



STEMworks – STEM Advisory Council’s Approved STEM Program October 2017

Ten80 Student Racing Challenge

PROGRAM OVERVIEW

Ten80 National STEM League (NSL) is a series of data driven engineering design challenges. Curriculum is available for short term, semester-long and year-long courses as well as after school and summer programs. Students are also invited to compete in an annual points race culminating in a two-day face to face competition. Competitions and curriculum are built around maximizing the performance of one of two vehicle platforms: robotic rovers or radio-controlled race cars. While engaging in the process of innovation, student practice product development through an engineering design process and build an enterprise model for effectively sharing their innovation. They create a business model around their racing or rover team. Like “innovation,” many people do not easily relate to the words “enterprise” and “engineering.” The National STEM League will de-mystify the terms and the processes. Students learn how to become leaders regardless of technical ability.

TARGET GRADES

The intended audience for this program is middle and high school educators and students, organizations sponsoring clubs and camps that promote STEM learning, good citizenship, and leadership.

A UNIQUE OR SPECIAL FOCUS OF THE PROGRAM

The focus of the program is on how can you promote critical thinking through innovation and enterprise while reinforcing academic skills necessary for achieving real innovations?

THE PROGRAM’S IMPACT ON STUDENTS

Ten80 NSL students learn to apply math as an engaging problem-solving tool that helps them make decisions and improve performance of a vehicle and as they gain skill in applying math, science and technology they open doors to career paths that were previously out of their reach.

SPECIFIC SKILLS STUDENTS WILL LEARN

- Curriculum is correlated to the Common Core Math Standards and Next Generation Science Standards for Physical Science
- Students Explore Alternative Energy Sources
- Students explore mechanical and electrical systems
- Students learn to engage in the engineering design process and experience its iterative nature
- Students learn to create and use basic project management tools like Gantt charts for time management
- Students learn how careers in many fields are necessary in the STEM workplace

RESOURCES PROVIDED TO EDUCATORS

Ten80 curriculum packs are built around a basic kit including curriculum, two vehicles - rovers or race cars – plus tools needed for engineering investigations. Four additional vehicle sets are added for full classrooms. An online resource site allows students to upload investigations and receive feedback from Ten80 engineer educators.

WEBSITE

<https://www.ten80education.com/>

CONTACT INFORMATION

Beverly Simmons, bsimmons@ten80foundation.org, 704-756-9348
Mary Jane Smith, mjsmith@ten80education.com, 512-560-5432