



## FIRST® LEGO® League Explore 2021-2022 STEM Scale-Up Program

**Grade Levels:** K-4, available in school or out of school

**Information Sessions:** February 5, 12, 19 – 8:00a.m.

Please click this URL to start or join: <https://iastate.zoom.us/j/96923670455>

Or, go to <https://iastate.zoom.us/join> and enter meeting ID: 969 2367 0455

Join via phone line: Dial: 312-626-6799 or 646-876-9923 Meeting ID: 969 2367 0455

**Website:** <https://www.firstinspires.org/robotics/fll>; [www.isek.iastate.edu](http://www.isek.iastate.edu)

**Video Link:** <https://youtu.be/pUONoiVSqTs>, <https://youtu.be/afYrsiQ48wA>

### Award Provides:

- Team Registration for FIRST LEGO League Explore
- LEGO Education WeDo 2.0 set
- Engineering Notebooks and Team Guidebooks
- Access to online resources and alignment tools for team of 6 students and 2 adult coach/teacher
- Half-day training
- Access to attend Expo event

### Additional Cost(s) to Awardee In 2021-2022:

No additional costs to awardees.

### Approximate Sustainability Cost After Award Period:

\$100/year for team registration

### Program Summary:

FIRST LEGO League (FLL) Explore is an international program created by LEGO® and the nonprofit FIRST (For Inspiration and Recognition of Science and Technology) for students in grades K-4 (up to age 10). The program in Iowa is directed by ISU College of Engineering. Each August a new Challenge for teams is released that focuses on a scientific topic. Teams of up to 6 students discover and learn about the topic, present their findings in the form of a team poster and LEGO model they design, build and program to move autonomously. They also explore core values, teamwork and STEM concepts such as computational thinking and engineering design through in-class or after-school options. The framework is for facilitators (educators/coaches) to guide their students through 12 modules where they will use their Engineering Notebooks to explore the fundamentals of engineering through a real-world problem, learn to design and code, and create unique solutions made with creativity and artistic expression through LEGO® bricks and powered by the LEGO® WeDo 2.0 robotics kit. Teams are invited to attend regional showcases (Expo) with other teams where they can share their learning and show off their programming, design and artistic creativity through their Show Me poster, WeDo 2.0 programming and LEGO model. Teams discuss their learning with background screened, trained professionals who volunteer to act as Reviewers and serve as STEM role models. Team coaches may have multiple teams. FLL Explore is mapped to the national educational standards at <https://info.firstinspires.org/curriculum>.

### What is Required to Implement the Program:

Each team must have at least 2 adults designated as coaches. Teams must register with *FIRST* and have a LEGO WeDo 2.0 kit to be an official team. Team registration for *FIRST* LEGO League Explore includes:

- Official *FIRST* LEGO League Explore team number
- Explore Set, used by the team to complete their challenge for the season
- Access to printed and digital season materials

Resources include the Team Meeting guide, static and interactive version of the Engineering Notebook and a library of other tools and resources you can use throughout the year. Access to attend Expo events which may include physical, remote, or a combination. WeDo 2.0 programming is supported for languages including: English, Spanish, German, French, Danish, Swedish, Norwegian, Japanese, Chinese, Russian, Arabic, Portuguese and Korean. A laptop, Chromebook or other device with Bluetooth will be needed for programming (not provided in this grant).

[https://www.firstinspires.org/sites/default/files/uploads/resource\\_library/first-lego-league-explore-how-it-works.pdf](https://www.firstinspires.org/sites/default/files/uploads/resource_library/first-lego-league-explore-how-it-works.pdf)

Educators must participate in the STEM Council Scale-Up Educator Survey.

### Professional Development:

**Duration:** Half-day training

**Date(s):** July 9, July 16, 2021, 8:30a-12:30p; more dates TBD based on applicants

**Location:** Virtual or at ISU College of Engineering, Ames, Iowa

Email [fll@iastate.edu](mailto:fll@iastate.edu) with any questions about the program.

**STEM Scale-Up Program Application Link:** [www.iowaSTEM.gov/Scale-Up-Application](http://www.iowaSTEM.gov/Scale-Up-Application)