

# Hospitals need more masks for coronavirus; this high school is making thousands

By Monica Velez, Fresno Bee on 04.23.20

Word Count 478

Level MAX



Image 1. CTEC Director Jon Delano models a 3D printed face shield while standing in front of 3D printers at Career Technical Education Charter High School in Fresno, California, on April 8, 2020. Due to the coronavirus and the drain of much-needed personal protective equipment, CTEC staff have decided to put their army of 3D printers to work and provide face shields as needed. Photo: Craig Kohlruss/Fresno Bee/TNS

FRESNO, California — As doctors and nurses scramble for medical supplies to fight the global coronavirus pandemic, help is coming from an unlikely place — Fresno-area high school students.

Career Technical Education Charter High School (CTEC) has been utilizing its nine 3D printers to make face shields for health care workers on the front lines, said Jonathan Delano, director of CTEC.

Face masks have been particularly challenging to find in the United States since the outbreak. California Governor Gavin Newsom announced recently that the state is set to spend \$1 billion to purchase 200 million masks each month to boost its supply.

Their design has been shared with other communities in the state's hardest-hit cities, including Los Angeles. And some of the key designers who helped slash production time are teenagers.

Valerie Castro, a CTEC sophomore, is part of a team of teachers and students who came up with design tweaks that shaved almost 30 minutes off the time it takes to build a face shield.

"That's what really makes this school kind of different," she said. "It's not just teachers doing everything."

Teachers have played a critical role, leading the charge, and several students have added crucial contributions.

"Even though all these bad things are happening, we're able to make an impact in a positive way," Castro said. "It's like leaving your little mark on the world."

Makerbot, a New York-based company that makes 3D printers, has also helped CTEC to maximize the building process.

They've been churning out nearly 100 shields each day, and that production is about to triple as about 20 more 3D printers come online at the school.

"Some schools have one or two (3D printers)," Delano told The Bee. "We are unique for how many we have running in our space. That's what we focus on."

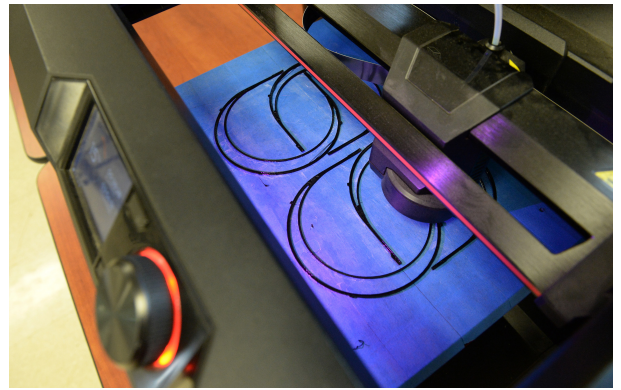
CTEC staff and students have provided hospitals, dentists, urgent care centers and retirement homes with masks in Fresno County and surrounding areas, including Valley Children's Hospital and Community Medical Regional Center.

"I was shocked," Stacy S. Vohra told school staff in a video. "We were so thrilled to have the donation from CTEC. This is something that we've been needing."

The entire staff has been rotating going onto campus to produce the face shields every day, Delano said.

When the new 3D printers arrive, some of them will go to students' houses so kids can help with the hands-on process, Delano said.

"That's how we get through these things," Delano said. "Our high school focuses on giving back to the community. Students should know the skills they have can impact a community."



## Quiz

1 Read the following paragraph from the article.

*As doctors and nurses scramble for medical supplies to fight the global coronavirus pandemic, help is coming from an unlikely place — Fresno-area high school students.*

Which answer choice BEST supports the idea that health care workers are facing shortages of supplies?

- (A) California Governor Gavin Newsom announced recently that the state is set to spend \$1 billion to purchase 200 million masks each month to boost its supply.
- (B) "Even though all these bad things are happening, we're able to make an impact in a positive way," Castro said.
- (C) "We were so thrilled to have the donation from CTEC. This is something that we've been needing."
- (D) When the new 3D printers arrive, some of them will go to students' houses so kids can help with the hands-on process, Delano said.

2 According to the article, CTEC students played an important role in the school's effort to produce face masks.

Which paragraph BEST supports this idea?

- (A) Career Technical Education Charter High School (CTEC) has been utilizing its nine 3D printers to make face shields for health care workers on the front lines, said Jonathan Delano, director of CTEC.
- (B) Valerie Castro, a CTEC sophomore, is part of a team of teachers and students who came up with design tweaks that shaved almost 30 minutes off the time it takes to build a face shield.
- (C) Makerbot, a New York-based company that makes 3D printers, has also helped CTEC to maximize the building process.
- (D) They've been churning out nearly 100 shields each day, and that production is about to triple as about 20 more 3D printers come online at the school.

3 How are Gavin Newsom's and Jonathan Delano's ideas connected to each other?

- (A) Newsom's idea to increase California's face shield supply supports Delano's effort to 3D print them.
- (B) Delano's idea for schools to 3D print face shields contradicts Newsom's effort to buy face masks directly.
- (C) Newsom's idea to increase California's face shield supply contradicts Delano's effort to 3D print them.
- (D) Delano's idea to 3D print face shields supports Newsom's effort to increase California's supply.

4 Which of the following would BEST describe Jonathan Delano's reaction to the face shield shortage?

- (A) He felt worried because many of his students' parents work as doctors and nurses.
- (B) He saw it as an opportunity to show students that their skills can help the community.
- (C) He felt worried that the state would spend money intended for education on medical supplies.
- (D) He saw it as an opportunity to raise funds for his school by selling face shields.

## Answer Key

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