

# C OUR REGION

## Turning designs into reality

### Centennial students learn engineering skills from pros

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It's easy to get kids involved in engineering, especially when it comes to breaking things.

"How many of you out there look at that and say, 'Man, I'd like to take that apart,'" Chad Garrish, founder of Edge Innovative Solutions, asked fourth-grade Centennial Arts Academy students. "How many of you want to take an iPhone apart? How many of you have actually taken your toys and taken them apart?"

The majority of students raised their hands. "Y'all are my people," he said. "That's what we do." Garrish and other Edge representatives have worked with Centennial students since March of this year to teach how everyday objects are designed and put together while incorporating a variety of math and science lessons.

The students began their journey by digitally slicing a Legos piece so they could view how it was made on the inside.

"Over the past several weeks, since March, they have been teaching the children through a (computer-aided design) model to do 3-D optics," teacher Havilyn Towns said.

■ Please see SKILLS, 2C



Edge Innovative Solutions owner Chad Garrish quizzes Centennial Arts students about engineering and design during an assembly to show students how products and ideas come to fruition using computers and 3-D printers.

### SKILLS: Class wants a 3-D printer

■ Continued from 1C

"This past week we gave out measurements and things, and made circles."

On Wednesday, Garrish gave a presentation to demonstrate how a 3-D model on a computer screen can become an actual product by bringing examples of products his company creates.

And that's what Towns eventually wants in her classroom — a 3-D printer, so her students' drawings can become reality.

"You're not getting much out of a piece of paper," Towns said, laughing. "This is a big deal."

A 3-D printer uses what's called an additive process,

basically distributing layer upon layer of material in different shapes until the final product is achieved. The process has been in the national news spotlight with the controversial topic of 3-D printed guns.

As Towns said, it's a great resource for people to have when a part is missing. For example, if a part is missing from a box to build a piece of furniture, knowing how to design and then print the missing piece can save time and money.

Her class already has big ideas for what to create if a 3-D printer were made available to them.

"I just like creating things," student Ansley Cate Casper said. "I just like mak-

ing 3-D spheres. They're fun to make."

Other ideas include creating a bicycle, miniature ballpark and a shape resembling the comma punctuation mark.

While her request is not up on the site yet, Towns has asked for a 3-D printer through donorschoose.org, a website for teachers to post about things they need for their classrooms. People can then go online to donate money.

Towns' students will do three similar engineering projects next year in their gifted class, building on the skills they've learned this year.

"It's just math, math, math," she said.



Photos by SCOTT ROGERS | The Times

Centennial Arts Academy's David Filson chats with a neighbor as they observe a hand-held wench housing passed around by students as they learn about engineering and design from an Edge Innovative Solutions team visiting the school.



SCOTT ROGERS | The Times

Centennial Arts Academy robotics students post their projects in the school hallway after learning some basic programming on a program called Solidworks to create 3-D models.

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