Students Create in the Makerspace and Design Lab at New Canaan Country School

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"Today's goal is to make a mini bot which can draw on its own," explained New Canaan Country School Technology Teacher Bruce Lemoine to his sixth grade Maker Class.

"The materials at your disposal include a red plastic cup, magic markers, hot glue guns, the electrical circuitry from the propeller cars you made last week, an on-off switch and all of the materials you can find around this room. I definitely encourage you to visit the drawer of googly eyes."

— an announcement from New Canaan Country School

The Amicus Makerspace and Design Lab, located on the ground floor of the school's Upper School building, is the place for creation, collaboration, innovation and entrepreneurship. Sixth graders meet here on a seven-day cycle to explore gadgetry, simple electronics, basic programming and 3-D printing and today's specialty:

mini-bots.

“The goal of this lesson is to teach the kids how a basic electrical circuit works - motor, battery, switch — and then use that knowledge to build first a propeller car, and then an artbot,” Lemoine said.

“Getting one's car or artbot to work correctly requires dedication and problem solving. Some learn that their wiring is not connected securely; others learn that a propeller needs lots of clearance to work, for some it’s hard to remember the logistics of the switch system, but with enough time to play with it all, they eventually get their models working. Some get creative and decorate their bots with personal touches and flourishes.”

Sixth grader Calum McClymont of Darien said he's learned some lessons about making things:

“I’m working on gluing my elements to the inside of my cup so that they are secure. That will make the whole thing hold together once the motor is turned on — everything will stay in place. I learned that when I made my car. It works better if it all holds together.”

Sometimes students realize that a little bit of design thinking can be a great complement to technical accuracy.

“If I use three magic markers as legs, it balances properly — which seems good at first. But, if I put something heavy on the top, which makes it kind of lopsided or if I don’t put the markers in perfectly, it makes the bot go around in circles. I want my artbot to go crazy and make circle drawings, so I’m adjusting it to lean a little,” said sixth grader Olivia Spain of New Canaan.

“There is a lot of room for discovery, creativity and trial and error here,” Lemoine said. “This appeals to all children, but particularly to our Middle Schoolers who have the opportunity to learn from what didn’t work, improve upon it and individualize it.”

New Canaan Country School is a co-ed, independent day school for students in Pre-K (ages 3 & 4) through Grade 9. Located on a 75-acre campus in New Canaan, the school serves families living throughout the region. For more information about the school’s Makerspace Design Lab and academic program, please visit: www.countryschool.net.