

News from the field of the premiere DoD Youth STEM education program.

STARBASE 2.0 Projects

In FY 2019, school districts and schools partnered with DoD STARBASE at 99 locations to operate 128 STARBASE 2.0 clubs. The average club size was 19 students. Over the course of three to five months, DoD STARBASE 2.0 students worked with a STEM mentor on team projects at their school during club meetings.

Program locations use a variety of different team projects. STEM projects in FY 2019 included: Scalextrics, robotics, forensic science, rocketry, engineering, physics, FIRST LEGO League, Team America Rocketry Challenge (TARC), solar cars, chemistry, technology, and aerospace.

FTW - Robotics Drone Competition at Peach State STARBASE, GA



The For The Win (FTW) Robotics Drone Competition was held on March 7 at Kennesaw Mountain High School. Cooper Middle School placed first in Autopilot. In this portion, a pair of students had to use code to program the drone through an obstacle course. They were allowed time to take measurements of the obstacle placement.

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"Education is not the filling of a pail, but the lighting of a fire." --William Butler Yeats

STARBASE Los Alamitos: Launching Stratostar

Recently, STARBASE Los Alamitos launched their high-altitude weather balloon. The balloon launched out of Laguna Beach, CA, and it landed about 10 miles away in Mission Viejo. The balloon captured some amazing footage in the stratosphere, as seen in the image below. After combing through two hours of footage from the balloon's journey, STARBASE Los Alamitos posted a video of the balloon's travels. Click here to view the highlight video: <https://youtu.be/UfoDtyCBVDM>.



The crew at Los Alamitos shared their appreciation of the support from STARBASE Indiana for helping them get this accomplished and a huge thank you to STARBASE Sacramento for coming out to be a part of our launch. They had all 50 students tracking the balloon on the Stratostar website as it flew from Mission Control.

The next launch is scheduled for the week of August 17th with a new cohort of students. Sacramento STARBASE will be launching their own balloon at the same time, so they can both simultaneously be tracked from Mission Control. This will be a balloon race on the north and south ends of California, so they are looking forward to that! To commemorate this next launch, they are trying to find an iconic spot to launch from to get some more great footage.



PTC Onshape Training Lessons Learned



PTC has completed Onshape Pilot Training with 52 STARBASE personnel at 10 STARBASE Locations: CA Los Alamitos, CA Sacramento, CA Edwards AFB, MI Alpena, MI Battle Creek, MI Selfridge, MN Duluth, MN St. Paul, SD Rapid City, SD Sioux Falls, and SD Nova Instructors. Each STARBASE staff member received 6 two-hour meetings for a total of 12 hours, and they all received a certificate to use for their CEUs.

Through these training opportunities, PTC and The Spectrum Group have learned a lot about teaching engineering online, including which conferencing platforms are easier to work with (Zoom was easier than Microsoft Teams).

Online environments also require more support staff. PTC added two more engineers to the training than are usually used in the face-to-face training sessions. The added engineers could take the person that was having difficulty into another “room” and help them without holding up the class. PTC created breakout rooms when it was determined that smaller groups worked better.

Finally, as with any training, ongoing support is important. To facilitate this, PTC also added an engineer on “call” to provide additional help to those with problems on their homework (help for after hours).

Here are a few comments from the STARBASE attendees:

- » “PTC has the patience of saints!”
- » “Excellent storyboard and designs – love the new curriculum with a beginning, middle and ending. Kids will love the comic book theme.”
- » “PTC has brought creativity, purpose, and excitement to the curriculum we all teach.”
- » “Learning the Onshape online was difficult and if it was Creo, I wouldn’t be able to do it. I don’t know how PTC did it, but I made it through – THANK YOU PTC!”
- » “I appreciated PTC receptiveness to helping, their openness to being there outside of class hours, and especially their teamwork and patience.”
- » “Training went very well. I do prefer face-to-face training. I was amazed with PTC and their team. Please bring back face-to-face when it is safe, but, for now, I understand we must continue with Zoom – which worked – just harder.”

This PTC-experience has once again reiterated how grateful all of us in the STARBASE community are to be working with this amazing company!

UPCOMING DATES

October 2020

Submission of Financial & Property Management Information

After end of Fiscal Year, instructions will be sent regarding submission.

Reminder from the Curriculum Committee

It is clear that STARBASE is going to look different around the country this year as sites are working diligently to find creative solutions to serving the youth of our country. In the midst of our efforts to ensure the safest opportunity for all students, visitors, and staff, the Curriculum Committee wanted to send a quick reminder to all those sites that will have students in a face-to-face environment this school year.

While you are determining your approved curriculum choices, please take extra caution to ensure that reasonable adjustments are made to the curriculum related to hygiene. One easy example is that a balloon pump can be utilized throughout our *Bernoulli's Principle Experiments* lesson plan in any place that calls for a student to blow through a straw to perform the experiments.

With the world-wide refocus on cleanliness and sanitation, several lesson plans will need these types of adjustments. The Curriculum Committee recognizes this need and plans to revise existing activities to meet this new enhanced hygiene awareness. In your work to prepare for the unique constraints of this year, please don't hesitate to share any promising practices you discover at email@dodstarbase.org.

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Cooper also placed second in the Transport portion. In this segment, a student had to carry an object (weight) on the drone using an apparatus created to hold the object. The weight was placed on a series of targets, given different points for landing on different areas of the target. The Parrott BeBop drone was used for this part of the competition."



CREATING CONNECTIONS

Please welcome the following new Program Directors to the STARBASE family.

STARBASE Nellis (NV)
Tracy Clark

STARBASE Arizona
Kristine Impellizzeri

STARBASE Vandenberg (CA)
Tonya Troup-Spurlock

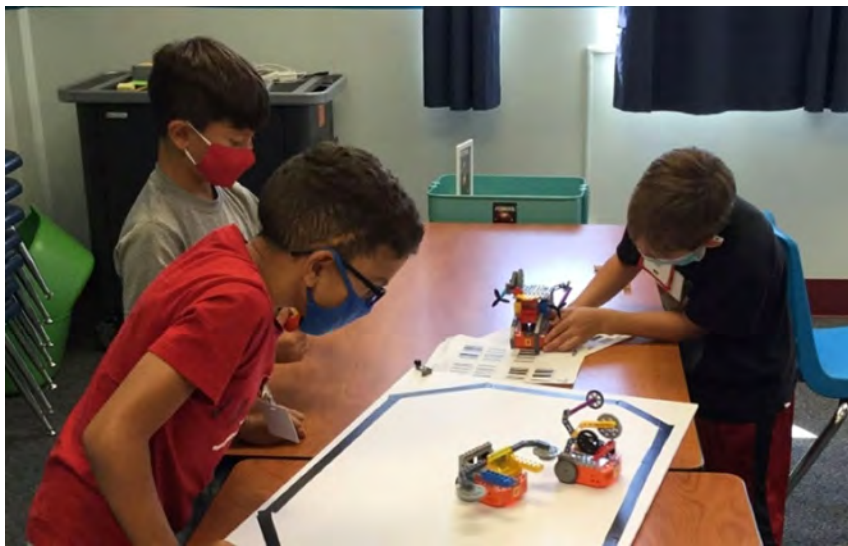
STARBASE Oregon's Summer Academies

STARBASE Oregon Summer Academies 2020 have been a wonderful success! They offered four camps at Kingsley and three camps at Camp Rilea in July and are conducting three camps in Portland in August. Their days have been full of smiles, STEM exploration, and good ole' messy fun.

Younger students explored biology, chemistry, and engineering. They have collected pond samples, and, using digital microscopes, they discovered Micro-Monsters! The young engineers each designed their own articulating hand. The kiddos created individual prototypes of the human digestive system using a plastic cup, sock, various foods, and liquids (water and OJ). All combined to represent the stomach, intestinal tract, saliva, bile secretions and you guessed it Poop! It was wonderfully gross!!! The program rounded out each of the younger camper's weeks with engineering design challenges (lasagna noodle, weight-bearing bridges and plastic bag/balsa wood kites), plant chromatography, and edible chemistry (home-made ice cream).

The middle school campers were treated to STEM challenges involving flight, nanotechnology, box plane building, and geocaching. They flew Cessnas and fighter jets in flight simulators, created smoke rings with a vortex generator, studied their GPS treasures under digital and handheld microscopes, and built the distance world-record holding paper airplane design. Some filmed and produced their own 'STARBASE Promotional Videos' featuring Battling Bots, virtual reality sculpting, rocketry, and chemical explosions.

STARBASE Oregon's weeks have been jam-packed with STEM fun, and the happy memories made will hopefully outlast the craziness of this COVID chapter in the students' young lives.



The 2020 Call for Participation

Throughout 2020, this newsletter will continue to spotlight the achievements, partnerships, and tips of the participants of the DoD STARBASE program.

Please share your achievements, success stories, and helpful tips with us at email@dodstarbase.org.