

# MAKER CHALLENGE

SCIENCE + TECHNOLOGY + ENGINEERING + MATH

## STEM Education Through 3D Printing

### What is School 3D Printer Maker Challenge?

The program encourages schools to start their own Maker Challenge by empowering students to design and manufacture a product using 3D printers. The program is an integrated STEM project that incorporates elements of art and design. By turning ideas into designs and transforming them into physical objects, kids learn how manufacturing and design cycles work. It inspires creativity, exploration, and invention.

#### Challenge

Design and build (or significantly repurpose) a physical product that will solve a problem, a need or a want.

#### Deliverables

Participants' exhibitions consist of a presentation, video, and prototype. First, they have to create some form of physical prototype or model. Then they also must prepare a presentation board. Finally, students also have to produce a promotional or demo video.

#### Rules

The product must be created specifically for the maker challenge. Students need to be able to clearly identify the STEM concepts used in the process. As students move through the design process, they also learn how to articulate to the judges the STEM concepts used. This exercise facilitates deeper learning and develops the ability to recognize STEM concepts in future problem-solving scenarios, empowering students to go further in the future!

#### Levels

Level 1 is a creative approach to create a static or non-functional prototype, such as a 3D print of their idea.

At Level 2, the part has to do something. It must be dynamic and have some functionality. For example, it might turn on or have hinged parts that move.

Level 3 starts to kick it up a notch: The part needs to include some form of "intelligent" technology. That means that the prototype responds automatically and selectively to a particular condition or situation.

Level 4 requires all of the elements of level 3, plus the prototype displayed at the final exhibit must also include some form of tooling or fabrication process. Examples of fabrication processes include bending metal or cutting wood.



3D Printed Wheel Chair

 Elevating Wheelchair made by a group of ocMaker Challenge 2016 winners from Anaheim High School.

# HOST YOUR OWN MAKER CHALLENGE



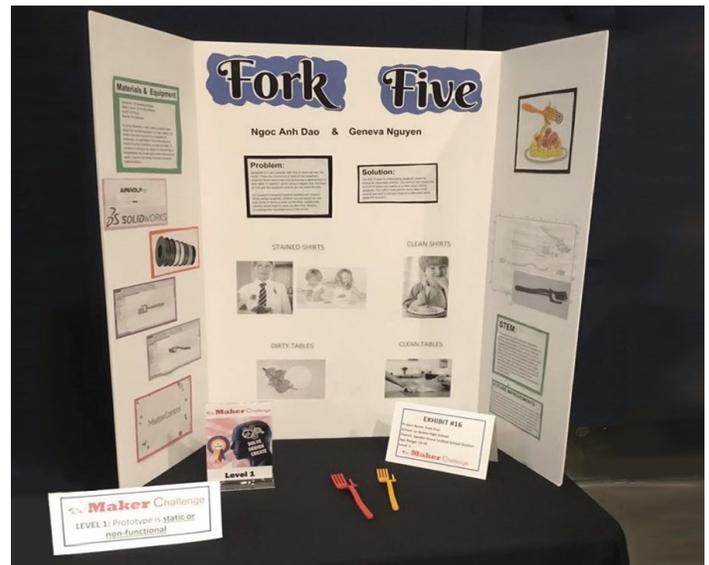
## PROMOTION: Host Your Own 3D Printer Challenge

Purchase 15 Airwolf 3D printers for your schools, district, or educational coalition and we will provide support for your program including \$1,000 cash award to winning students of the Maker Challenge!

### Promotion Details:

- Intensive two-day 3D Printing Workshop with exclusive training materials
- 15 Copies of our 3D Printing STEM Curriculum
- \$1,000 sponsorship cash award to winning students of the Maker Challenge
- Free access to our online repository of 3D models. The platform is also used for students to upload designs for judging purposes
- Instruction and support for hosting a Maker Challenge in your community
- Comprehensive Maker Challenge Manual that includes sample competition rules and regulations, and judging rubrics
- Inspiring videos and case studies to get your community and sponsors vested in supporting this event
- Our staff to travel to one school and perform an inspiring presentation to kick-off your Maker Challenge
- Free access to online training for students that include instructional videos, graded quizzes for students, and real-time emailed grade results for teachers

Contact **GOMEASURE3D** to get your school started on the next 3D Printer Maker Challenge!



La Quinta High School's exhibit demonstrating their innovative STEM challenge solution.



A beautiful idea, a partially 3D printed pressure sensing alarm clock made by the students of Walker Junior High.