



Engineering Challenge



Teams of elementary and middle school students build a Mars Rover and complete a series of tasks.

Contest Support provided by the University of Texas at Tyler Ingenuity Center

Awards: 1st, 2nd, and 3rd place teams will be recognized in each contest level. In addition, special recognitions may be announced as determined by the judges.

Contest Rules

(Revised August 2018)

See the **Engineering Challenge Contest Manual** for complete rules and procedures.

Levels of Competition

Elementary – Students must be in 3rd-5th grades.

Middle School – Students must be in 6th-8th grades

Schools with 3rd – 6th grades may have teams competing at two levels – Elementary and Middle School.

Mission of Engineering Teams

- ✓ Build a Mars Rover AND present the Rover in seven different areas at the Engineering Challenge Contest. The Rover MUST have a rock collection device and a rock storage area.
- ✓ Keep a Lab Notebook during entire process that MUST include a timeline, 3 itemized budgets, day-to-day notes, and individual pie charts.
- ✓ Each team must do a verbal and poster presentation at the contest.

Other Information and Resources online or in the Engineering Contest Manual

The Design Challenge	Engineering Design Process
Teacher Activity Manual	Student Activity Manual
Responsibilities of Coaches and Participants	Things to Consider
LEGO Information	Non-LEGO Allowable Elements
Rover Construction and Display	Rover Testing
Scoring Details	Scoring Forms
Lab Notebook	

Preparation

1. Schedule of competition is set after School/Group Registration is complete in October.
2. A date is set for pick-up of Lego Sets assigned to each team. A period of instruction for using the sets and working with teams may be provided.
3. Teams may use their own Lego sets if they meet the requirements for the contest and have received approval from Academic Rodeo.

Contest Procedures

1. Each team is given an arrival time, allowing 15 minutes of set-up and preparation time before the team starts the process through each challenge. Teams may arrive earlier, but they must remain in the staging area and will not move ahead in the schedule unless another team does not arrive or has a catastrophic breakdown during their course run.
2. The team proceeds through these stations in the challenge: Weigh-in, Incline Test, Poster Presentation, Course #1, Course #2, and Course #3. Fifteen minutes are allotted for the first two stations combined and for each additional station. Factors related to breakdowns and other issues that may arise for the team could result in delays or disruptions to the schedule.
3. See the Engineering Challenge Contest Manual for specifics about the tests that occur in the Course.
4. Teams may not watch other teams compete before they run the course.

5. Teams are released when they have finished all challenges, set up poster and rover for display and turned in the Lab Notebook for evaluation. All teams will have a photo taken with the rover before leaving.
6. The rover, notebook, and poster display remain on display throughout the remainder of Academic Rodeo.
7. Results are announced within two days following the contest.
8. The coach or a representative must collect the Rover and display items AFTER the Awards Celebration, dismantle the Rover and inventory the components with the students. The Lego kit is then returned to Academic Rodeo within 1 month of the contest. Failure to do so can result in an invoice to your school in the amount of **\$300 to replace** the kit and you will not be allowed to check out Lego sets for future contests without making a deposit.

Working with Your Team

REMEMBER . . .

Primary communication with Coaches/Sponsors is done through e-mail provided with the School/Group Registration done online. If a coach or sponsor is not receiving e-mail information about the contest, he or she should check Spam/Junk folders on the computer and contact Academic Rodeo for assistance with getting the current information.

Deadlines exist for a reason. Please be aware of them and follow them. There is an **Academic Rodeo Calendar** in a true calendar format on the Getting Started and General Info pages. The **Engineering Challenge Timeline & Checklist** is on the contest page. If you have a problem with a date or deadline, please contact Academic Rodeo, realizing that usually it is not possible to make a change or give “grace” for deadlines. Often judging or other timings are scheduled close to the due date. To be sure your students get to participate, follow the deadlines.

Be sure to read the General Information for All Coaches and Sponsors.

The following tips and suggestions may be helpful to you in working with your students.

- The Student Activity Book and Teacher Manual provide activities for working with your students. The challenges can be helpful in getting your students to work as a team.
- Remember that you may register ONLY 4 students. Any alternates that work with the team CANNOT be registered and will NOT receive any awards from Academic Rodeo if your team places.
- Be sure that students begin completing the Lab Notebook from the beginning and include the required items, plus the entire process of participation from start to finish.