

# Taking Science coursework underwater

 By Art McFarland

(New Jersey - WABC, October 30, 2007) - Make learning fun and students catch on faster. That's the mantra for many teachers.

Now with the help of Legos, some students in New Jersey are getting smarter, while having a good time.

Those little building blocks are the basis of an engineering project. It involves problem-solving, teamwork, communication and a small pool of H<sub>2</sub>O.

Every 7th grader at the Valley View School has an underwater "ROV" -- or remotely operated vehicle.

"I feel it's a great experience because not everyone gets to learn how to build a robot," said student Michael Ricciardi.

It is a hands on science project and the robots have the students paying attention.

"We learn how different concepts, like buoyancy and the center of gravity are really important for operating these ROVs" said student Neha Agrawal.

The devices are built from Legos, which are popular in other robotics programs at schools. The Valley View students work in teams, designing and testing the ROVs.

"It's fun to build it and stuff, but there's also a lot of science involved because we're learning about the Archimedes principal...about how things float and they "don't" float," said student Robert Dennis.

The Lego robotics are based on training the teachers received over the summer at the Stevens Institute, New Jersey's well-known engineering school. What the kids are learning is based on real life robotics technology.

As students know, ROVs were used to explore the Titanic, and sophisticated versions of their project conduct other missions underwater.

"So the kids see it as something very relevant, in that it ties with what they're doing in math, in science, to a real life situation, and they see that it's applicable in the real world," said Bob Thomas, a teacher at the school.

"You can see them thinking, they're re-designing, and the beauty part of the Legos is, because they come apart and go together so easily, they can make adjustments on the fly," said teacher Michael Vignola. Educators here say the robotics project has several advantages for students.

"They've had an opportunity, not only to be a part of this innovative program, but the fact is they're having fun as well as doing it .... lots of problem solving, lots of work, but most of all they're having a good time," said principal Pat Dye.

Students in 36 schools in New Jersey and New York City are building underwater robots as part of this project. It's funded by the National Science Foundation to boost interest in engineering, science and information technology.

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