



*Jr. FLL
Program
2022*



**FIRST
LEGO
LEAGUE**

EXPLORE



Who?



- ▷ For Inspiration and Recognition of Science and Technology
- ▷ Created in 1989, FIRST was created to promote and encourage engineering and technology for kids with an eye towards improving their community and the world.



- ▷ The regional partner to FIRST supporting FLL and FTC in Minnesota. They host and coordinate tournaments and promote the programs around the region.



- ▷ Kids Integrating Newly Grasped Technological and engineering Concepts
- ▷ PLSAS's FRC robotics team, originally founded in 2006.
- ▷ Part of PLSAS Patrons of the Arts & Activities.

What is Jr FLL/FLL Jr/FLL Explore?

- ▶ Teams of 4-5 students meet once per week for 10 weeks.
- ▶ **Show Me Poster**
Teams research the current Challenge theme, and display their findings on a Show Me Poster.
- ▶ **LEGO Model**
Using all LEGO elements, teams will design and build a model correlating with the current Challenge theme that contains both a simple machine and a motorized part.
- ▶ **Core Values**
The 6 **FLL Explore Core Values** introduce the concepts of being a team, discovery and Gracious Professionalism.
- ▶ **FLL Jr. Expos**
The culmination of the hard work for many teams is their participation in a MN FLL Explore Expo. Volunteer Reviewers will interview the teams to learn about their LEGO Model and Show Me Poster.

Simple Machines

► Simple Machines

Using all LEGO elements, the team members learn about different physical actions based on simple machine principles. Part of being able to imagine and design an engineering solution is having the basic knowledge to build on.

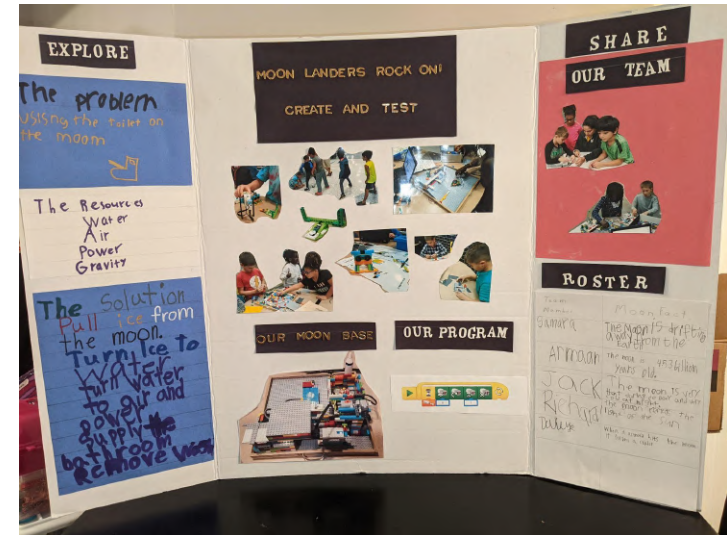
The teams will cover:

- ▷ Wheels and turning
- ▷ Gears - Changing speed and direction
- ▷ Levels - Move weights
- ▷ Pulleys - Pulling objects



Show Me Poster

- ▶ The team will work through discussion of the problem theme of the season and come up with an idea or solution. They will show their LEGO design and coding project, what they learned, what worked or didn't, and about themselves.
- ▶ This is to introduce the concept of engineering process to the team members.
- ▶ Each team member will receive an Engineering Notebook that will guide them through the process with a series of activities.

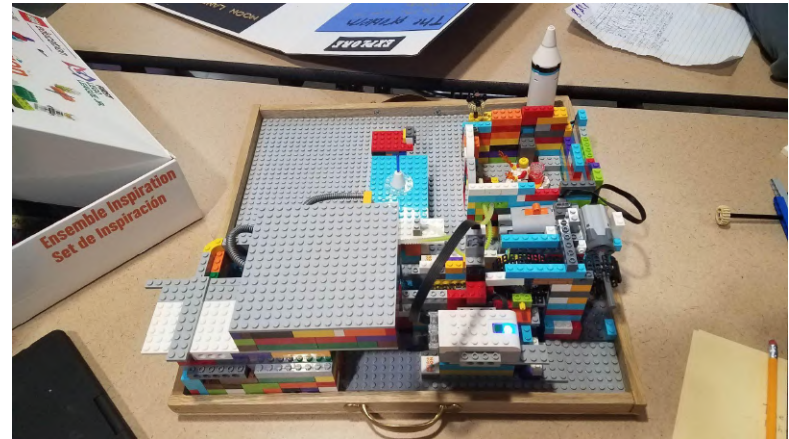


LEGO Model

▶ LEGO Model

Using all LEGO elements, teams will design and build a model correlating with the current Challenge theme that contains both a simple machine and a motorized part.

- ▷ The team builds their solution. Parents can guide, but should let the kids create.
- ▷ A motorized part should be controlled with a program the team creates with a LEGO WeDo set.



FLL Explore Expo

- ▶ At the end of the season, each team has a show and tell at the November Minne Mini tournament at PLHS.
- ▶ The teams will show up at a table in the main area and then go before some Reviewers to explain what they learned, designed, and created this season.



Core Values

- ▶ **Discovery:** *We explore new skills and ideas.*
- ▶ **Innovation:** *We use creativity and persistence to solve problems.*
- ▶ **Impact:** *We apply what we learn to improve our world.*
- ▶ **Inclusion:** *We respect each other and embrace our differences.*
- ▶ **Teamwork:** *We are stronger when we work together.*
- ▶ **Fun:** *We enjoy and celebrate what we do!*

Season Details

- ▶ Cost: \$95 + \$50 deposit check, which is returned once complete kits are returned
 - ▷ Scholarships are available. Every child interested should have the opportunity to participate.
- ▶ Practices are once a week (Tuesday or Thursday)
 - ▷ On registration night, team formation will be based on day availability and grade/age.
 - ▷ Due to the availability of PLHS, some Wednesdays will replace normal practice days.
- ▶ 6pm-7pm
- ▶ Prior Lake High School Commons
- ▶ Season lasts from September 8th-November 19th
- ▶ Tournament Expo held on November 19th at PLHS. Times will be determined closer to the tournament.

Season Details (cont.)

- ▶ No access to PLHS on the following nights:
 - ▷ October 13th (PLHS Conferences)
 - ▷ October 20th (MEA Break; School closed) - No make up
 - ▷ October 21th (PLHS Conferences)
 - ▷ November 3th (PLHS Conferences)
 - ▷ November 8th (Election Night)
- ▶ Make up times on the opposite days are welcome. Please let us know, so materials can be pulled out.

Equipment and Materials

▶ We provide:

- ▶ Lego Base plate with tray
- ▶ Simple Machines kits
- ▶ Lego We Do 2.0
- ▶ Tablet for programming
- ▶ Mission model
- ▶ Engineering notebook
- ▶ Tri Fold Poster Board and some materials for design
- ▶ Storage bin
- ▶ Practice space
- ▶ National registration
- ▶ Tournament Expo registration

▶ You provide:

- ▶ Additional elements related to poster (markers, paper, etc.)
- ▶ Parent supervision and coaching at practices (2 adults at every practice divided between team participants)
- ▶ 2 hours of volunteering per participant family at tournament
- ▶ Team t-shirts, if desired

Team Formation

- ▶ Sept 8th @ 6-8PM at PLHS
- ▶ Grades K-3
- ▶ 4-5 kids per team
- ▶ Same or adjacent grades (i.e. Not 1st with 3rd)
- ▶ 2 parents per practice per team(No experience necessary)
 - ▷ We are a volunteer organization, meaning this is not a drop-off program
 - ▷ If your child is disruptive, you may be asked to accompany them to every practice

What Next?

- ▶ Register at KINGTeC2169.com on the FIRST Lego League Explore page under the Progression of Programs Tab. (Will be available prior to Sept 8th.)
- ▶ Pay registration fee online (in person payment available at Team Formation night)
 - ▷ All fees must be paid before your child can be placed on a team
 - ▷ * - Or scholarship request submitted
- ▶ Pay deposit
 - ▷ All checks can be made out to Prior Lake Robotics
 - ▷ Deposit checks will be collected by the first practice -- must be received before robots are distributed and will be returned, shredded, or donated to KING TeC (per your designation)
 - ▷ **NOTE**- You must be present at the kit turn-in time for your check to be returned (none will be mailed).

AT LEAST ONE PARENT PER PARTICIPANT MUST ATTEND TEAM FORMATION NIGHT (Bring your calendars!)

Questions?