

Radnor Educational Foundation
EITC Programs
2007-08

Radnor Outdoor Club (ROC)

School service learning group works on projects chosen by middle school students that promote the understanding and stewardship for our urban and suburban communities emphasizing leadership skills. This program extends the current Watershed alternative learning curriculum with student led programs such as GIS(Geographic Information Systems) mapping, greenhouse monitoring, recycling issues, storm water run-off, native plants and green roofs. ROC works with the local conservancy organization (Radnor Conservancy), shade tree commission and community members to map heritage trees in the area. Students learn how to use GPS and GIS technology to compile data for the community.

What's Worth Reading Bookfolios

Students in 3rd through 5th grade will use the web quest "What's Worth Reading" to create book folios. To encourage self-selected reading, students will have the opportunity to review books to encourage other to read. Using the web quest, students will be able to determine the genre of the book, preview reviews by others, write their own review, design their own covers and/or have the book covers scanned, write about themselves, and incorporate a digital photo. Book folios will be available in the school library encouraging self-selected reading. This program was designed to align curriculum to standards involving reading and writing through the use of technology. The project encourages students to read and respond to literature in a meaningful way through technology. It will spark increased reading and self-selection of appropriate texts by students and provides a reference for teachers.

Radnor Robotics Team

This after-school Robotics Team promotes interest and extends the current math, science, technology and engineering curriculum offered at the high school level. Students are challenged to build a robot using the Vex Robotics Design System to compete in the FIRST VEX Challenge, a mid-level robotics competition. The "RaiderBot" is capable of acquiring balls from the floor. Students programmed the robot controls using a variation of C programming language. The student competition includes a 2 minute operator controlled match using board sensors and student written control codes to navigate the fields, collect balls and score. The Radnor Robotics Team recently won the Delaware regional First Vex Challenge for the second year and will attend the April 2007 World Championship in Atlanta. This program creates mentoring relationships between students and professional in the fields of science, math, engineering, etc and enhances the current curriculum in a creative way.

RaiderBots Technology at Radnor Middle School

GATEWAYS is a new, advanced alternative to the traditional eighth grade program of study using the Project Lead the Way's (PLTW) Gateway to Technology (GTT) program as the core while incorporating strands of the current eighth grade curriculum. Classroom instruction is one third theory and two-thirds application and gives students meaningful, hands-on experience in problem-solving, teamwork and project-based learning with cutting edge advanced curriculum. It helps students explore math, science, and technology while challenging and engaging the natural curiosity of eighth graders.

“RaiderBots at RMS” introduces automation and robotics technology to students allowing them to design and build automated systems incorporating the principles of electronics, physics, and robotics to gain an enriched understanding of the contemporary mechanized world. Students will engage in local, regional and statewide robotics competitions showcasing the practical knowledge learned in their studies and have access to robotics computer applications. Autodesk Inventor software helps students build, apply, and test their skills giving them a competitive advantage of hands-on training.

Radnor Educational Foundation supports this advanced curriculum with the robotics technology needed through funding software, Fischertechnik robotics kits and competition fees.

Forging Student Leaders in Aerospace Engineering- Honors

Through hands-on engineering projects developed with NASA, students learn about aerodynamics, astronautics, space-life sciences, and systems engineering (which includes the study of intelligent vehicles like the Mars rovers Spirit and Opportunity). Students employ engineering and scientific concepts in the solution of aerospace problems. The curriculum sequence includes experiences from the diverse fields of Aeronautics, Aerospace Engineering, and related areas of study. Lessons engage students in engineering design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering. Students work in teams, exploring hands-on projects and activities to learn the characteristics of aerospace engineering and work on major problems to be exposed to the various situations that aerospace engineers face in their careers.

Students use Inventor, which is a state of the art 3D design software package from AutoDesk, to help them design solutions to solve proposed problems. Students design intelligent vehicles and learn about documenting their project, solving problems, and communicating their solutions to their peers and members of the professional community.

Support is given by the Radnor Educational Foundation to fund these advanced curriculum needs to include software, model rocket engines, microcontroller robotics kits, real flight simulators, structure stress analyzers and a jet stream wind tunnel.

