STUDENT STEM CHALLENGES

Project-Based Learning that Doesn’t Forget the Learning

In a society increasingly powered by science, technology, engineering and mathematics (STEM), everyone is a STEM student. Ten80’s secondary education programs are designed to help every student cultivate 21st Century Skills through team oriented challenges. Every Student STEM Challenge addresses a different set of concepts and skills. All of them help students understand and actively participate in the innovation process that drives today’s economy, civil society and public institutions.

Ten80's curriculum, competition and STEM Expos combine four elements described below that together make innovation possible.

1. Engineering which occurs at the intersection of science, mathematics and technology
2. Specific content and skills to see ideas through
3. Enterprise process to ensure sustainability through project management, marketing, and business modeling
4. Leadership and teamwork to turn ideas into action

Motivate Students with the National STEM League & Events

Real-world relevance and external validation are important parts of the student's educational experience and are central to exemplary STEM education as outlined by Change the Equation. The National STEM League (NSL) provides both, driving collaboration and creativity through web-based and face-to-face competition.

Students involved in Ten80’s courses, camps and clubs can upload their work online to earn points and feedback from remote mentors. They can also compete face-to-face in a growing number of cities across the United States. For those who can travel, web and face-to-face winners are invited to compete at the annual National STEM League Finals.

Educators can use the NSL competition website to track student work and to assess student progress.

Get Involved
Ten80Education.com
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## TEN80 STUDENT STEM CHALLENGES

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<tr>
<th>Age</th>
<th>Application</th>
<th>Student RACING Challenge</th>
<th>Student ENERGY Challenge</th>
<th>Student CompSci Challenge</th>
<th>Student ROVER Challenge</th>
<th>Enterprise &amp; Innovation</th>
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<th>INNOVATORS in Training Challenge</th>
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1. STEM Course: Full semester of curriculum aligned to common core and NGSS framework
2. MODS: Does not constitute a full course or program but individual activities/modules will enhance other programs.

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### The more you know, the faster you go!

**TEN80 STUDENT RACING CHALLENGE**

Engineer a fast, efficient and stable vehicle. Optimize performance of the base technology, a 1:10 scale electric radio-controlled car that has over 4 million setup options.

### Power your present and our future.

**TEN80 STUDENT ENERGY CHALLENGE**

Evaluate an energy-related issue and engineer a solution with a balanced energy budget.

### Speak the language of computers.

**TEN80 STUDENT COMPSCl CHALLENGE**

Learn the fundamentals of coding, computer logic and open source hardware. Begin to see a new world of possibilities with the skills to integrate hardware and software to solve problems and meet opportunities.

### Outsource the dirty, dangerous and dull.

**TEN80 STUDENT ROVER CHALLENGE**

Apply lessons learned in "CompSci" to the Student Rover Challenge. Teach a roving robot to navigate and map a course while doing useful tasks. The Rover brain is an open-source Arduino.

### INNOVATION Takes Practice. So Get Started.

**TEN80 STUDENT INNOVATION STATION**

A hardware station with 3D printer, 3D scanner, hand tools and various activities through which students learn to engage in the process of innovation.

**ENTERPRISE & INNOVATION**

E&I is a guide to the innovation process. Students apply the engineering process to develop a product or service and the similar enterprise process to develop a business model. Leadership is required to move from ideas into action.

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The National STEM League is a practice league for professionals. It provides an outlet for sharing and comparing. Students collaborate, create and compete online and at face-to-face competitions. Web-based points race leaders and winners of regional Invitationals are invited to an annual National STEM League Finals in May each year.

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**Ten80 Education**

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