

MARCH
2021

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

Alumni Volunteers

It is a bright, crisp morning at the 133rd Airlift Wing in St. Paul, Minnesota. STARBASE instructors are packing the trunk of their cars outside STARBASE Minnesota with bins of materials for the day's rocketry lesson and launch at a time when COVID-19 has impacted students' ability to come on base, at least temporarily.

Instructors arrived at the school to greet the classes of eager 5th graders, whose year was so incredibly interrupted. Even through masks and shields, the air of excitement and energy among students about getting to do something hands-on and a rocket launch was palpable — as if they had won the lottery. As the instructors organized the 5th graders in their groups, they shared with them just who else was interested in their success and had a hand in helping them apply their understanding of Newton's Laws of Motion — people that they may least expect.

The parents of STARBASE alumni summer Next Gen program class of 2016 who are currently in high school, responded quickly and enthusiastically to a simple email request to help hundreds and even thousands of present and future STARBASE students with their rocket launches by building engine mounts ahead of time to preserve valuable learning time. And, while so many would have responded positively regardless, alumni could earn community service hours from STARBASE for high school requirements and to enhance their future applications to post-secondary education and beyond.

The response to this single Friday afternoon email resulted in over 70 parents immediately responding, with their high schoolers chiming in, absolutely thrilled to help our students and to retain their connection to STARBASE, many recalling fond memories of their time at STARBASE and their own rocket launches. Several parents who lead Scout troops, robotics clubs, and other larger groups even offered up their clubs to perform this task on an ongoing



"I tell young people: Do not think of yourself, think of others. Think of the future that awaits you, think about what you can do, and do not fear anything."

--Rita Levi – Montalcini, Italian neurologist and Nobel Prize winner in Physiology

 **TASK
REMINDER**

Updates to the COVID Operational Status Tracker spreadsheet are due no later than March 31st (last day of the month).

These updates are provided to OSD/M&RA as a report monthly.

The link to the spreadsheet is available in STARBASE-U. If you are having trouble accessing the tracker, please contact email@dodstarbase.org for assistance.

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basis. To date, 49 STARBASE alumni have assembled over 4,590 engine mounts for STARBASE Minnesota – St. Paul, aiding in efficiencies, expanding capacities, and most importantly, providing an opportunity to connect with former STARBASE students and learn about their reflections of past STARBASE experiences, their current activities, and goals for the future.

The connections have been tremendous. A family of three alumni said they loved the opportunity to give back to STARBASE and to fulfill their National Honor Society volunteer hours. The high school senior of the family is planning to major in astrophysics when he begins college next year, and reported that STARBASE was a reason for his decision.

One alum, who is now a high school junior, reported upon delivering her built mounts, “I was really happy to be able to give back and build the foundation for the rockets. It’s really important to get kids into STEM, and for them to see that it’s a fun and worthwhile experience.”

Another alumni family explained that their STARBASE alum has been homeschooled all year due to COVID, and they were looking for ways to give back to their community. A parent of three daughters who attended STARBASE Minnesota said her family is part of a local Swahili-Nigerian community. She was excited for her daughters and their friends to volunteer.

STARBASE Minnesota is grateful to connect with STARBASE alumni on a project that these high schoolers really enjoyed being a part of and will make this a regular aspect of programming now and well into the future.

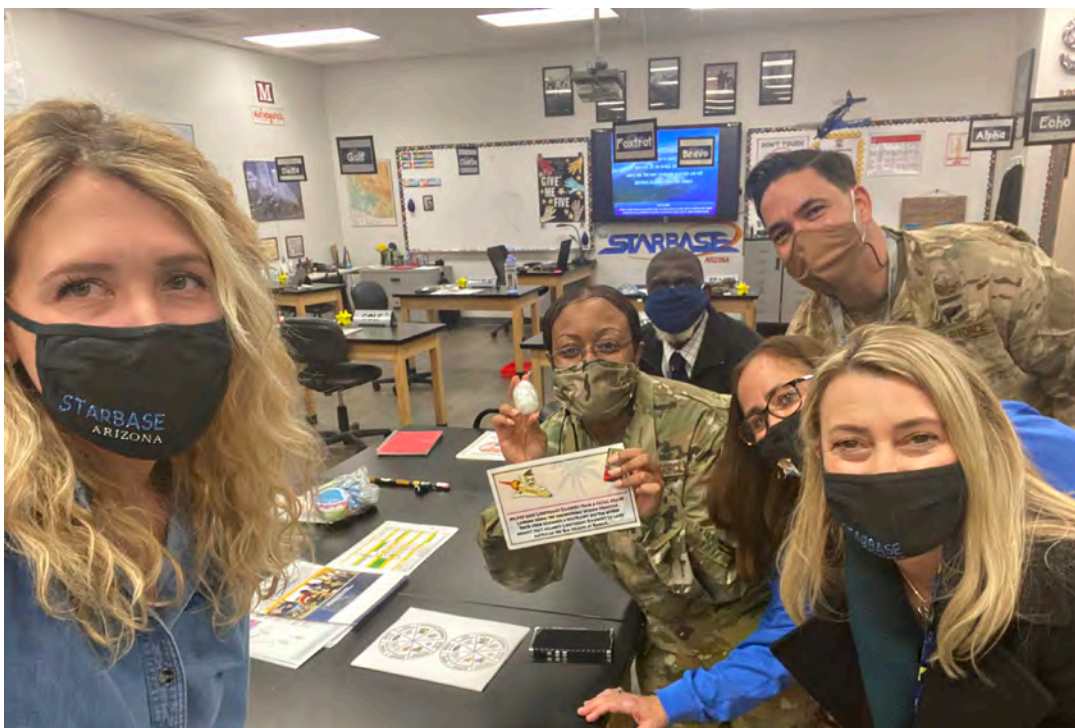
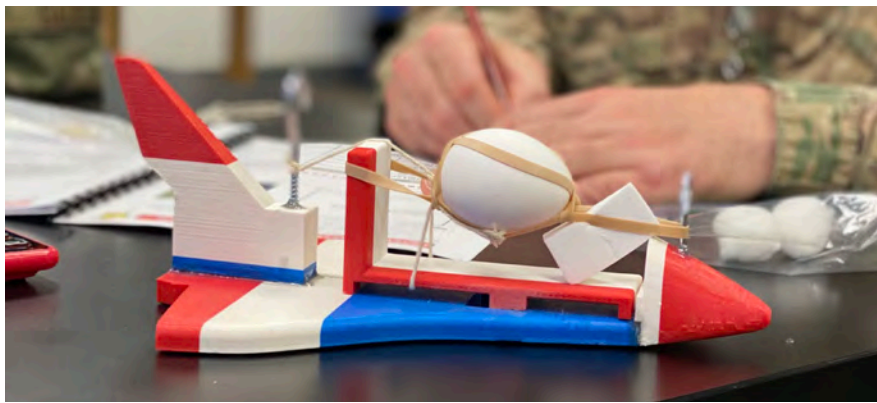


STARBASE Arizona at Davis Monthan AFB Builds Powerful Relationships with Our Military Personnel

STARBASE Arizona had the honor of hosting a visit with the 355th Mission Support Commander, Colonel Borders, along with a few members of his staff. He came in with little knowledge of STARBASE and left with a deeper understanding of the impact STARBASE Arizona has on the youth they serve.

The team provided him with the history and mission of the program, as well as a video showcasing STARBASE in action. Of course, the meeting wouldn't be complete without personally involving him in a Lt. Eggbert Mission! The dialogue was rich, and his support for the STARBASE program was evident.

STARBASE Arizona strives to develop a positive and productive relationship with their military personnel, especially with leadership. These interactions constantly provide unlimited support for the growth of the STARBASE program.



STARBASE Idaho Brings STEM to Local Students



In its third year, STARBASE-Idaho expanded its STEM-based curriculum from Gowen Field to schools throughout the Treasure Valley as restrictions prevented students from traveling to Gowen Field.

The program, sponsored by the Department of Defense, provides Title I fifth grade students with 25 hours of “hands-on, minds-on” STEM education on Gowen Field.

In the spring, instructors worked with teachers and administrators from the Boise, Caldwell, Kuna and Nampa school districts to produce seven earth science lessons over a multitude of online and digital platforms to meet each district’s needs as schools quickly adjusted to teaching their students online.

Over the summer, several local teachers attended a three-day interactive workshop to learn more about teaching STEM concepts at their own schools.

When schools resumed in the fall, STARBASE instructors used remote teaching to reach students in their classrooms, maximizing attendance without the need for students to travel to Gowen Field.

The 124th Fighter Wing’s Family Support Program partnered with STARBASE and the University of Idaho’s 4-H group to sponsor its first Mars Base Camp for family members over drill weekend in October.

In November, the program launched STARBASE 2.0, an afterschool robotics program, located in Middleton. Once a week, an instructor joins students at the school to provide instructions on building and testing robots.



A Call for Participation

Throughout the year, 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.

Students Develop Interest in STEM through Hill Air Force Base's STARBASE Program

Once school has let out, the halls of North Davis Junior High School are empty on a typical afternoon, except for the occasional custodian vacuuming.

On Wednesday, however, one locker-lined walkway transformed into a makeshift drone obstacle course for the culmination of STARBASE 2.0, a program meant to increase students' interest in STEM fields. As the small aircraft weaved around cones and through PVC pipe frames, sometimes smashing into doorjamb and lockers, exuberant seventh graders cheered.

Marissa Jager is the instructor for STARBASE 2.0, which is run by the U.S. Department of Defense. The program started just over a quarter of a century ago in Michigan after a teacher recognized the need for more technology-based instruction and worked with her local Air Force base to bring it to the classroom.

Hill Air Force Base brought STARBASE to Utah almost 10 years ago, said local Director Dave Amparan in a promotional video made by the Davis School District. Jager said STARBASE now provides instruction at schools in the Davis, Ogden and Weber school districts, with most concentrated in Davis.

The program initially targeted fifth graders, but in the last couple of years, Hill Air Force Base has joined other locations in expanding it to sixth and seventh graders, hence the 2.0. "STARBASE Hill's 2.0 program," Jager said, "is now one of the largest in the country."

As the current seventh grade cohort continues on in their academic career, Hill Air Force Base plans to grow the program with them. It will expand to include eighth graders next year.

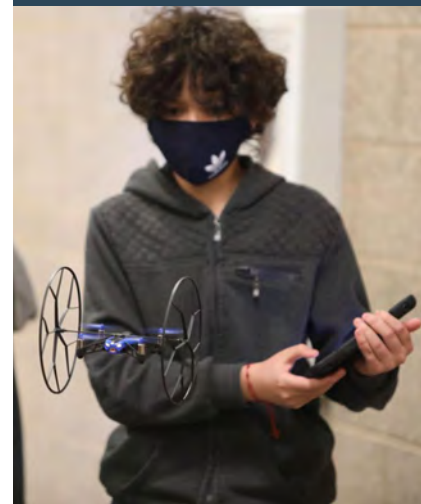
"My main focus is to continue keeping those students in STARBASE until they graduate high school," Jager said.

"While the STARBASE 1.0 program will serve a school's entire fifth grade, each STARBASE 2.0 group is capped at 12 students per school," Jager said, "and uses an application system." Respective schools select participants out of the applicants, typically taking into consideration a student's demonstrated interest and the diversity of the group.

STARBASE selects which schools it will operate on based on their demographics, typically choosing to provide the opportunity to those with a widely underserved and unrepresented population, like Title I schools. The U.S. Department of Education classifies schools with a high concentration of students who qualify for free or reduced price lunch as Title I.

North Davis Junior High, for example, is a Title I school. According to enrollment data from the Utah State Board of Education, 50.9% of the school's students are considered economically disadvantaged.

Jager said, "The program aims to increase the interest in science and math for students at these schools and equip them to potentially work toward a career based in STEM — science, technology, engineering, and mathematics."





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"I personally love science and technology, and I want to inspire as many kids as possible to get interested in this at a young age," Jager said. "There is a huge need in the world for scientists and engineers and technology, and there's not enough people to meet the need."

According to a 2020 report released by the U.S. Bureau of Labor Statistics, STEM jobs are expected to grow 8% by 2029, compared to 3.4% growth for non-STEM jobs. The people who fill STEM jobs are traditionally most often male and white.

One of the students who has been inspired by STARBASE is seventh grader Kaitlyn Bickel. Bickel explained that she initially joined the program because she thought it sounded fun, but that it has now given her a better sense of direction for her future career.

"I definitely want to try to have a STEM job, something that's kind of similar to this programming in engineering," Bickel said.

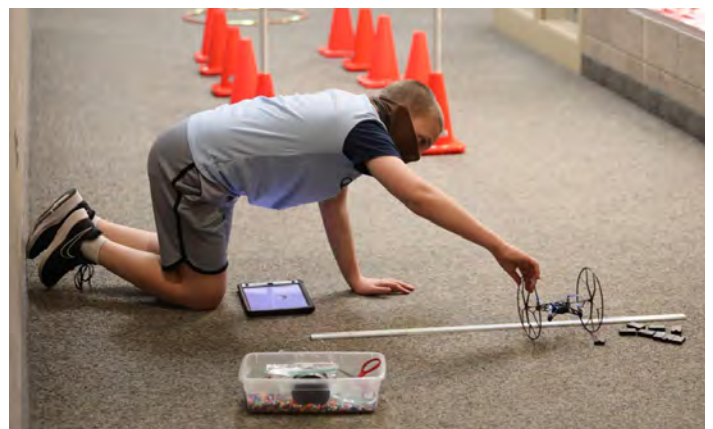
Students in STARBASE 2.0 have learned about a wide range of subjects over the course of the six-week program, including genetics, geology and physics. They figured out how to fill out a Punnett square, deepened their understanding on the food chain and built Rube Goldberg machines.

Bickel said she loved her entire STARBASE experience, but learning how to program and fly drones has been her favorite part.

"It makes me think a lot and it makes me try and figure out solutions to problems without any help, because we aren't given very much direction," she said. "It's just kind of like, here's what you're supposed to do, go do it."

Jager said she wishes she had the opportunity to participate in a program like STARBASE as a kid, adding that she wasn't aware of all of the possibilities offered by a STEM career.

She's proud, though, to see her students not only taking an interest in STEM but excelling in it too. Sometimes, Jager said, she sees them outsmarting engineers who volunteer as mentors with the program. "That is beautiful to me."



Article source: https://www.standard.net/news/education/students-play-develop-interest-in-stem-through-hill-air-force-basesstarbase-program/article_786d52ad-4f19-58e0-a778-daa4dc96ed28.html