

**VEX V5 – Presented by the REC Foundation
2020-2021 STEM Scale-Up Program**

Grade Levels: 9-12; available in or out of school

Information Sessions: <https://www.roboticseducation.org/new-to-robotics/>

Website: <https://www.roboticseducation.org/>

Video Link: <https://www.roboticseducation.org/current-game-information/>

Award Provides:

- VEX V5 materials
- 16 hours of professional development plus a sub stipend
- Hotel, breakfast and lunch while attending PD
- Student curriculum
- Continuing online education available as needed for educators
- Technical support
- One school year of team competition registration fees
- One school year of local competition fees

Additional Cost(s) to Awardee In 2020-2021:

- travel costs to attend regional, state or national competitions if a team qualifies

Approximate Sustainability Cost After Award Period:

- Team registration fee \$150 annually
- Replacement parts vary but under \$100, including shipping, if something breaks

Program Summary:

Not enough students are choosing STEM-related paths to meet the growing global demand. VEX V5 changes the way STEM is taught. The V5 Robotics Competition program provides 9th – 12th grade students with a snap-together robotics system designed from the ground up to provide the opportunity to learn introductory and advanced programming and engineering skills. The study of robotics inherently incorporates all four pillars of STEM through hands-on, student-centered learning. The program can be implemented in a classroom or out-of-school time club setting and is ongoing throughout the school year.

The V5 kit is self-contained. No fabrication, welding or special tools are needed for construction. Kits do not take up much storage space and building them only requires regular classroom table space. One kit will serve up to 10 students. The programming software is preloaded onto the robot brain and any classroom computer/laptop or chromebook can communicate with the robot. In addition to technical engineering, programming and design notebook skills, the program teaches highly sought-after soft skills such as communication, creative thinking, teamwork and time management. Tech industry employers have stated that they look for soft skills before technical skills when interviewing potential employees and that success in the workplace is 80% dependent upon soft skills.

Sustainability:

- VEX Robotics programs are student centered meaning no previous robotics experience is needed of the educator (coach).
- VEX Robotics programs are affordable and sustainable. The robot kit lasts for up to 5 years. Replacement parts are inexpensive, and the only additional fees needed each year are team registration fees for the team to participate in official VEX competitions locally, regionally, and at the state level. The program can stand alone without competition participation.
- With the initial award, free student curriculum and continuing teacher professional development education is available online and a technical support team is available to answer questions.

Time commitment:

For out-of-school time programs, educators will spend up to **two 1-2 hour blocks of time weekly**. Local competition events usually take place after school and on weekends. Attendance at competitions is optional.

Requirements to Implement the Program:

1. **Attendance at 16 hours of professional development; additional educator support is available as needed.**
2. **Each team needs a coach, a meeting place, and technology to support the program. Any computer or laptop will support one team.**

Professional Development:

16 hours of Professional Development.

Duration: 2 day on site

Date(s): In-State options will be offered during the months of July and August

Location: TBD. Regional training planned