



Virtual Coaches Conference

Presented by



*The FIRST® LEGO® League Explore
Program Delivery Partner for North Texas*



What's *FIRST*®?

Press Play for Video



FIRST
LEGO
LEAGUE

FIRST
TECH
CHALLENGE

FIRST
ROBOTICS
COMPETITION

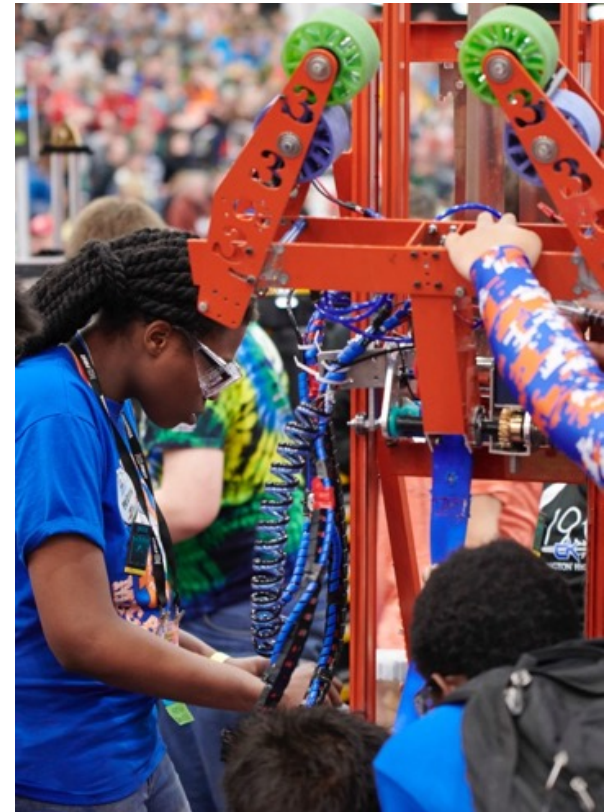
FIRST® is...

...the No. 1 youth-serving non-profit advancing STEM education outcomes and the development of 21st century skills

- ❑ Bridging the STEM skills gap
 - The only sport where every kid can “go pro”
 - Increasing STEM competence and confidence in young people while creating career opportunities and innovation in the fastest-growing fields

- ❑ *More Than Robots*SM
 - Inspiring young people to develop a lifelong love of learning in an ever-changing workforce and society
 - Equipping students with real-world skills, including digital literacy, teamwork, leadership, creative problem solving, and time/project management

- ❑ Building the people who will change the world – today and tomorrow
 - Helping students channel their raw curiosity, think critically, and seek ways to improve the world around them



Inspiring Generations of Global Citizens

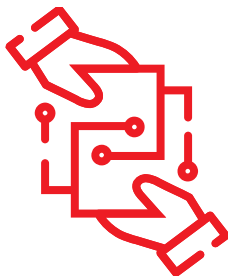
2019-2020 Numbers at a Glance



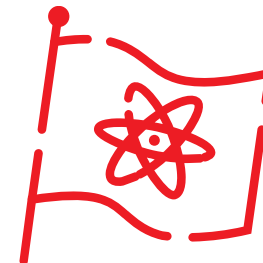
~110
Countries



679,000+
Participants



84,000+
Teams



3,700+
Events

FIRST Progression of Programs

Grades Pre-K-8 · Ages 4-16*

*Ages vary by country

FIRST LEGO LEAGUE

Introduces STEM to children through fun, exciting hands-on learning. Participants gain real-world problem-solving experiences through a guided, global robotics program, FIRST LEGO League's three divisions inspire youth to experiment and grow their critical thinking, coding, and design skills.

Discovery: ages 4-6

Explore: ages 6-10; uses the LEGO® Education WeDo 2.0

Challenge: ages 9-16; uses SPIKE™ Prime or LEGO MINDSTORMS® EV3

Grades 7-12 · Ages 12-18

FIRST TECH CHALLENGE

Teams of up to 15 students learn to think like engineers. Teams design, build, and program robots to compete in an alliance format against other teams. Robots are built from a reusable platform, powered by Android technology, and can be coded using a variety of levels of Java-based programming.

Grades 9-12 · Ages 14-18

FIRST ROBOTICS COMPETITION

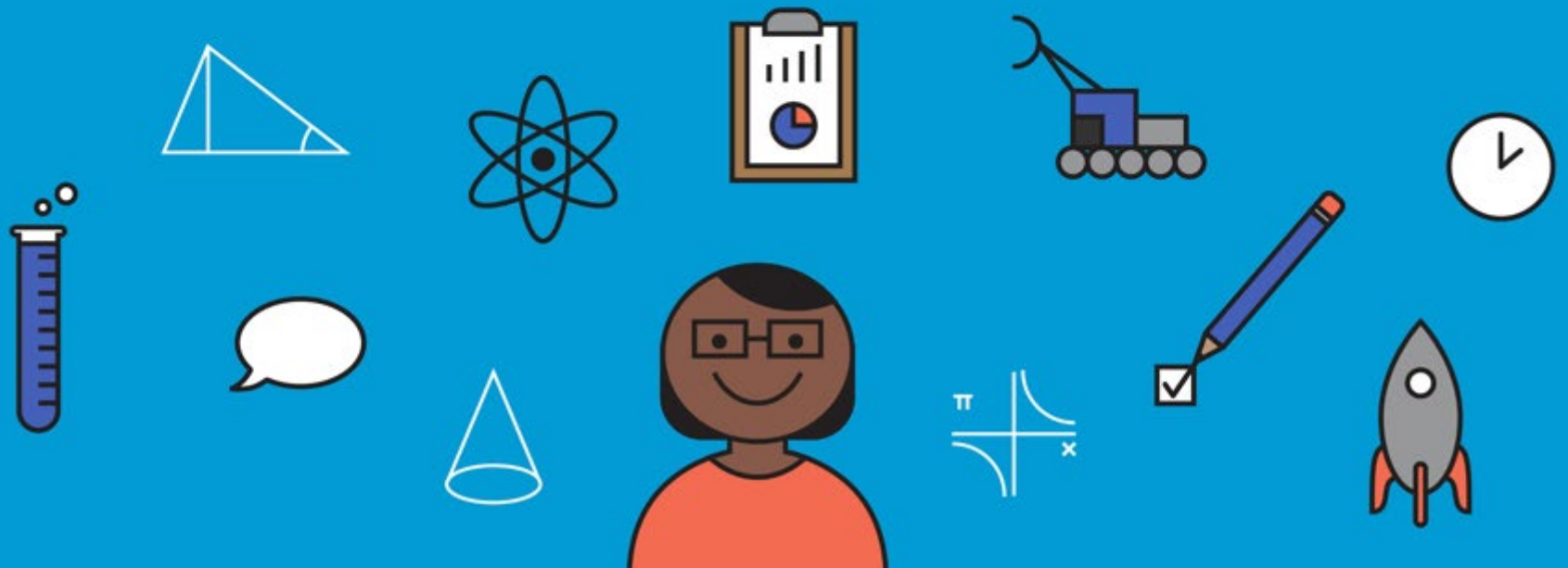
Combines the excitement of sport with the rigors of science and technology. Under strict rules and limited time and resources, teams of high school students are challenged to build industrial-size robots to play a difficult field game in alliance with other teams, while also fundraising to meet their goals, designing a team "brand," and advancing respect and appreciation for STEM within the local community. Programming options include LabVIEW, C++ and Java-based.

Explore the full progression at firstinspires.org

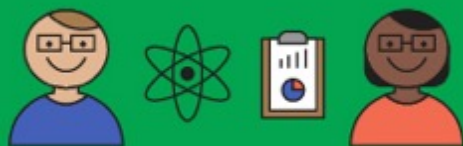




THE IMPACT



Substantial Increase in STEM **INTEREST**



FIRST® participants are
**SIGNIFICANTLY
MORE LIKELY** to
show gains in interest in:

- ☑ STEM
- ☑ STEM CAREERS
- ☑ UNDERSTANDING OF STEM

(than a matched comparison group of students)

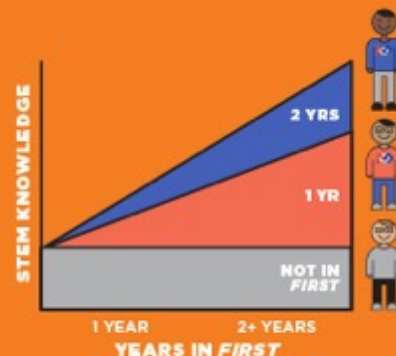


**THEY ARE
OVER
2X**

**as likely to show gains
in their interest of STEM**

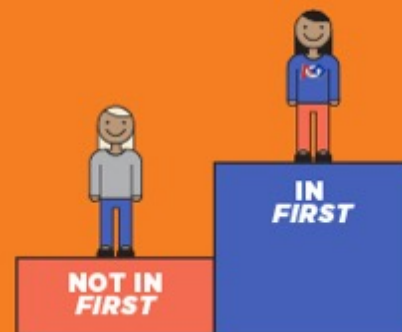
(than a matched comparison group of students)

Substantial Increase in STEM **UNDERSTANDING**



**STEM KNOWLEDGE CONTINUES TO
GROW THE LONGER YOU STAY**

Students who persist in *FIRST* for more than one year show significantly greater gains than those who left after a single year.



**THE IMPACT ON GIRLS
IS SIGNIFICANT**

Females in *FIRST* have a dramatically increased understanding of STEM compared to females in the comparison group.

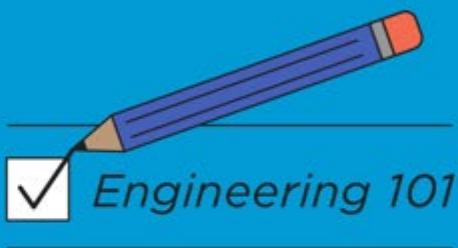
FIRST Alumni Are Ready for a STEM CAREER

FIRST ALUMNI ARE

2.6x

more likely to enroll in an
ENGINEERING
course their freshman year

(than a matched comparison group of students)



OVER 75%

of FIRST Alumni are in a
**STEM FIELD AS
A STUDENT OR
PROFESSIONAL**

GAINS IN WORKFORCE SKILLS:



COMMUNICATION

76% of students
reported gains



CONFLICT RESOLUTION

93% of students
reported gains



TIME MANAGEMENT

95% of students
reported gains



PROBLEM-SOLVING

98% of students
reported gains

Why *FIRST* LEGO League?



**FIRST
LEGO
LEAGUE**

**FIRST
LEGO
LEAGUE**

DISCOVER

**FIRST
LEGO
LEAGUE**

EXPLORE

**FIRST
LEGO
LEAGUE**

CHALLENGE

What is *FIRST*[®] LEGO[®] League

FIRST[®] LEGO[®] League introduces science, technology, engineering, and math (STEM) to children ages 4-16* through fun, exciting hands-on learning. Participants gain real-world problem-solving experiences through a guided, global robotics program, helping today's

students and teachers build a better future together. *FIRST* LEGO League's three divisions inspire youth to experiment and grow their critical thinking, coding, and design skills through hands-on STEM learning and robotics.

Explore the full division progression at [firstlegoleague.org](https://www.firstlegoleague.org)



**FIRST
LEGO
LEAGUE**
DISCOVER

AGES
4-6

GRADES
PreK-1

Three young boys are focused on building a LEGO robot on a table.



**FIRST
LEGO
LEAGUE**
EXPLORE

AGES
6-10

GRADES
2-4

A young girl with a blue headband is working on a LEGO robot with an adult woman.



**FIRST
LEGO
LEAGUE**
CHALLENGE

AGES
9-16*

GRADES
4-8

Two young men in red shirts and caps are working on a LEGO robot on a table.

*Ages vary by country

- ❑ In Explore, teams of 2-6 students focus on the fundamentals of engineering as they explore real-world problems, learn to design and code and create unique solutions made with LEGO bricks powered by LEGO Education WeDo 2.0
- ❑ Each year in early August, *FIRST* LEGO League Explore releases a new Challenge for teams that focuses on a scientific topic. Teams are sent on a journey of discovery to learn all they can about the topic and then present their findings in the form of a team poster and a LEGO model that moves.
- ❑ The *FIRST* LEGO League Explore season ends with Festivals, where students showcase their team models and posters sharing what they've learned with volunteers, friends, and family.

**Press Play for FLL
Explore Video**



How to Start a Team

- ❑ A group of 2-6 students (ages 6-10)
- ❑ Teams can be formed in a classroom, homeschool, after-school program, or by an out-of-school club, neighborhood group or family
- ❑ At least two adult coaches and mentors are needed to guide the team and can include parents, grandparents, teachers or community volunteers. No technical experience is required.
- ❑ The FLL Explore season begins each year in August when a new challenge is introduced for the upcoming school year
- ❑ To sign-up a team and participate in *FIRST* LEGO League Explore, coaches will need to [register their team nationally with *FIRST*](#)
- ❑ Season registration fee for a team is \$99

What comes with Team Registration?

- ❑ Explore Set - This LEGO® set is created just for *FIRST* LEGO League Explore teams and will be used to complete their challenge for the season. The Explore Set includes 700+ LEGO elements, including those needed to create the Explore Set.
- ❑ Challenge Document - This document quickly outlines the yearly challenge. This can be accessed online by everyone, regardless of which option you choose.
- ❑ Team Meeting Guide - This is a printed guide for coaches that gives complete instructions on how to administer the *FIRST* LEGO League Explore program. It outlines 12 sessions, providing 12-16 hours of guided activities for teams.
- ❑ Engineering Notebook - These notebooks are printed and shipped to teams and are also available as interactive PDFs online. They complement the Team Meeting Guide and are used to guide team members through the season.

Equipment for *FIRST* LEGO League Explore

Included with \$99
registration Fee



Explore Set (includes LEGO elements to build Explore Model), Team Meeting Guides, Engineering Notebooks

Additional Equipment Required



LEGO Education WeDO 2.0
Additional cost of \$205

Plus, an electronic device like a computer, laptop or IPAD to code your robot model

2020 - 2021 Season Challenge

Once you have registered your team for the FLL Explore Season, received your materials from *FIRST* and have looked through them; you will see that this season's challenge is **PLAYMAKERS** and teams are challenged with finding new, fun ways and places to get people moving that will help keep them healthy and strong.



Play Challenge Video

Three Essential Parts

Each yearly Challenge has three parts:
Core Values, the Lego Model and the *Show Me Poster*



Festival Registration Information

- ❑ The FLL Explore season ends with Festivals, where students showcase their team models and posters sharing what they've learned
- ❑ Before registering for a local Festival, teams must first be registered nationally with *FIRST* and have their official team number
- ❑ Festival registration costs can run \$25 - \$75 per team, per Festival
- ❑ Festivals range in size from 10 - 30 teams participating, and slots are available on a first come, first served basis
- ❑ Due to the unique challenges facing the 2020-2021 season, FLL Explore Festivals in your area may be offered in traditional or remote formats. The new remote event experience will be as close as possible to a traditional event for teams and volunteers, with the necessary modifications to accommodate a remote environment.
- ❑ *FIRST* Program Delivery Partners are your local program contacts and manage the events in your area. Event formats and timing for the 2020-2021 season will be determined by your Program Delivery Partner. Connect with your program delivery partner here: <https://www.firstinspires.org/find-local-support>

More Information

On the web:

- www.firstinspires.org
- www.firstlegoleagueexplore.org
- www.dfwtec.org

www.firstinspires.org