Welcome to the REACH Challenge Toolkit! This toolkit provides educators and team leads with everything they need to complete this design-thinking project. Each section includes ready-made lesson plans, slide presentations, worksheets, hands-on activities and inspiring explorations aligned with Next Generation Science Standards (NGSS). The toolkit is designed to bring technology and engineering to life for high school and college students, giving them the opportunity to use their STEM skills to help overcome human challenges for social good, making a real-world difference in the lives of those around them.

**Dropbox**

**Team Lead Guide**

**Educator Lesson Plan**

**Rules + Tips**

**Submission Guidelines**

Students will learn the details of the REACH Challenge, including a sample submission. This section provides teams with tips on finding a User-Expert, product discounts, templates, and tips on technical writing, photography and videography.

**Empathy + Safety**

Students will learn how empathy and safety methods are applied to each step in the User-Centered Design process. This section includes an activity on listening, and how to conduct a good user interview to obtain qualitative and quantitative data.

**Technology + Assistive**

Students will explore the world of adaptive and assistive technology, as well as why these technologies are critically important for those with ability challenges. The exploration will include case studies, resources, and an inspiring lesson on the power of inclusiveness.

**Engineering Prototypes**

Students will build a working prototype of their idea, applying what they've learned about User-Centered Design. Tips, tricks and resources for prototyping will be taught through hands-on activities as well as explorations and slides on common mechanisms and control systems.

**Intellectual Property**

Students will create a piece of adaptive technology as they develop a high-level of understanding of User-Centered Design, where the engineer includes its end user throughout the design process, which is filled with iteration. This section includes a fun lesson on the importance of failure.

**Entrepreneur**

Students will take on the role of an entrepreneur as they learn how to present their innovation to the world. This section includes information about open source tips on protecting intellectual property.

**Technology + Engineering:**

From Idea to Prototype

An Innovative Adaptive & Assistive Technology Challenge for Middle School, High School, and College STEM Programs

www.ReachChallenge.org

www.ReachChallenge.com

#ReachChallenge
The Perfect STEM Project to Inspire...

REACH Challenge is an impactful Adaptive & Assistive Technology (AT) design-thinking project for middle school, high school, and college STEM programs, showcasing ITEEA’s mission that “Technology and Engineering Bring STEM to Life!” This innovative project helps teachers show their students how they can use their STEM skills to help overcome challenges for social good, making a real-world difference in the lives of those around them. Teachers can register for REACH Challenge and access an Educator’s Toolkit with lesson plans, activities, slides, and other valuable tools to guide students in lessons about Assistive Technology, User-Centered Design, and more (see back for details). Teachers will then lead their team(s) of 1-10 students to work with a “User-Expert” to identify a challenge, and create a viable adaptive or assistive technological solution to help. Projects can then be submitted to ITEEA for an opportunity to earn awards and funding for their STEM program!

Register today at www.ReachChallenge.org.

ITEEA Members:
1 Team - $200
2-4 Teams - $180/ea
5+ Teams - Please contact ITEEA at reach@iteea.org for additionally discounted pricing.

Non-ITEEA Members:
$375 per REACH Challenge Team.

Membership Info
ITEEA members receive a huge discount on REACH Challenge, and many other benefits and professional development tools! For teachers, an individual membership is only $65 per year.

For more information, go to www.ITEEA.org to join today!
Frequently Asked Questions

Q: What does each participating team need to submit for REACH Challenge?
A: Each team will submit a 3-5 page technical paper (plus sources and a bill of materials) as well as a 3-minute video that describes their project. A sample Technical Paper is included in the REACH Challenge Toolkit. A sample video is online at www.REACHChallenge.org

Q: Who can participate on a REACH Challenge team?
A: Any student from Grades 7 through 12, as well as undergraduate college students, may be on a team. Each REACH Challenge Team will consist of one TEAM LEAD (usually a teacher), one to ten STUDENT(s), and one USER-EXPERT. Any USER-EXPERT that is a person under the age of 18, or is an animal, should be considered to be a Co-USER-EXPERT along with their primary caretaker. Teams may also have an optional TEAM MENTOR.

Q: Can teachers have more than one team of students?
A: Yes, a teacher can be a TEAM LEAD of multiple teams, but students can only participate on one team.

Q: Do I need to know which students will be on a team before I register for the REACH Challenge?
A: No. When you register for REACH Challenge, you get instant access to the entire Toolkit. You do not need to know exactly which students will be on a team at that time. Registration simply gives access to the Toolkit and your ITEEA dashboard to create your team’s roster when you are ready to do so.

Q: Do teams have to be affiliated with a school?
A: No, teams can also be formed from community organizations, home-school groups, robotics teams, or any other group of students with an adult leader. At the collegiate level, students from all majors and backgrounds are welcome to participate.

Q: Who owns the Intellectual Property of the team’s invention?
A: Each team retains its intellectual property over their submission. Full details are included in the submission guidelines.

Dates to Remember

August 1, 2019
Registration opens for the 2019-2020 REACH Challenge.

November 1, 2019
Deadline to register for the 2019-2020 REACH Challenge.

December 20, 2019
Deadline for final submissions. TEAM LEADs must submit all REACH Challenge materials to ITEEA and complete the team’s roster per the guidelines in order to be eligible for recognition.

February 4, 2020
Teams are notified of their placement. REACH Challenge Winners, Finalists, and Honorable Achievements for all divisions will be notified. ITEEA will also share the list as part of an official press release and on the ITEEA website.
Registration for REACH Challenge includes everything an educator needs to guide their students in this inspiring and life-changing project. Lessons on Adaptive & Assistive Technology, User-Centered Design, Empathy and Safety, Engineering Prototypes, Intellectual Property, and more are part of the Toolkit. These downloadable resources include ready-made lesson plans, slide presentations, worksheets, hands-on activities, discussion prompts, and inspiring explorations aligned with Next Generation Science Standards (NGSS). The toolkit is designed to bring technology and engineering to life for high school and college students, giving them the opportunity to use their STEM skills to help overcome human challenges for social good, making a real-world difference in the lives of those around them.

Questions? Ready to Sign Up?

REACH Challenge is now open for team registrations! Check the website below for more information or to register and receive the Toolkit, as well as exclusive discounts from sponsors. You do not need to be an International Technology and Engineering Educators Association (ITEEA) member to participate, but ITEEA members receive a discount.

www.ReachChallenge.org