

FIRST® LEGO® League Ignites STEM Engagement

Hands-On Classroom and After-School Programs

FIRST® LEGO® League guides youth through STEM (science, technology, engineering, and math) learning and exploration at an early age. From Discover, to Explore, and then to Challenge, students will understand the basics of STEM and apply their skills in an exciting competition while building habits of learning, confidence, and teamwork skills along the way.

Learn more about FIRST LEGO League by visiting www.firstlegoleague.org.

FIRST LEGO League Class Pack

FIRST LEGO League can be implemented through FIRST Class Packs, which includes curriculum for educators and facilitators to guide their students through 12 sessions as they explore STEM and robotics.

FIRST LEGO League Studies

From 2018-2021, *FIRST* worked with WestEd¹ to evaluate the *FIRST* LEGO League Discover program. Goals of the evaluation included understanding the impact the program had on students and teachers. This evaluation was funded by the LEGO® Foundation.

From 2019-2022, FIRST worked with the Lawrence Hall of Science, UC Berkeley² to evaluate the FIRST LEGO League Explore and Challenge programs. Goals of the evaluation included understanding impact the programs had on students and teachers. This evaluation was funded by the LEGO Foundation.



Key Findings

Teachers and facilitators noted positive youth outcomes in core FIRST program areas, including:

Students have gains in STEM Outcomes

FIRST LEGO LEAGUE DISCOVER	
STEM Literacy	97%
Use of STEM Vocabulary	100%
Connection of STEM learning to problems	100%
Ability to engage in the engineering design process	100%
FIRST LEGO LEAGUE EXPLORE	
Interest in STEM	100%
Confidence in STEM	100%
Programming and coding skills	97%
Understanding STEM content	97%
FIRST LEGO LEAGUE CHALLENGE	
Interest in STEM	100%
Confidence in STEM	100%
Programming and coding skills	100%
Understanding STEM content	97%



"[I liked] being able to work with a team and work with friends. We all get to work as a team and we all get chances."

- Explore Student

Students have gains in teamwork and problem solving FIRST LEGO LEAGUE EXPLORE

Ability to work with others	100%
Ability to make a decision as a team	97%
Ability to accept feedback or criticism	97%
Ability to adapt, improve, and modify ideas	97%

FIRST LEGO LEAGUE CHALLENGE

Ability to adapt, improve, and modify ideas

Ability to work with others	100%
Ability to make a decision as a team	97%
Ability to accept feedback or criticism	97%

100%

KEY FINDINGS CONTINUED

At the end of the program, teachers:

FIRST LEGO LEAGUE DISCOVER

Enjoy teaching STEM	100%
Feel well prepared to teach STEM	84%
Feel well prepared to engage students in project-based learning	90%
Feel more confident in teaching STEM to early learners	87%
At the end of the program, teachers feel more confident	t in:
Teaching STEM	88%
Using project-based learning to teach STEM	87%
Making connections between stem concepts and real-world problems	91%
Teaching about programming/coding	91%
FIRST LEGO LEAGUE CHALLENGE	
Teaching STEM	94%
Using project-based learning to teach STEM	97%
Making connections between STEM concepts and real-world problem	93%
Teaching about programming/coding	90%





"Developing the code...was the most interesting part of the program. Kids did like to build, but they really loved seeing how their code worked to solve a problem."

- Challenge Teacher