

# What's **FIRST**®?

*Igniting young minds.*

*Teaching life skills.*

*Nurturing passions for science and technology.*

*Practicing “Gracious Professionalism®.”*

FOR **I**NSPIRATION AND **R**ECOGNITION OF **S**CIENCE AND **T**ECHNOLOGY



- It's a competitive *sport*.
- It's a life *experience*.
- It's *opportunity*.
- It's *community*.
- It's *amazing*.

- *For students (ages 6-18):*  
the hardest fun you'll ever have.
- *For Mentors, Coaches, Volunteers:*  
the most rewarding adventure  
you'll ever undertake.
- *For Sponsors:*  
the most enlightened investment  
you could ever make.

- ... never stops building upon itself, starting at age 6 and continuing through middle and high-school levels up to age 18. Young people can join the international, K-12, after-school, STEM\* programs at any level. Participants master skills and concepts to aid in learning science and technology through innovative projects and robotics competitions, while gaining valuable career and life skills.

**Jr.FLL**  
Junior FIRST® LEGO® League  
Grades K-3

**FLL**  
FIRST® LEGO® League  
Grades 4-8

**FTC**  
FIRST® Tech Challenge  
Grades 7-12

**FRC**  
FIRST® Robotics Competition  
Grades 9-12

\*STEM: science, technology, engineering, and math



Junior FIRST® LEGO® League

# What is Jr.FLL®?

What's **FIRST**?

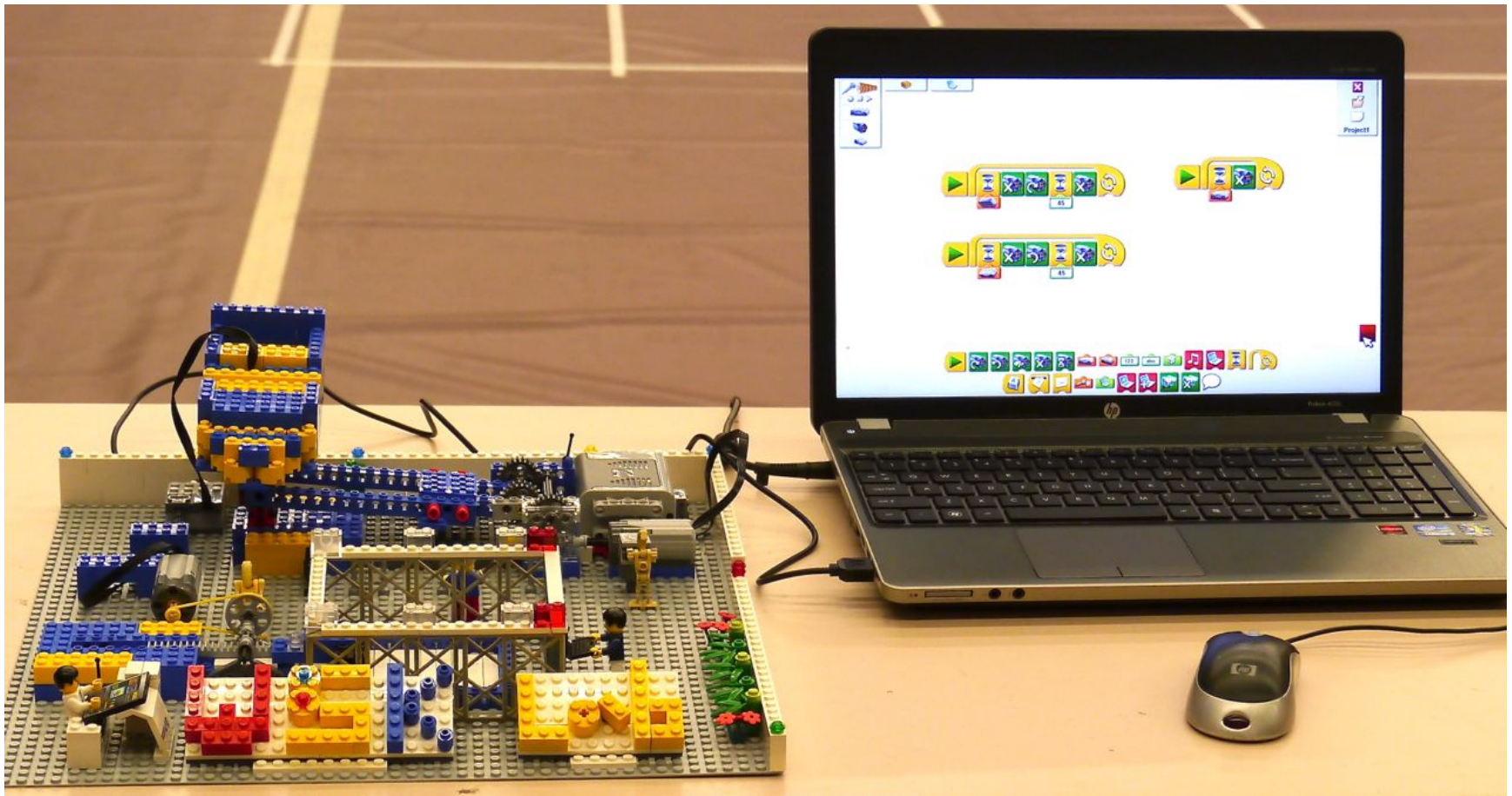
## Junior FIRST® LEGO® League

- INTRODUCES 6 TO 10 YEAR-OLDS to the fun of science and technology
- CHALLENGE based on annual FLL real-world theme
- EXPLORE, investigate, design and build model made with LEGO bricks & motorized moving parts
- CREATE *Show Me* poster depicting team's experience
- LEARN from and interact with adult mentors



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Design and build challenge-related model using  
LEGO® components

# Lego Model

What's **FIRST**?



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# The 'Show Me' Poster

What's **FIRST**?



Create a *Show Me* poster and practice presentation skills

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## August – February

- Jr. FLL provides coaches a curriculum packet. They suggest 8-12 meetings.
- The Lego Model. Team will learn about building, gears, and how to use a motor to make their project move.
- The Programming. The curriculum teaches the team how to program.
- The Project. Jr. FLL has a simpler version of the project. They work on a 'show me' board presentation.



## Organizations

- Any group can create a team: schools, community groups, churches, neighborhoods
- Up to 6 children, ages 6 to 10, and at least one adult coach

## Cost

- \$400 Average cost for a new team
- \$175 Average cost for a returning team

## Season

- June - August.....On-line registration
- August 1st.....Challenge is revealed
- August – November .....Build & research
- December – April .....Expo season



## Cost Breakdown

### One Time Fees

- ~\$225 for the *FIRST* LEGO League Jr. Base Kit Option (Optional, teams can use existing LEGO elements from home, however the WeDo or WeDo 2 platform is required.)

### Annual Fees

- \$99 for National Registration.
- \$30-50 Event Registration Fee (Central California Expos)

### Optional Costs

- Poster Materials
- Team Shirts

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# What is FLL?

What's **FIRST**?

## FLL

FIRST® LEGO® League

## How It Works

### PROBLEM SOLVING AND CREATIVITY

- Present children with a real-world problem
- New scientific theme each year

### TEAMS OF CHILDREN AND MENTORS

- Work as a team
- Learn with adults and mentors

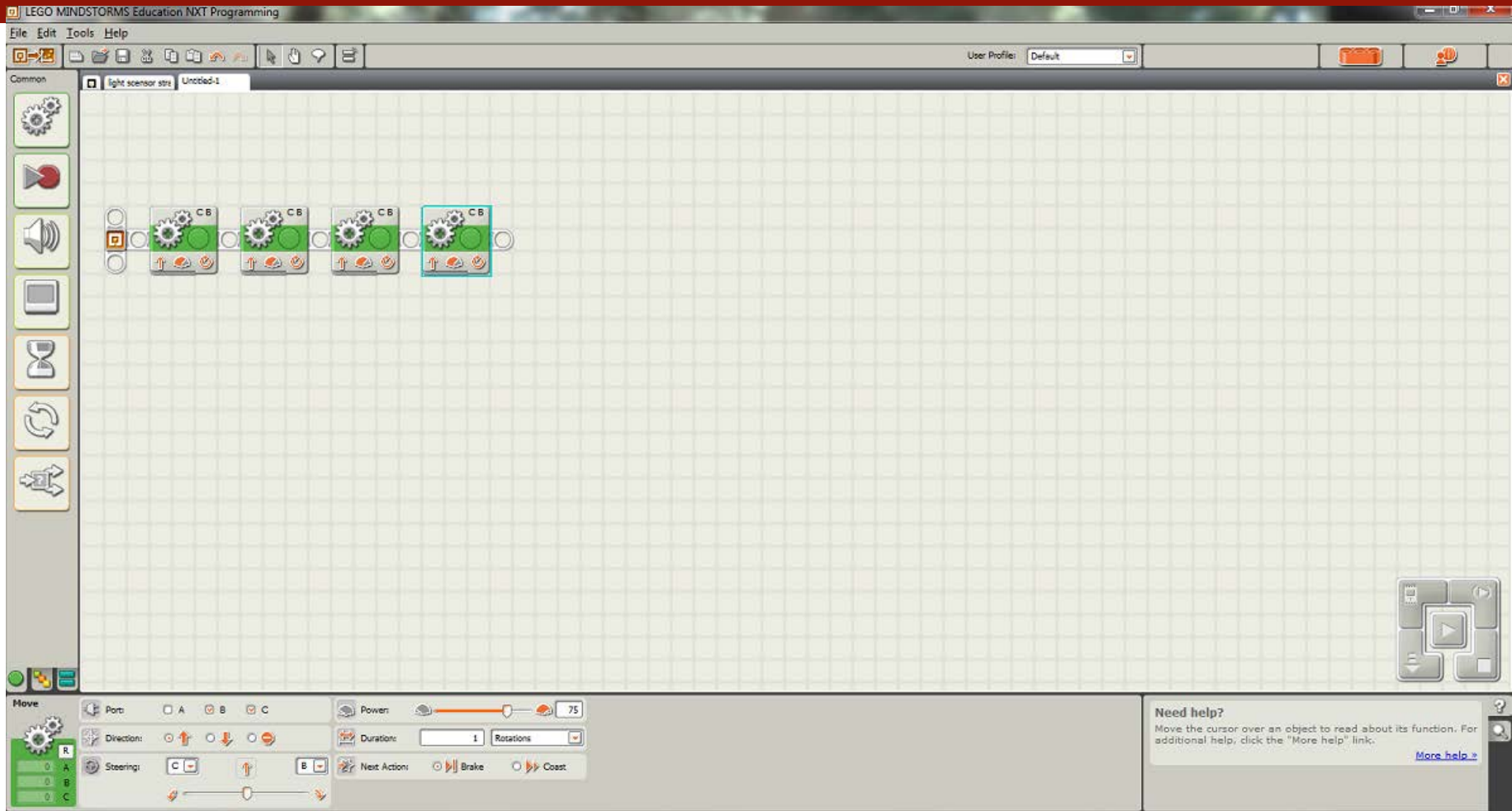
### DO IT ALL IN 8-12 WEEKS

- Building, programming, testing, investigating solutions
- May choose to participate in an Official Tournament or local event



# FLL Programming

What's **FIRST**?

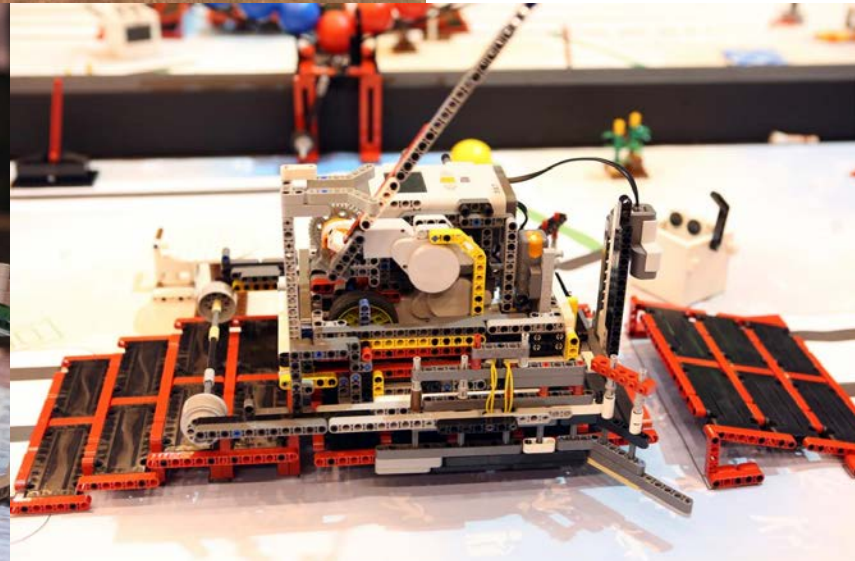
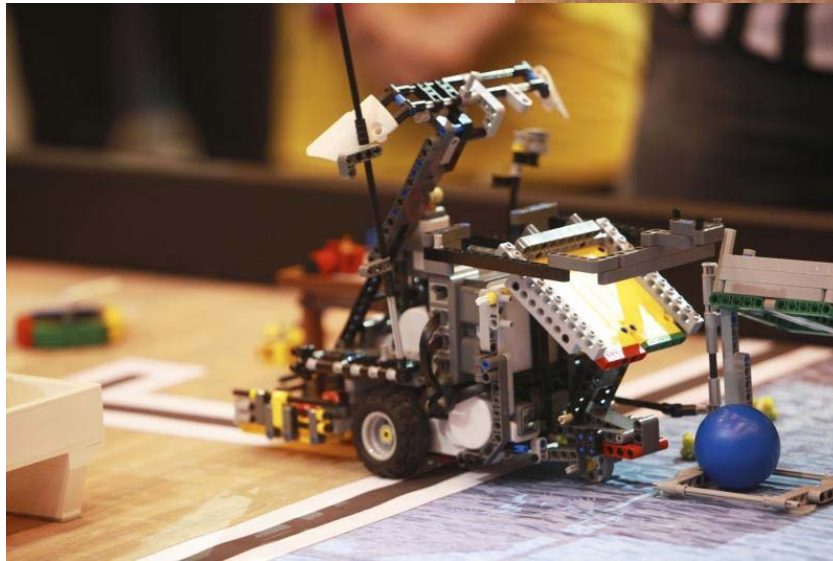
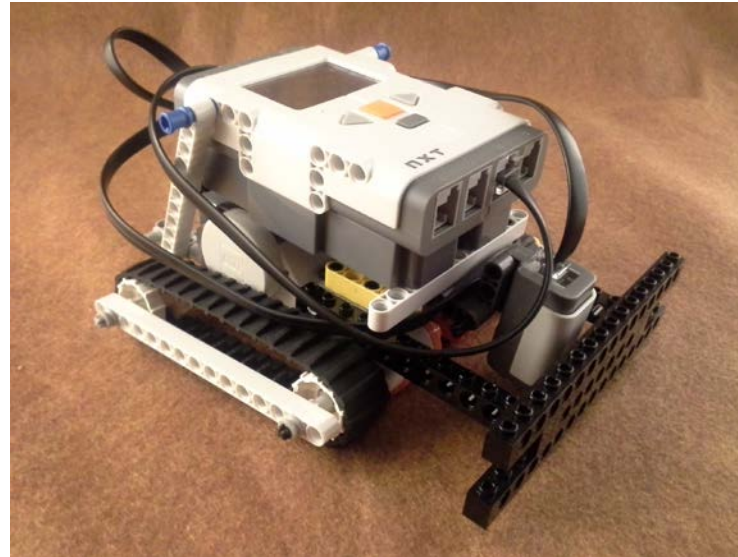


Students learn how to program an autonomous working robot.

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- Students design and build a fully functioning robot that can interact with table modules





This is the table where teams run their robots and compete for points by completing various tasks.



- FLL has selected a theme for the 2018 season, Into Orbit– Gather your crew and get ready to explore, challenge and innovate in the demanding and inspiring expanse we call space! The 2018/2019 *FIRST* LEGO League season requires you to work together to break out of your earthly constraints. Do you have what it takes to go INTO ORBIT<sup>SM</sup>?
- In August FLL will release the full challenge which will include a real world question.
- The team will choose how to solve or address this real world question.
- The team will have eight weeks to research their project and decide how to present the answer.
- At the tournament the team will have eight minutes to present their answer.

## August - November

- Build the Robot
- Program the robot to complete 'Missions'
- Research a Project

## November - December

- Present at the Qualifying Tournament
- Half the teams go to the Championship tournament



# Get involved: FLL teams

What's **FIRST**?

## FLL

FIRST® LEGO® League

### Organizations

- Any group can create a team: schools, community groups, churches, neighborhoods
- Up to 10 children, ages 9 to 14, and two adult Coaches

### Cost

- \$800 or more for new teams; \$450 for returning teams (U.S.)

### Season

- May – September .....On-line registration (subject to availability)
- August 1<sup>st</sup> .....Challenge is revealed
- August – November .....Build & research
- November – December .....Tournament season
- April .....World Festival



Prices subject to change

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# Block R Points

Students in 4<sup>th</sup> – 6<sup>th</sup> grade must attend a Robotics Tournament in order to receive credit for Block R.

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- ✓ Head-to-head competition using sports model
- ✓ Teams design, build, program robots based on sound engineering principles
- ✓ Platform is reusable from year-to-year
- ✓ Develop strategic problem-solving, organization, and team-building skills
- ✓ Awards for competition, community outreach, design
- ✓ Qualify for >\$12 million in scholarships



FIRST® Robotics Competition

What's **FIRST**?

- ✓ Varsity Sport for the Mind™
- ✓ Strict rules, limited resources, time limits
- ✓ Students mentored by professional engineers
- ✓ Teams learn, use sophisticated hardware and software
- ✓ Build and compete with robots of their own design
- ✓ Qualify for >\$16 million in scholarships

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## Become a Coach or Mentor:

- Empower children with a sense of accomplishment
- Provide valuable one-on-one interaction
- Be respected and admired by team members
- Be inspired and energized through your participation



*“I love working with these kids! I’m amazed and inspired by what they can accomplish, and their enthusiasm and energy is contagious.”*

Kristen Kelso, FLL Coach and Judge, former *FIRST* Robotics Competition participant



To learn more about *FIRST* LEGO League Jr. and FLL, including information about starting a team, visit: [www.cvrobotics.org](http://www.cvrobotics.org)

Additional questions, please contact Stan Holt at 327-8600 or email [stanholt@cusd.com](mailto:stanholt@cusd.com)