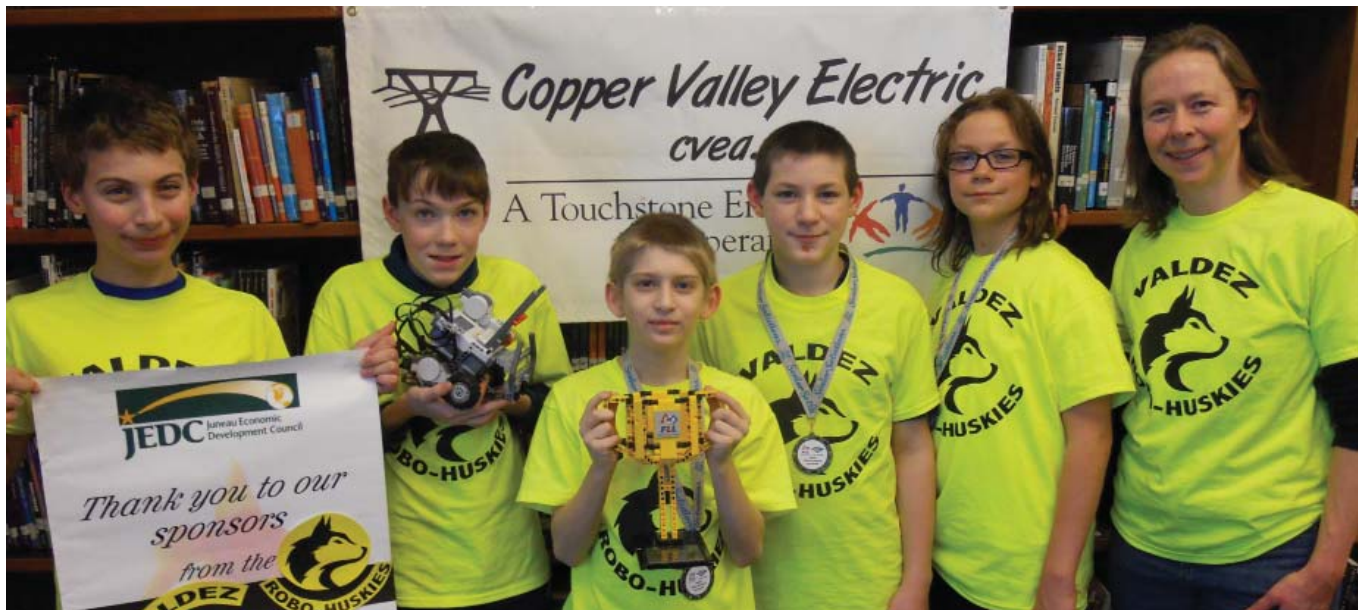


LEGO Robots Bring Learning and Fun to Valdez Students



Coach Cynthia Shidner, with Robo-Huskies teammates Robert, Trevor, Colton, Josh, and Isaac posing with the first place trophy for Robot Performance they earned at the 2013 First LEGO League statewide competition

Photo by Robert Huston

By Cynthia Shidner

There's a new elective class at George Gilson Middle School in Valdez—LEGO robotics! Thanks to a generous \$1500 grant from CVEA, the middle school was able to purchase five robot kits from LEGO education.

Each robot kit comes with more than four hundred components including a programmable robot "brain", three interactive servo motors, and four different sensors (touch, ultrasonic, sound and light.) In the semester-long elective class, middle school students design, build and program their robots using a variety of resources.

Some students start out by choosing designs from LEGO NXT websites and downloading programs to run their robots. Some students create their own unique designs and programs. Most students find creative ways to combine

resources from books, websites and their own imaginations.

The class is free and open to all students, but limited to 16 due to available materials. Here's what some of the current students are saying about this class:

"We can use the robots to play and work on different designs; we can see which designs will work and which will fail; it's really just like a game."

"We can make interesting stuff with the materials we have; we get excited about how the robot moves around with motors and touch sensors."

"I really think the class is a good idea because I've never done anything with robotics before, but now I am interested in engineering. It is helping me figure out what I want to do in my future."

In addition to the LEGO robotics class, students can choose to participate (for free!) in the afterschool LEGO robotics

team coached by Mrs. Shidner from the first week of September to the first week of February.

Each year, there is a worldwide LEGO robotics competition designed by FIRST LEGO League (FLL) focused on a real-world challenge such as natural disasters or food safety.

As described on their website, <http://firstlegoleague.org>, "In FLL, the children do the work! The work is programming an autonomous robot (using the LEGO® MINDSTORMS® robot set) to score points on a thematic playing surface, as well as creating an innovative solution to a problem as part of their project, all while being guided by the FLL Core Values. These three elements - the Robot Game, Project, and FLL Core Values - make up what we call our yearly challenge."

The FLL Core Values emphasize team-



**Above, Middle School student, Ben Swanson, working on his robot during class
Top Right, the team's first place trophy for Robot Performance
Right, Dakota Brown posing next to his completed robot**

Photos by Sharon Crisp and Judy Prevost



work, problem-solving, mentoring others, sharing solutions to real-world challenges as well as two trademarked FLL values—"Cooperation" and "Gracious Professionalism."

To be eligible for the FLL competitions, the team members must be between the ages of 8 and 14. This year's team of one high school and four middle school students, known as the "Valdez Robo-Huskies", recently won a trophy for 1st place robot performance against 29 teams at the statewide FLL competition in Fairbanks on February 2, 2013.

The Valdez LEGO robotics team began in August 2011 when a 3rd grade student, Hunter O'Brien, wrote a persuasive letter to the Hermon Hutchens Elementary School principal, Mr. Bennett.

In the words of Hunter's letter, "This program will not only teach students about science, but also teach them respect for teachers, others, ourselves, the objects we're using in class, teamwork to accomplish a task and many other skills that we would normally use in the real

world."

Last year's team overcame challenges (such as limited equipment and experience) to place 5th in the robot performance and earn the "Judges' Award" trophy at the 2012 Fairbanks statewide competition.

In March, April and May, students in grades 3-5 will be able to participate in two three-week long afterschool LEGO robotics workshops to learn how to design and program robots.

Due to limited supplies (five robot kits), these workshops will be offered to ten students for each three-week session. In this way, twenty students will be able to participate in these workshops in the spring of 2013. Next year, we hope to offer more programs for students in grades 3-5 in addition to the middle school LEGO robotics elective and the afterschool team for students ages 8-14.

The Valdez LEGO robotics program is funded by a variety of generous sponsors, including CVEA, United Way, Alyeska Pipeline Service Company, Copper Valley Telecom, Petro Star, and the Juneau

Economic Development Council.

With the most recent grant from United Way, the group plans to purchase four kits of the "new generation" of EV3 LEGO robots, which have gyroscopic sensors, updated programming software and faster processors.

Thank you again to all of our generous sponsors! In the words of a current LEGO robotics student, "Sponsor us, and we'll make more awesome stuff!" ■