



Choose *FIRST*[®] for Your Students

IGNITE YOUNG MINDS. INSPIRE INNOVATION. CREATE LASTING IMPACT.



PreK-12 *FIRST*[®] programs support educators by engaging students in STEM (science, technology, engineering, and math) learning and preparing them for the future through hands-on fun while cleverly helping kids transfer classroom concepts to real-world applications.

FIRST[®] PROGRAMS

- **Inspire** your students to be lifelong learners by making learning relevant and fun.
- **Excite** students in project-based STEM activities through robust robotics programs deliverable in and out of the classroom.
 - Teach coding and the scientific method through hands-on projects.
 - Apply math and science to real-world problems.
 - Teach the engineering and design process through mechanical design and build.
- **Expose** students to new interests.
- **Integrate** student-directed, problem-based learning to build innovation skills and strategic thinking.
- **Cultivate** 21st century work-life skills.
- **Encourage** *Gracious Professionalism*[®], a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.
- **Create** a community of collaborative problem-solvers.

SUPPORTING EDUCATORS

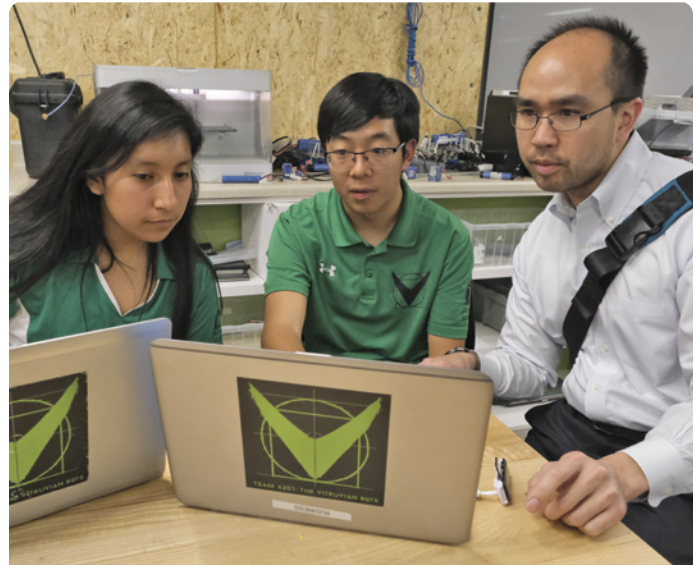
FIRST programs align to national educational standards

FIRST curriculum and program guidebooks are developed using a project-based learning pedagogy. Students gain knowledge and skills through engaging in complex questions or problems and investigating solutions. Content is designed to meet specific STEM learning outcomes through connected learning objectives. This allows *FIRST* content to be embedded or integrated to promote learning in a variety of contexts.

FIRST provides implementation resources for educators

FIRST resources and professional development prepare educators and facilitators to guide their students as they begin or continue a journey of STEM exploration using real-world scenarios and challenges:

- Grants to assist with funding
- Mapping programs to meet the Common Core State Standards, Next Generation Science Standards, and 21st Century Learning Skills
- Curriculums that provide authentic, real-world learning to students
- Detailed facilitator guides
- Preparation modules, webinars and other educational and in person Partner trainings



Equipping your educators with hands-on *FIRST* programs will invigorate your staff while creating lasting impact on your students.

MORE THAN ROBOTSSM

Create equitable, lasting impact

FIRST is the world's leading youth-serving nonprofit advancing STEM education. Founded by renowned inventor Dean Kamen in 1989, *FIRST* has reached more than 2.5 million youth participants in more than 100 countries.

Backed by a global network of mentors, coaches, volunteers, alumni, and sponsors, *FIRST* offers a PreK-12 suite of hands-

on, team-based robotics challenges that welcome all participants at any level regardless of prior STEM knowledge.

FIRST programs use strategic, evidence-based techniques to maximize student engagement and conclude with celebratory events showcasing what students learn and accomplish.

2.5M
Youth participants
in more than 100 countries.

Build *FIRST* Core Values

FIRST goes beyond preparing your students for higher education and careers by creating an inclusive learning environment where students discover their purpose at an early age and persevere through challenges. As a result, your students will also boost their self-confidence, communication, and leadership skills and learn how to transfer those skills to life outside the classroom.

FIRST is committed to fostering, cultivating, and preserving a culture of equity, diversity, and inclusion that opens STEM opportunities for all. The *FIRST* community thrives under the set of *FIRST* Core Values depicted below.

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!
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HANDS-ON PREK-12 STEM LEARNING PROGRAMS



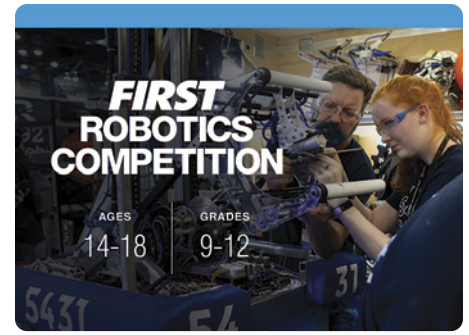
FIRST® LEGO® League GRADES PREK-8

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



FIRST® Tech Challenge GRADES 7-12

FIRST® Tech Challenge 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.



FIRST® Robotics Competition GRADES 9-12

FIRST® Robotics Competition teams design, program, and build a robot starting with a standard kit of parts and common set of rules to play in a themed head-to-head challenge. Teams also create a team identity, develop community partnerships for support, and work to promote STEM in their local community.

FIRST IMPACT

FIRST has a proven impact on youth participants in shaping their futures in STEM. Research from a multi-year longitudinal study* shows FIRST is advancing its mission to increase the number of students interested in STEM – and that interest is influencing their educational and career choices.

FIRST students are prepared for greater success in the classroom and workforce.

At FIRST, we understand that interest, rather than academic proficiency, is a greater predictor of children pursuing studies and careers in STEM fields. Our evidence-based programs use strategies known to increase student interest and engagement in STEM, including:



**HANDS-ON
LEARNING**



**WORKING AS A TEAM
ON REAL-LIFE
PROBLEMS**



**EXPOSURE TO
CAREERS AND
ADULT MENTORS**



**EMPHASIS ON FIRST
CORE VALUES**



**CULMINATING IN A
CELEBRATION WHERE STUDENTS
CAN SHOWCASE WHAT THEY
CREATED AND LEARNED**

Benefits of FIRST

FIRST students are two times more likely to show an increase in STEM-related attitudes and interests than comparison group students.

Positive impacts are evident for all FIRST students regardless of race, gender, income, or community type.

**FIRST STUDENTS ARE SIGNIFICANTLY MORE LIKELY TO SHOW
GAINS IN STEM OUTCOMES THAN COMPARISON STUDENTS**

2x

**STEM Interest
STEM Career Interest
STEM Knowledge**

**STEM Activity
STEM Identity**

*x = times as likely

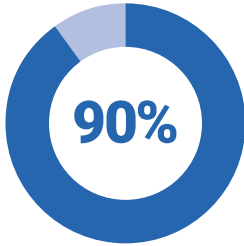


Gains in Workforce Skills

FIRST participants show significant gains in workforce skills such as teamwork, communication, and problem-solving.

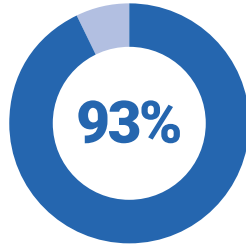
COMMUNICATION

90% of students reported gains



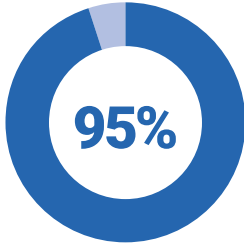
CONFLICT RESOLUTION

93% of students reported gains



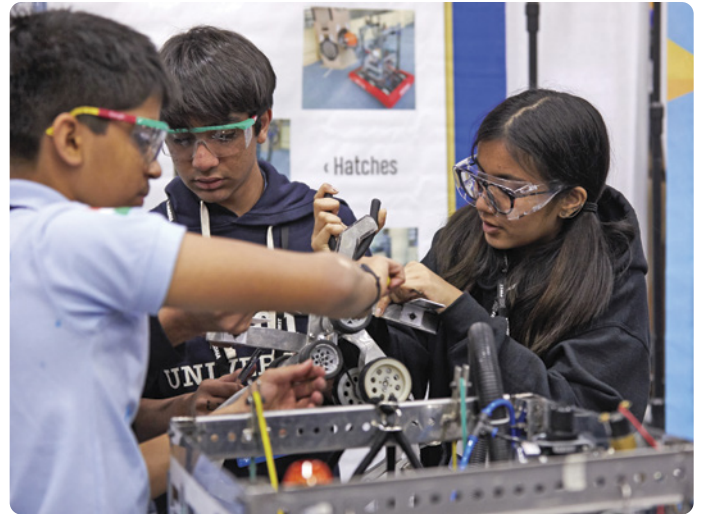
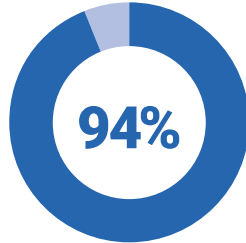
TIME MANAGEMENT

95% of students reported gains



PROBLEM-SOLVING

94% of students reported gains



"FIRST has given me life skills and tools to work well with others and be a team player and always do my personal best with Gracious Professionalism.® These are skills I will use in my daily life and beyond!"

Essential skills students build with FIRST

Children have always been innovative, but this generation of young people is unlike any other. Having the world at their fingertips has increased their curiosity beyond what is readily available to them. Imagine the growth possibilities with programs that celebrate their natural curiosity, combined with mentors to guide them through new opportunities.

1. Critical Thinking and Problem Solving

2. Collaboration

3. Adaptability

4. Innovative Thinking

5. Entrepreneurship

6. Communication

7. Accessing and Analyzing Information

8. Curiosity and Imagination



CREATE LASTING IMPACT WITH FIRST.

Learn more at www.firstinspires.org/school-engagement.



START THE CONVERSATION AND BRING FIRST TO YOUR STUDENTS.

Email FIRSTSchoolEngagement@firstinspires.org.

*All differences statistically significant, $p \leq .05$. SOURCES: FIRST Longitudinal Study: Findings at 84-Month Follow-Up, Brandeis University, March, 2021; Brandeis University, 2011 FIRST® Tech Challenge – FIRST® Robotics Competition Evaluation and 2013 FIRST® LEGO® League Evaluation

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