
  - ▶ Creative LEGO Brick Set - \$59.95
- ▶ Other Options
  - ▶ LEGO motor and battery set
  - ▶ WeDo 1.0 set
  - ▶ LEGO MINDSTORMS robot kit (NXT or EV3)

# Team Meeting Guide & Engineering Notebooks



- ▶ 12 coordinated sessions
- ▶ Planned meetings with suggested timetables
- ▶ Flexibility to expand or remove items based on your team's interests and ability level
- ▶ Engineering notebooks provide a space for team members to experience engineering design and record ideas.
- ▶ Engineering notebooks give team members more tools to work through the season.
- ▶ Engineering notebooks do not need to come to the expo



# The Team Timeline

- ▶ Registration with *FIRST* starts in August
- ▶ Teams work on the challenge for ~2-3 mo.
  - ▶ Teams meet for 12 sessions, plus extra time as needed to complete their research, design, and build.
- ▶ Culminating event is an Expo - Share It
  - ▶ March 18 or 19 at OMSI
  - ▶ May 6 at Evergreen Space Museum

# Coach Responsibilities



- ▶ Provide a safe consistent place for the team to meet and store their materials between meetings
- ▶ Guide the team through 12+ meetings with the help of the materials provided by *FIRST*
- ▶ Complete any required paperwork and applications on behalf of the team
- ▶ Arrange for the team to meet with a local “expert” (probably someone you already know).
- ▶ Help the team learn and apply the *FIRST* Core Values
- ▶ Bring your team to an Expo



# Small Group

- ▶ Meet regularly, 1-3 times per week for 1 to 1.5 hours.
- ▶ Direct team through the challenge
- ▶ Keep the team on task
- ▶ Help the team develop teamwork skills



# In Class

- ▶ Meet regularly, 1-3 times per week for 1 to 1.5 hours.
- ▶ If possible have an aid or additional volunteer help
- ▶ Start with an all teams group meeting to introduce the main goals of the session
- ▶ Break into teams to work on teamwork skills and the challenge
- ▶ Pull teams aside to work on special skills and solve conflicts.
- ▶ Use class option time for teams to finish tasks not finished during meetings

# Coaching a team

- ▶ Be prepared
- ▶ Don't hesitate to make adjustments to timing and cutting activities if they don't work for your team.
- ▶ Start each meeting with the *FIRST* Core Values
- ▶ Keep your team manageable
  - ▶ K-2<sup>nd</sup> grade: 2-4 team members recommended
  - ▶ 3-4<sup>th</sup> grade: 4-6 team members recommended
- ▶ Feel free to break up sessions into two different meetings, especially for younger team members
- ▶ Do not be scared of assigning homework between meetings
- ▶ Make time for the silly, creative, and fun
- ▶ If you need advice, please reach out!

# Overview of Expo



- ▶ Teams check in and set up their Show Me Posters and Models
- ▶ Opening Ceremony
- ▶ Teams share their work with an Expo Reviewer
- ▶ Teams may tour around the museum
- ▶ Closing ceremonies - all teams receive a certificate that highlights their strength as a team
- ▶ Most Important Goal of the Expo is to Have Fun! It is NOT a competition!

# Our Mailing Lists



- ▶ ortopjfl
  - ▶ You are added when you register your team with *FIRST*
  - ▶ Request to be added from the link at [www.ortop.org/jfl](http://www.ortop.org/jfl)
  - ▶ One way communication from ORTOP to coaches
- ▶ We are also on Facebook - Oregon *FIRST* LEGO League Jr

# Contact Us



Web site:

<http://www.ortop.org/jfll>

Email: [jfll-questions@ortop.org](mailto:jfll-questions@ortop.org)