Inspiring youth to become science & technology leaders & innovators, by engaging them in exciting, experiential, Mentor- and project-based programs that teach science, technology, engineering, and math (STEM) skills, inspire innovation, and foster well-rounded life capabilities.
"To transform our culture by creating a world where science and technology are celebrated and where young people dream of becoming science and technology leaders."

-Dean Kamen Founder
Gracious Professionalism

Gracious Professionalism™
The ethos of FIRST. Fierce competition coupled with unqualified kindness and respect.
**Model**

*Must:*
- Be constructed of only LEGO elements
- Have a motorized piece
- Based on the Challenge Direction Provided in the FLL Jr. Challenge Document

**Show Me Poster**

Includes information about:
- the team
- topic specific research
- the model and the moving part
**FIRST® LEGO® League Jr. IMPACT**

Coaches indicate that the majority of team members experienced gains on a number of outcomes as a result of participating in **FIRST® LEGO® League Jr.**:

### STEM AWARENESS, SKILLS, INTENT

- **98%** Greater awareness of STEM
- **96%** Increased confidence
- **97%** Increased interest in STEM
- **94%** Increased STEM persistence

### LEADERSHIP, INNOVATION, ENTREPRENEURSHIP

- **85%** Better able to explain ideas
- **74%** Find solutions

### 21ST CENTURY WORK-LIFE SKILLS

- **71%** Problem solving
- **65%** Negotiation
- **88%** Teamwork
- **76%** Listening

Source: **FIRST® LEGO® League Jr. Evaluation Study (2014)**, The Research Group, Lawrence Hall of Science, University of California, Berkeley
FIRST builds:

• technological literacy
• intuitive problem solvers
• collaborative innovators
Questions?

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<table>
<thead>
<tr>
<th>Session</th>
<th>Learning Goals</th>
<th>Action Goals</th>
<th>Materials Needed</th>
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</table>
| 1       | ● Learn about the season challenge  
          ● Discuss what makes a good team member | ● Mini-build - use minifigs and LEGO elements to show a good team member  
          ● Mini-build - model for a team name  
          ● Determine a Team name | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● Writing/Coloring Utensils |
| 2       | ● Learn and explain how a PlayPump works  
          ● Describe the benefits and challenges of using PlayPumps to access water | ● Build the Inspire Model  
          ● Use the Inspire Model to help act out the PlayPump story | ● Engineering Notebooks  
          ● WeDo 2.0 kit  
          ● Team Tub of LEGOs  
          ● Writing/Coloring Utensils |
| 3       | ● Provide examples of ways they use water in their day to day lives | ● Select a water use to guide their challenge  
          ● Mini-build - showing their water use  
          ● WeDo 2.0 - Build Milo | ● Engineering Notebooks  
          ● WeDo 2.0 kit  
          ● Team Tub of LEGOs  
          ● Writing/Coloring Utensils |
| 4       | ● Learn about the source(s) of water  
          ● Investigate how water travels from source to their chosen use of water  
          ● Learn and understand sensors | ● Mini-build - showing ways to transport water  
          ● WeDo 2.0 - Milo’s Motion Sensor  
          ● WeDo 2.0 - Milo’s Tilt Sensor | ● Engineering Notebooks  
          ● WeDo 2.0 kit  
          ● Team Tub of LEGOs  
          ● Writing/Coloring Utensils |
| 5       | ● Explain the Engineering Design Process  
          ● Develop method to transport water from the Inspire Model and store it | ● Mini-build - showing tool/structure to include in team model  
          ● WeDo 2.0 - Pull-robot model; use to collect and move the water  
          ● Model methods to transport & store water | ● Engineering Notebooks  
          ● WeDo 2.0 kit  
          ● Team Tub of LEGOs  
          ● Writing/Coloring Utensils |
| 6       | ● Identify potential problems with water transport  
          ● Develop solutions to their problem | ● Mini-build - a tool to help use less water  
          ● WeDo 2.0 and Tub of LEGOs - use to build static & moving models of their solution | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● WeDo 2.0 kit  
          ● Writing/Coloring Utensils |
| 7       | ● Learn about the items needed in their Team models  
          ● Discuss and develop ideas for their Team model | ● Mini-build - showing one thing you have learned about water  
          ● Mini-build - showing ideas to include in Team model  
          ● Begin building Team model | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● Inspire Model  
          ● Writing/Coloring Utensils |
| 8       | ● Revisit design ideas for Team model | ● Mini-build - build a minifig + add some fun elements to start thinking about the Team model  
          ● Continue working on Team model | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● WeDo 2.0 kit  
          ● Writing/Coloring Utensils |
| 9/10    | ● Learn about the items needed to create their Show Me poster  
          ● Revisit design ideas for Team model | ● Research and create materials for team Show Me poster - Complete “Explore” section of the poster  
          ● Continue working on Team model | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● WeDo 2.0 kit  
          ● Writing/Coloring Utensils  
          ● Scissors  
          ● Colored paper  
          ● Glue sticks/tape |
| 9/11    | ● Revisit ideas and materials for creating team Show Me poster  
          ● Revisit design ideas for Team model | ● Research and create materials for team Show Me poster - complete “Create and Test” section of the poster  
          ● Continue working on Team model | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● WeDo 2.0 kit  
          ● Writing/Coloring Utensils  
          ● Scissors  
          ● Colored paper  
          ● Glue sticks/tape |
| 9/11    | ● Revisit ideas and materials for creating team Show Me poster  
          ● Revisit design ideas for Team model | ● Continue working on Team Show Me Poster - complete “Share” section of the poster  
          ● Continue working on Team model | ● Engineering Notebooks  
          ● Team Tub of LEGOs  
          ● WeDo 2.0 kit  
          ● Writing/Coloring Utensils  
          ● Scissors  
          ● Colored paper  
          ● Glue sticks/tape |
| 12      | ● Review what they have learned  
          ● Practice giving a presentation | ● Final work on Team models and Show Me posters  
          ● Expo Celebration - team interviews and awards | ● Engineering Notebooks  
          ● Team Models  
          ● Team Show Me posters  
          ● Expo Materials - awards & dog tags |
**Start a Team**

**FIRST® LEGO® League Jr.** captures the curiosity of young children, ages 6 to 10 (grades K-4), and directs it toward discovering the wonders of science and technology. Children explore and research a real-world topic, design and build a model using LEGO® elements making sure there is at least one motorized part, and then present their journey on a poster.

1. **Learn about what we do**
2. **Form your team**
3. **Register & gather your materials**
4. **Begin work on the Challenge**
5. **Share what you’ve achieved**

**You need:**
- Up to 6 team members
- 2 Coaches
- Meeting space
- Computer with internet access

Each August, the program releases a two-part Challenge for teams.

- **Create:** Teams illustrate their research and team journey in a Show Me Poster, sharing what they studied and learned.
- **Build:** Teams design and build a Team Model based on the Challenge, representing what they have learned.
- **Program:** Teams use LEGO® Education WeDo to build and program a model that moves, learning basic engineering and programming concepts.

**Celebrate your hard work**
- Find an Expo near you at [www.firstinspires.org/whatsgoingon](http://www.firstinspires.org/whatsgoingon)
- Share ideas with other teams on Pinterest: [www.pinterest.com/firstinspires](http://www.pinterest.com/firstinspires)
- Plan a time to present what you’ve done with friends and family

**Explore:**
- Visit the **FIRST LEGO League Jr.** YouTube Channel for Getting Started Tutorials and more
- See what other teams are doing at [www.pinterest.com/firstinspires](http://www.pinterest.com/firstinspires)

**FirstInspires.org**  **firstlegoleaguejr.org**