

2025 About *FIRST*® Overview

FOR INSPIRATION & RECOGNITION OF SCIENCE & TECHNOLOGY

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What is FIRST[®]?

FIRST[®] is a robotics community that prepares young people for the future and the world's leading youth-serving nonprofit advancing science, technology, engineering, and math (STEM). Founded by inventor Dean Kamen in 1989, *FIRST* has evolved into a global movement by combining the excitement of traditional sports with the rigor of STEM learning, engaging millions of people with programs that have a proven impact on learning, interest, and skill-building inside and outside of the classroom. *FIRST* builds powerful mentorship relationships between young people and STEM professionals, helping kids gain confidence to explore the innovation process while they learn valuable science, engineering, technology, teamwork, and problem-solving skills. *FIRST* creates the people who will change the world – today and tomorrow.

FIRST offers a suite of robotics programs for PreK-12 (ages 4-18): *FIRST*[®] Robotics Competition for grades 9-12 (ages 14 to 18); *FIRST*[®] Tech Challenge for grades 7-12 (ages 12 to 18); and *FIRST*[®] LEGO[®] League with divisions spanning grades PreK-8 (ages 4 to 16). Students can join any of our three programs based on age or grade level. Ages may vary by region. Each program can be facilitated in school or after-school.

What are the purpose, vision, and mission of FIRST?

- **Purpose:** *FIRST* exists to prepare the young people of today for the world of tomorrow.
- **Vision:** 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.
- **Mission:** The mission of *FIRST* is to provide life-changing robotics programs that give young people the skills, confidence, and resilience to build a better world.

What is Gracious Professionalism®?

Gracious Professionalism[®] is part of the ethos of *FIRST*. The idea and phrase are found throughout the *FIRST* community, but no one was a stronger champion than the late *FIRST* Distinguished Advisor, Dr. Woodie Flowers:

"Gracious Professionalism is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community. With Gracious Professionalism, fierce competition and mutual gain are not separate notions. Gracious professionals learn and compete like crazy but treat one another with respect and kindness in the process."

What is Coopertition[®]?

Coopertition[®] fosters innovation by promoting unqualified kindness and respect in the face of intense competition. At *FIRST, Coopertition* means that teams help and cooperate with each other, even as they compete. It's about learning from teammates, teaching others, collaborating with mentors, managing, and being managed. *Coopertition* embodies the spirit of competing while assisting and enabling others whenever possible.

Who participates in *FIRST* programs?

FIRST programs have reached more than 3.2 million youth participants in 110+ countries around the world since 1989. For the latest global statistics, please visit <u>firstinspires.org/about/at-a-glance</u>.

FIRST encourages inclusive participation through an expanded team structure that allows all young people to experiment with jobs and tasks, build a foundation of STEM and workforce skills, and find where they excel.

Are special skills or expertise in STEM (science, technology, engineering, and math) required for students to participate in the *FIRST* programs?

No; *FIRST* welcomes every student with or without specialized skills. In fact, *FIRST* is designed to inspire, motivate, and encourage students to learn basic principles while challenging more experienced students. Since there are critical roles for students in everything from design and building, to fundraising and research, to marketing, every student can actively participate, learn something new, and benefit from the program.

Student team members and adult volunteers are encouraged to bring any skills they already have, like programming, electronics, metalworking, graphic design, web creation, public speaking, videography, and many more.

What do the students gain from participating?

Throughout their *FIRST* experience, students gain maturity, build self-confidence, learn teamwork, and gain an understanding of professionalism. Students have fun while building a network of friends and professional mentors who enrich their lives.

A series of awards honor accomplishments in areas including engineering, design excellence, competitive play, sportsmanship, and high-impact partnerships between schools, businesses, and communities. A judging committee of distinguished professionals makes award decisions. The most prestigious awards are the *FIRST* Impact Award, *FIRST* Inspire Award, and *FIRST* Champion's Award, which recognize a team within each program that best represents a model for other teams to emulate and best embodies the purpose and goals of *FIRST*.

Are there other benefits to participating?

Young people gain foundational skills and knowledge to explore in-demand careers. Sponsors benefit by finding future employees and interns. Mentors benefit from renewed inspiration and a reminder as to why they chose a STEM career. Volunteers benefit from building community and are recognized as an integral part of the way in which young people connect to community and opportunities.

What does research show about participation in FIRST?

More than a decade of data and research shows that exposing kids to fun, exciting *FIRST* programs builds 21st century work skills and greatly increases their motivation to seek education and careers in STEM fields. Learn more at <u>www.firstinspires.org/about/impact</u>.

Who are FIRST alumni?

FIRST alumni are high school graduates who participated in high school-level *FIRST* Tech Challenge and/or *FIRST* Robotics Competition. Participants and alumni of *FIRST* programs gain access to education and career discovery opportunities, connections to exclusive scholarships and employers, and a place in the *FIRST* community for life. Visit <u>www.firstinspires.org/alumni</u> for more details.

What are FIRST season themes?

Every year, *FIRST* celebrates a common theme connecting our community and three programs – from energy to transportation to oceans, each program challenge focuses on objectives unique to the annual theme. The themes are selected to engage students in STEM learning via a topic relevant and applicable to their real life. By connecting the experience to real-world issues, we're empowering participants to explore how science and technology can contribute to solving problems.

What is the FIRST Championship?

The annual championship event is the world's largest celebration of science, technology, engineering, and math (STEM) for students. Hosted by *FIRST* each April to culminate the season, more than a thousand student robotics teams from around the world put their innovation, teamwork, and robotics skills to the test. More than 50,000 sponsors, volunteers, and attendees gather for the competition and celebration. Learn more about *FIRST* Championship at www.firstchampionship.org.

Where are FIRST programs run?

FIRST programs operate in over 100 countries around the world. Teams can be formed by schools, afterschool programs, home schools, community groups, or any other creative learning environment. Children can join any of our three programs based on age or grade level. Ages may vary by region. Find teams and events in your area at https://www.firstinspires.org/team-event-search.

Who manages the teams?

Teams are managed by coaches and mentors who volunteer their time and talent. The growth and success of *FIRST* is a direct result of their efforts.

Who manages the official events?

Official events are the responsibility of the Program Delivery Organization, which partners with local volunteers to deliver high-quality events. For the 2023-2024 season, more than 316,000 volunteer roles were filled. The growth and success of *FIRST* is a direct result of the efforts of these local volunteers.

What is the role of a FIRST Program Delivery Organization (PDO)?

FIRST collaborates with local organizations that have a similar mission to deliver *FIRST* programs in specified regions. A PDO identifies their Program Delivery Partner who manages a *FIRST* program on a daily basis. These individuals fundraise, run official events, hold workshops and demonstrations, market the program locally, handle public relations, and recruit volunteers and teams.

Who are some of the organizations that sponsor FIRST?

FIRST is supported by a strong network of corporations, educational and professional institutions, and individuals. Industry-leading companies – including more than 200 of the Fortune 500 companies – provide funding, mentorship time and talent, volunteerism, and equipment, and help make *FIRST* more accessible to students all over the world.

FIRST Strategic Partners are:

The 3M Company, Apple, The Argosy Foundation, BAE Systems, Bechtel Group Foundation, The Boeing Company, Caterpillar, Inc. DEKA Research & Development Corporation, DoD STEM, Dow, FedEx Corporation, The Gene Haas Foundation, General Motors Company, Google.org, John Deere, LEGO Education, Medtronic, National Aeronautics and Space Administration (NASA), NI, Novelis Inc., Qualcomm Incorporated, RTX, Rockwell Automation, Inc., TE Connectivity, and The Walt Disney Company.

FIRST Founding Sponsors are:

Aptiv, Baxter International Inc., Boston Scientific Corporation, Chrysler, DEKA Research & Development Corporation, General Motors Company, Johnson & Johnson Family of Corporations, Kleiner Perkins, Motorola Solutions Foundation, and Xerox Corporation.

FIRST has Strategic Alliances in place with:

Alpha Omega Epsilon, Automation Federation/ISA, Boys & Girls Club of America, Girl Scouts of the USA, National 4-H Council, National Center for Women & Information Technology (NCWIT), National Society of Black Engineers (NSBE), Sigma Phi Delta, Engineering Fraternity, Society for Information Management (SIM), Society of Hispanic Professional Engineers (SHPE), Society of Women Engineers (SWE), and Triangle Fraternity.

Why is FIRST More Than Robots®?

FIRST inspires young people to be drivers of positive change and use science and technology as a force for good in the world by encouraging them to learn and collaborate under the *FIRST* Core Values and ethos of *Gracious Professionalism* and *Coopertition*, emphasizing friendly sportsmanship, respect for the contributions of others, teamwork, learning, and community involvement. Using robotics competitions as the vehicle, *FIRST* is developing innovators, technology leaders, and creative problem solvers. *FIRST* programs help students channel their raw curiosity to think critically and seek ways to improve the world around them.

In 2022, *FIRST* launched an emotive nation-wide awareness campaign, *More Than.* The concept of the campaign was rooted in insights from surveys gathered by listening to students, educators, and experts about children's and young people's barriers to success. The campaign brought awareness to the struggles happening among today's youth, while offering solutions to parents and educators about how to build their self-esteem, especially through STEM-related programs. Learn more at <u>www.morethanrobots.org</u>.

What is the "Get Anywhere" campaign?

The "Get Anywhere" campaign demonstrates *FIRST* as the solution to the STEM skills-gap among young people in the United States. It celebrates a wide range of careers that are built on a foundation of STEM and socio-emotional skills, and it offers *FIRST* sponsors the opportunity to talk about real issues impacting their own industries. Launched in October 2024, the concept of the campaign is to reinforce the reality that by participating in *FIRST*, everyone can "go pro." Young people might not have their futures figured out, but this shouldn't stop them from building their skillsets today – because *FIRST*-learned skills can get them anywhere. Learn more at <u>www.firstinspires.org/getanywhere</u>.

How do I contact FIRST?

- Contact us online
- Phone Support: (603) 666-3906 or (800) 871-8326 | Mon-Fri 8:30am 5:00pm EST/EDT
- Live Chat Support: Mon-Fri 9:00am 4:00pm EST/EDT

How can volunteers get involved?

- The best ways to start discovering the rewards of volunteering with *FIRST* are:
- Explore the Volunteer Homepage to learn about opportunities to volunteer.
- Search on the FIRST event page to find an event close to you.
- Additional information about volunteering can be found in the *FIRST* Volunteer Handbook.
- Contact FIRST about volunteer opportunities at 1-800-871-8326 or email volunteer@firstinspires.org.

Different ways to help:

- <u>Event Volunteers</u> Run seasonal events at the local, regional, and national levels; take on a variety of roles from judging and field reset to crowd control and safety glasses attendant.
- <u>FIRST Championship Volunteers</u> Support the annual FIRST Championship event with choices of many available volunteer positions.
- <u>Mentors & Coaches</u> Guide students who participate on *FIRST* teams as they work through the challenges of each season; offer off-season support and guidance.



What is FIRST[®] Robotics Competition?

Starting with a Kit of Parts, teams of high school students design, program, and build industrial-sized robots to play an action-packed game, released in January. They compete on a themed field as part of a three-team alliance in the spirit of *Coopertition*[®].

In 360-degree learning guided by adult mentors, each *FIRST* Robotics Competition team also creates a team identity, raises funds to meet its goals, and advances appreciation for STEM in its community.

Recommended for ages 14-18, grades 8-12. *Ages may vary by region.

What does it offer?

- Students work on teams alongside professionals who mentor and guide them.
- Build and compete with a team-designed robot.
- Learn and use professional hardware and software.
- Develop skills in design, project management, programming, teamwork, strategic thinking, and Coopertition.
- Compete for judged and competition awards at action-packed, multiday events, qualifying up to the *FIRST* Championship.
- Participants and alumni gain access to education and career discovery opportunities, connections to scholarships and employers, and a place in the *FIRST* community for life.
- Have fun as part of an engaged and supportive community.

What does every FIRST Robotics Competition team need?

- 2 or more adult mentors with both technical and non-technical expertise willing and motivated to "coach" the team through the build and competition season (and beyond).
- Recommended 10 or more high school-aged students willing to put in time after school (and maybe some weekends) and to do any job the team needs to succeed (lots of roles available for all skill levels and interests).
- Suitable meeting location.
- A standard kit of parts and a common set of rules issued by FIRST.
- A community sponsor(s) that will help fund your efforts and provide other support.
- The desire to learn, explore, strategize, build comradery, share ideas and talents, make new friends, be inclusive, and have fun!

When does FIRST Robotics Competition happen?

- May: Registration for the season opens
- January: Season Kickoff and start of build season
- February April: Regional and district competitions
- April: FIRST Championship
- Summer/Fall: Off-season events and prep for next season

How is the game played?

Each year's Kickoff event unveils a new, exciting, and challenging game. From the Kickoff, teams have limited time to build and program a robot to compete in the game using a Kit of Parts provided by *FIRST* and a standard set of rules.

Visit <u>www.firstinspires.org/robotics/frc/game-and-season</u> for current season game animation, game manuals, and other materials.



What is FIRST[®] Tech Challenge?

FIRST[®] Tech Challenge students work together with their mentors to design and build robots to compete in a dynamic and exciting challenge released every September. Teams program classroom-scale robots to follow autonomous commands before student drivers take control in two-on-two matches.

On and off the field, students develop STEM skills, engage in community outreach, practice engineering innovation, and build confidence to help them succeed.

Recommended for ages 12-18, grades 7-12.

What does it offer?

- Design, build, and program robots using blocks-based or text-based coding and custom fabrication with 3D printing.
- Model a real-world engineering process.
- Apply math and science concepts.
- Develop strategic problem-solving, organizational, and team-building skills.
- Develop life skills, confidence, and resilience to build a better world.
- Compete at local and regional events, qualifying up to the *FIRST* Championship. Earn awards based on teamwork, creativity, innovation, and the engineering design process.
- Gain access as participants and alumni to education and career discovery opportunities, connections to scholarships and employers, and a place in the *FIRST* community for life.
- Have fun as part of an engaged and supportive community.

What does every FIRST Tech Challenge team need?

- Two or more adult mentors/coaches who are willing and motivated to coach the team through the build and competition season and beyond.
- Other adults can volunteer to help with administration, fundraising, community outreach, technical advising, and other tasks.
- A suitable meeting place and space to design and build a robot about the size of a microwave oven or approximately 18 by 18 inches.
- A standard kit of robot parts and a common set of game and robot rules issued by *FIRST* Tech Challenge.
- A budget and a fundraising plan.
- The desire to learn, explore, strategize, build camaraderie, share ideas and talents, make new friends, be accepted, and have fun!

When does FIRST Tech Challenge happen?

- May: Registration for the season opens
- September: Season Kickoff
- October March: Local and regional competitive events
- April: FIRST Championship

How is the game played?

Each September, the season's kickoff event unveils a new, exciting, and challenging game to be played on a themed 12'x12' playing field. From the Kickoff, teams have limited time to build and program a robot to compete in the game, typically composed of three sections: autonomous, driver-controlled, and the end game. Teams can use advanced artificial intelligence (AI), augmented reality (AR), and machine learning (ML) technologies to improve the performance of their competition robots during play. Points are added throughout game play, and penalties are assigned at the end of the match.

Visit <u>www.firstinspires.org/robotics/ftc/game-and-season</u> for current season game animation, game manuals, and other materials.



What is *FIRST*[®] LEGO[®] League?

FIRST[®] LEGO[®] League introduces STEM (science, technology, engineering, and math) to children ages 4-16 (varies by region) through fun, exciting hands-on learning.

Participants gain real-world problem-solving experiences through a guided, global robotics program using LEGO[®] technology, helping today's students, families, and educators build a better future together.

FIRST LEGO League's three divisions inspire youth to experiment and grow their critical thinking, coding, and design skills and showcase what they learned.

What are the FIRST LEGO League Divisions?

- FIRST [®] LEGO[®] League Discover For children ages 4-6, this playful introductory STEM program ignites their natural curiosity and build their habits of learning with hands-on activities in the classroom and at home using LEGO[®] DUPLO[®] bricks.
- FIRST [®] LEGO[®] League Explore Teams of students ages 6-10 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 and powered by LEGO[®] Education SPIKE[™] Essential.
- **FIRST**[®] **LEGO**[®] **League Challenge** Friendly competition is at the heart of Challenge, as teams of students ages 9-16 (ages may vary by region) engage in research, problem-solving, coding, and engineering building and programming a LEGO Education SPIKE[™] Prime robot that navigates the missions of a robot game. As part of Challenge, teams also participate in a research project to identify and solve a relevant real-world problem.

Visit <u>www.firstinspires.org/robotics/fll/game-and-season</u> for current season missions, details, game manuals, and other materials.

What does it offer?

FIRST LEGO League Challenge:

- Application of science and math concepts.
- Hands-on problem solving.
- Programming experience.
- Application of the Engineering Design Process.
- New real-world theme each year.
- Sports-like tournaments with judges and awards.

FIRST LEGO League Explore:

- New real-world theme each year.
- Builds STEM skills and develops habits of learning.
- Culture of sharing, learning, and fun.
- Engagement of kids in meaningful, hands-on experimentation.
- Presentation skills development.
- Community-hosted events and official FIRST LEGO League Explore Festivals.

FIRST LEGO League Discover:

- New real-world theme each year.
- Understanding the basics of STEM; Building habits of learning.
- Culture of sharing, learning, and fun.
- Engagement of kids in meaningful, hands-on experimentation.
- Alignment with national educational standards.
- In-school events.

When does FIRST LEGO League happen for teams?

FIRST LEGO League Challenge:

- May-September: Online team registration
- August: Season launch
- September-March: Build, program, and research
- November-March: Tournament season
- April-July: FIRST Championship (World Festival) & International Opens

FIRST LEGO League Explore:

- May: Season registration opens
- August: Season launch
- October-June: Local and regional festivals
- April: *FIRST* Championship

What is the role of the LEGO Group?

The LEGO Group is the Founding Partner of *FIRST* LEGO League and a Strategic Partner of *FIRST*. Since its inception, the LEGO Group has supported the growth and success of the program by contributing each year to the development, management, and funding of customized Challenge Sets, Robot Sets, marketing communications resources, volunteers, and more.

How can families participate in FIRST LEGO League together?

Families who participate together in *FIRST*LEGO League discover the power of curiosity, creativity, and problem-solving, building the foundation for life-long confidence in STEM learning. As part of *FIRST*LEGO League Discover Class Pack registration, every student is provided a Discover More set that includes two sets of Six Bricks. Developed by The LEGO Foundation, the sets are a tool for children and their families to practice their memory, movement, creativity, and more through short, fun, playful activities using just six LEGO DUPLO four-by-six bricks.

In all *FIRST* LEGO League divisions, families are encouraged to learn about what their child has created and attend their festival or tournament. If possible, volunteering time with the team, class, or event is a wonderful way to support your child's learning and enhance their experience. Please visit our <u>Family Resources</u> page for more information.