

STEM CHALLENGE



The STEM Challenge mission provides an opportunity for teams of 3-4 high school students to solve a technical problem, namely to launch an egg payload through a hula hoop and have it land safely on a target. Students use the engineering design process, including research and the exploration of concepts related to launching and payload protection devices.

Student teams work at their school site to complete several assignments that guide them through the design, construction, test, and modification processes for their launching and payload protection devices. Teams may design and construct their launching device from scratch or use a catapult kit provided by AFRL NM STEM Outreach. To complete assignments, students conduct research, engage in teamwork, employ time management skills, complete hands-on activities, and consult with coaches and mentors. Coaches provide technical and programmatic guidance to their teams throughout the process. Coaches are expected to review student work before submission.



Student teams submit completed assignments to an online website environment called CourseSites. Submitted work that meets the requirements for one or more parts of an assignment will earn points for those parts. The team points earned in the online assignments apply toward qualification for the annual STEM Symposium and are added to their competition score at the Symposium. The STEM Symposium is held in the spring at our facility on Kirtland Air Force Base.

The STEM Challenge is a great opportunity to actively involve your students in an innovative application of science, technology, engineering, and math (STEM) concepts.

YOU PROVIDE THE STUDENTS, THE ENTHUSIASM, AND THE EXPERTISE, AND MAKE THE FOLLOWING COMMITMENTS:

- ◆ Complete and submit the Coach Registration Form (separate attachment).
- ◆ Attend the STEM Challenge Coach Orientation on **13 September 2019**.
- ◆ Ensure that your school submits an EPA Modification Form.
- ◆ Review the STEM Challenge Handbook and other available resources in preparation for providing technical and programmatic guidance to student teams.
- ◆ Recruit and create student teams for the STEM Challenge.
- ◆ Complete and submit a Teams per Coach Form to register your teams.
- ◆ Provide guidance and advice as your teams work through the assignments.
- ◆ Ensure that teams meet assignment requirements (including file sizes) **BEFORE** submitting assignments.

If one or more of your teams qualifies for the STEM Challenge Symposium:

- Submit requested information for STEM Symposium by specified deadlines.
- Arrange for a substitute teacher, if needed, for STEM Symposium.
- Arrange for transportation for your students to attend the STEM Symposium.
- Attend the STEM Symposium with your students.
- Complete and submit the STEM Coach Feedback form.
- Submit (mail or fax) STEM Challenge Student Feedback forms.

If you have questions or need additional information, please contact us at:

(505) 846-2677

OR

AFRL.RDMX.NMSTEMOutreach@us.af.mil

OR

Visit us on the web at:

<http://afrlnm.com/STEM>

