

2006 RoboWhizards & FIRST LEGO League



Who are the RoboWhizards?

The RoboWhizards are a community-based team of girls & boys, ages 10-14, from Broomall, Collingdale, Havertown, Lansdowne, Newtown Square, and Upper Darby, PA (all suburbs of Philadelphia). This is our 6th year participating in the FIRST LEGO League (FLL) robotics program.

RoboWhizards is a division of **Science Resources**, a nonprofit organization that assists families and communities in promoting quality science and engineering education. For more information, visit www.science-resources.org.



front row: Jonathan Collier, Matthew Momjian, Julia Swieson
middle row: James Swieson, Alyssa Kaupas, Lorelei Serafim-Linnebur, Eli St. Amour
back row (mentors): Caleb Swieson, Bruce Momjian, Dana Swieson, Andrea St. Amour, Dan Barr

Tournaments & Results

This year the RoboWhizards will compete in the Nano Quest Tune-up tournament run by Lansdale Robotics at Montgomery County Community College on November 18, 2006 and in the Eastern PA State FLL tournament at Upper Darby High School on December 2, 2006. Both events are open to the public and we invite everyone to come watch the tournament and cheer us on.

For the past four years, a RoboWhizards team has won the **Director's Award**, the overall prize at the state FLL tournaments. This award has qualified the RoboWhizards to compete in the FLL International tournament for four years in a row; no other organization in the world can boast this accomplishment!



The Director's Award is the most prestigious of the competition. It encompasses the key elements of the Technical and Team Performance Awards – Robot Design, Robot Performance Score, Research Presentation, and Teamwork. The Director's Award honors the team that demonstrates the understanding and good practices of the wonders of science, technology, and engineering. It also celebrates how the children, individually and collectively, inspire and motivate others while demonstrating respect, encouragement, and continued gracious professionalism. The winning team members receive this highest honor and serve as valued role models for FIRST and the FIRST LEGO League program.

Support the RoboWhizards

The RoboWhizards robotics program relies on the contributions of individuals and corporate donors to help make our programs affordable to the community. Examples of our regular expenses include registration fees, LEGO parts, rechargeable batteries, presentation supplies, uniforms, buttons, travel, and lodging. To make a donation, go to www.science-resources.org/help or mail your check made out to "Science Resources" to:

RoboWhizards, 210 Lindbergh Ave., Broomall, PA 19008.

Contributions to the RoboWhizards are tax deductible (to the extent allowable by IRS laws).

For more information on **RoboWhizards** and **FIRST LEGO League**, visit our student-built website www.robowhizards.com or contact Mr. Dana Swieson, coach, at DSwieson@science-resources.org or 610-202-3711.

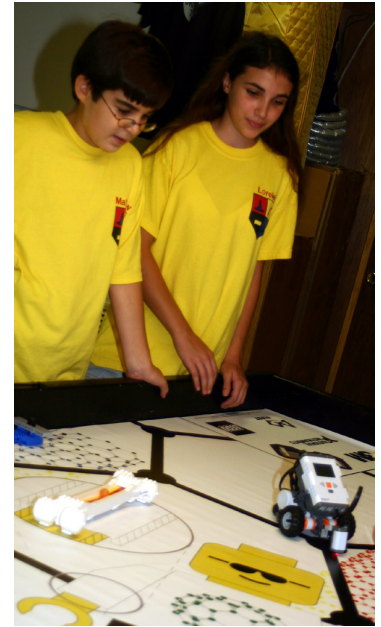


What is FLL?

FIRST LEGO League (FLL) inspires the curiosity of 9-14 year olds in science and technology. Launched in 1999 by **FIRST** (For Inspiration and Recognition of Science and Technology) through a partnership with the LEGO Company, FLL runs an annual competition that captivates children's interest as they master the dynamics of teamwork and problem solving.

Each fall, FLL announces its Challenge highlighting a current scientific or technological problem facing the world. During the Challenge process, teams of four to ten children, directed by an adult coach, have approximately 8 weeks to build, program, and test their own fully autonomous robot capable of completing various "missions." The competition uses LEGO Mindstorms, a programmable system of motors, sensors, and LEGO pieces.

FLL is an international program with over 6000 teams from 30 countries. Teams that participate in local, state, and international tournaments are recognized for excellence in design, strategy, creativity, problem-solving, teamwork, research, and leadership. For more on FLL, visit www.firstlegoleague.org. For more on FIRST, visit www.usfirst.org.



What Students Learn through FLL

The FLL program teaches students about design and engineering principles and applications, programming, planning, project management, as well as team-building and problem-solving. Examples of what students learn by being on an FLL team include:

- ❖ Structurally sound construction
- ❖ Gears, drive systems, & transmissions
- ❖ Use of sensors (light, touch, rotation)
- ❖ Brainstorming and creative design
- ❖ Prototype development & testing
- ❖ Robolab programming (LabView)
- ❖ Testing & debugging
- ❖ Integration process
- ❖ Communication & presentation skills.



Challenge 2006 – Nano Quest:

Nanotechnology is a new scientific frontier that will impact many facets of society, such as medicine, computers, and the environment. In 2006, FLL teams will discover the secrets of everyday stuff through this cutting edge field of research, where Buckyballs, carbon Nanotubes, quantum dots, and molecular motors will be considered part of daily conversations.

The robot game involves completing as many of the nine missions as possible within 2½ minutes.



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