



Robotics

2022-2023 School Year



What is Robotics?

When students are engaged in hands-on STEM experiences, they build confidence, grow their knowledge and develop habits of learning. When adults coach these students, they encourage them to try, fail, and try again, while connecting STEM concepts to real-world examples.

Robotics is an exciting after school, co-curricular program for our 1st-6th grade students. Depending on the type of team you are on, the primary focus is to build a functioning robot out of Lego pieces that can be computer programmed to maneuver across a playing field while performing multiple missions or design a model and poster to solve a real world problem. Each year, a specific theme is generated by the F.I.R.S.T. Lego League.

Two Types of Teams

FLL Challenge

For incoming 4th-6th Graders (Ages 9-14)

Each year, *FIRST* LEGO League releases the Challenge in early August. Teams may start to meet before then, but the Challenge release day is when teams learn the details of this year's Challenge and really start working. Teams usually meet one or two times per week for eight weeks. How long your team meets may depend on many factors such as when your team plans to attend a tournament. Tournament dates vary from region to region, so your coach will need to check the schedule. Your team's coach may adjust the number and length of the meetings as needed. Check with the coach if you have any questions about the meeting schedule.

Many teams spend time at each meeting working on all three parts of the *FIRST* LEGO League experience: **the Core Values, the Robot Game, and the Project**. Some teams choose to divide into sub-teams so that different groups are working on different tasks. Throughout the season, your child might work with teammates on tasks such as:

- Building a LEGO MINDSTORMS robot and attachments
- Programming the robot to move on its own and perform missions
- Learning about engineering and physics concepts (sometimes learning them the hard way)
- Testing different designs and making adjustments
- Learning about the Challenge theme
- Choosing a real-world problem to research
- Inventing a solution to the problem the team chose
- Presenting the team's solution to other people

FLL Explore

For incoming 1st-4th Graders; Ages 6-10

Every year, *FIRST*® LEGO® League Jr. works with experts in the field to create a Challenge that relates to an important real world issue. The end result of the design process is a Challenge with two defined parts – the **Show Me Poster** and the **Model**. The **Core Values** represent how a team accomplishes their goals.

- **Show Me Poster** - The Show Me Poster requires teams to illustrate their research and team journey. It provides an opportunity for them to share what they studied, what they learned, and to show information about the team and each team member.
- **Model** - The Model gets teams moving! Teams build a representation of what they are researching, based on the Challenge, and incorporate simple machines and movement into their creation.

General Information

Teams – One or two teams depending on parent coaches

- One First Lego League Challenge Team (incoming 4th-6th graders, ages 10-12)
- One First Lego League Explore Team (incoming 1st-4th graders, ages 9-14)

Team positions – up to six-member teams and two parent coaches per team

Team selection – If you are interested you must complete the online google form application by Friday May 6th. Access google form application here: <https://forms.gle/hppjcqpucU4Z6ciN7>

Team members will then be contacted to set an interview date/time. Other criteria for selection will be based on input from current classroom teachers (based on ability to focus and stay on task and maintain appropriate behavior).

Time Commitment

The Robotics Season runs August-April, with the heavy season being August-December.

Whether you are a coach or a team member, plan to meet at least one night per week (about an hour and a half) for at least 12 weeks leading up to expo, competition, or event date. Meetings may increase to two nights per week as events get closer.

- As a coach or adult volunteer, you should be meeting with your team at least once per week during the discovery and creation season (12 sessions).
- As a team member, the same applies. Be prepared to meet once per week for about 12 weeks. Like any sport or other after-school activity, the more time you invest in helping your team will add to your team's success.

What Special Skills do I Need?

The really cool thing about *FIRST* LEGO League Jr. is...all skill levels are welcomed and needed, technical or non-technical. Teams need all kinds of skills and creativity to succeed, so what are you good at? Chances are we have a job for you. And we'll probably teach you a few new ones while you're with us.

Student team members are encouraged to bring any skills or interests they already have, but most importantly a desire to learn and solve problems as a team. *FIRST LEGO League welcomes every student, with or without special skills.* Like our coaches say, “This is the only sport where if you show up, you can play.”

Interested in Being a Coach?

**Coaches are an essential part of robotics as the number of teams and the program itself is dependent on parent coaches. Coaches lead each team; staff serves as advisor to the coaches and program.*

The most successful team coaches are people with at least an interest in science and technology, and in helping kids discover and learn. But we can't emphasize enough that no special technical skills are required. Anyone who wants to be a coach will receive all the training and help he or she needs.

As a coach you will be responsible for:

- Getting fingerprinted and signing all paperwork to be a coach
- Communicating with students/families weekly
- Setting up and carrying out/coaching weekly sessions
- Helping team organize fundraisers and making sure team fundraises the cost to cover the team for that season
- Organizing a suitable meeting place, either public or private, that works for you and your team and that has internet access
- Registering team and signing team up for expos and competitions through FIRST Lego League

Know You're Interested?

Apply here by Friday May 6th: <https://forms.gle/hppjcqpucU4Z6ciN7>