

First Time Viewers

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WELCOME TO THE ROBOT CHALLENGE WEB -PAGE

Our objective is to explain the purpose of the project, and help you navigate the web-page. We hope this will make it a more enjoyable experience, and lead to a better understanding of the elements described in the document.

WHAT IS THE ROBOT CHALLENGE?



It is an inexpensive team project designed to engage High School boys and girls in a 2 to 4 month activity that closely resembles the work a graduate engineer would be doing in the “real world”. It explains what an engineer does by having the students do it for themselves

HOW DOES IT WORK?



When an engineer comes up with a great idea, he or she prepares a proposal for top management – a document with a plan, schedule, cost estimate and benefits.

We do that, but we do it after the project is built, and its called the **WRITTEN REPORT.**

WHAT ABOUT THE ROBOT?



Well, the project doesn't HAVE to be about a Robot – but a Walking Robot is a lot of fun to build; so that's why we do it!



“What's in the WebPage?”

- If you want to learn more about the project, click on the paper presented at ITEA, also click on Teachers, which shows the (free) training sessions available, as well as why the project is important for girls and non engineering students. Click on Results and Photos to see some of our past events. There will shortly be a brief video on the broader benefits of the project.
- If you want to learn more about engineering, click on Engineering as a career, or the fun video about Engineering
- If you want to get into the details of the project, click on the other headings, especially FAQ for some of the problems that the students typically encounter. This is all about problem solving.



2-Leg Robot Kit

THE ORAL PRESENTATION

The Oral Presentation is the opportunity for the students to present their case to the panel of Judges. They will not only tell them about the good things, but will discuss the problems they encountered, and how they overcame them. The judges will ask them what they might have done differently, determine whether they understood what they were doing, and whether they have made a persuasive case for their actions. They will also inspect the robot for workmanship and good soldering, and evaluate the degree of creativity that went into the design of the body.

This is the equivalent of the Engineers going back to top management after having demonstrated their prototype and presenting the case for large scale Fabrication and Marketing of the product.

For the students, the scores in 28 categories are added up, and teams find out how they rated compared to other teams taking part in the event. The best receive trophies, the others enjoy the satisfaction of knowing they met the Challenge, and learned a lot along the way.

- Kits contain very basic parts, so the robots have to be built up entirely by the students, using the Manual as guide. The kit on the left is for a 2-leg manual robot (the most popular) and only costs \$49 for a team of 2 to 4 students. Kits are available for 4-leg manual robots, as well as 2-leg and 4-leg Automated robots, and it is up to the teacher and students to decide which level of challenge would be appropriate.

- The construction phase of the project, which includes creating an “interesting” body for the Robot, takes 2 to 4 months to complete. This is the equivalent of the Engineer building his or her prototype.

- The students then practice walking and climbing over the hurdles they will encounter at the Robot Challenge event, when they will be competing with other teams.

This is the equivalent of the Engineers matching their prototype with those of their competitors.

