

STARBASE NEWSLETTER



April - July 2022 - Issue 3

STARBASE Visits Montana National Guard's Civil Support Team



Major Stevens, the Civil Support Team staff scientist, gives a tour of the analytical laboratory systems vehicle to Kessler Elementary students.

Kessler Elementary School students, who attended STARBASE Fort Harrison (SBFH) along with their teacher Ali Suchy, were able to visit the Montana National Guard Civil Support Team (CST) unit. The CST's mission is to support civil authorities at a domestic Chemical, Biological, Radiological and Nuclear high-yield Explosives (CBRNE) incident site by identifying CBRNE agents/substances, assessing current or projected consequences, advising on response measures, and assisting with appropriate requests for additional follow-on state and federal military forces. Units can also provide immediate response for intentional and unintentional CBRN or hazardous material (HAZMAT) releases and natural or manmade disasters that result in, or could result in, catastrophic loss of life or property.

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SGT Plant, a member of the Montana National Guard Civil Support Team, explains various types of equipment used to carry out operations.



Kessler elementary student, whose callsign was Zephenator, stands in front of communications equipment in the Unified Command Suite vehicle.

The CST unit includes a command vehicle, operations trailer, a communications vehicle called the Unified Command Suite (which provides a broad spectrum of secure communications capabilities), an analytical laboratory system vehicle (containing a full suite of analysis equipment to support the complete characterization of an unknown hazard) and several general purpose vehicles. The members of the unit, combination of Army and Air Force personnel, receive more than 650 hours of HAZMAT and high-tech training from agencies such as the Federal Emergency Management Agency, the Department of Energy, the Department of Justice, and the Environmental Protection Agency. Each state, including Washington DC, and U.S. territory has a CST while California, Florida, and New York have two each. They are on standby 24 hours a day, 365 days a year, and will be fully deployed within three hours if needed. CST units across the country are often prepositioned to support large public events requiring extra security such as the Super Bowl, concerts, visits by foreign dignitaries or political speeches, to name a few.

The Kessler students received guided tours of each piece of equipment from members of the CST staff including the Unified Command Suite, Analytical Laboratory System, Operations trailer, and Ambulance. The CST staff graciously answered all the curious questions the students had while explaining the various components that keep the soldiers, airmen, and public safe. The students particularly enjoyed seeing the CST robot that is used in a myriad of ways on various types of missions. STARBASE Fort Harrison is grateful that the CST team took time out of their day to allow some of our students to visit and experience the importance of STEM (science, technology, engineering, and math) to our nation's military, readiness, responsiveness, and security.

83rd Civil Support Team (WMD)



Month of the Military Child

STARBASE teamed up with National Guard Family & Youth Programs for Month of the Military Child

April has been recognized as the “Month of the Military Child” since 1986. The proclamation was made as a time to honor the sacrifices made by military families worldwide, with an emphasis on the experiences of the dependent children of military members serving at home and overseas.

There are more than 1.6 million military children who face many challenges and unique experiences as a result of their parents’ service. While military members serve around the world, we often forget the challenges faced by their children. Military families move on average every two to three years, impacting military children through changing schools and support networks.

STARBASE Fort Harrison worked with the Youth and Family Programs staff of the Montana National Guard to put together care packages for military children all across Montana. STARBASE Deputy Director, Kaylee “Hollywood” Nathe, whose husband is in the National Guard, led the effort to include STEM (science, technology, engineering, and math) activities in the care packages.

MONTANA MILITARY STATISTICS



Montana has one of the highest per capita Veteran populations in the U.S.; about 1 in 10 residents (9.4%) are Veterans



About 1 in 10 HPD students are dependents of veterans, active duty, or retired military members



The Fort Harrison National Guard Army base provides specialized training to thousands of U.S. Military members from all branches every year

STARBASE Fort Harrison included two different STEM activities within the care packages. One activity was centered on nanotechnology and enabled the children to experiment with a piece of nitinol wire. Nitinol is a nickel-titanium alloy with super elasticity and shape memory properties. The other activity was based on polymer chemistry and enabled the children to create their own bouncy balls. When all was said and done, STARBASE Fort Harrison and the Youth and Family Programs staff mailed off 32 care packages to our military families all over Montana.



Bouncy balls are made from colored crystals and undergo a polymer reaction within a mold.

Staff Spotlight: Devon “Falcon” Lawson

Devon Lawson has been an instructor at STARBASE since 2016. He is a native of Billings, Montana, and got his undergraduate degrees at Montana State University. Devon was a science teacher for 4 years with Montana Science Center in Bozeman while attending college, moved to Helena, conducted field research as a Fisheries Technician for 3 years with Fish Wildlife and Parks, enjoyed 5 years with ExplorationWorks as the Director of Education. He is married with two children and enjoys fishing, Sunday drives, building with Legos, and Nerf gun fights.

We conducted an interview with Devon to get his perspective on being involved with the STARBASE program:

What made you want to be a teacher?

Ever since I was in second grade I wanted to be a teacher. To be completely honest, I'm not sure what the initial spark was, but it's what I have wanted to do for as long as I can remember. By high school I decided that it was something I was still very interested in and would be a good career to pursue. I had great science teachers in high school that inspired me to teach science.

STARBASE is a unique “5th” grade classroom within the HPSD. What are the unique challenges and rewards you have experienced as a STARBASE instructor?

The biggest challenge as a STARBASE instructor is that you only have the students for five days. In that time, I must get a feel for the class, build relationships, and then say goodbye on day five. It's difficult saying goodbye after such a short period of time. That said, it is incredible getting to see every 5th grader in the district. The most rewarding part of my job is getting to work with the Title 1 schools. Many Title students do not have access to educational enrichment opportunities, and it is special getting to provide them with 25 hours of science, technology, engineering, and math enrichment. At STARBASE we go by fun call signs, and we had a wonderful student named Captain Ducky. She said that STARBASE was the best thing she's ever done in her life and that it was probably better than Disney Land. That's pretty high praise.



Devon “Falcon” Lawson is the lead instructor for STARBASE Fort Harrison.

You have embraced the “PAX Learning” system and led the STARBASE program in implementing it into our classrooms. Would you describe what the system is, why it works, and how it has benefited our students?

PAX comes from the word “paxis” which means “peace” in Latin. By following the PAX system, you transform your classroom management to create a peaceful and productive learning environment. Often, when students are loud then teachers must be louder to be heard, but with PAX teachers use peaceful strategies and skills to gain students’ attention and manage behaviors. The biggest benefit we’ve seen at STARBASE with using PAX is that transitions between activities. At STARBASE we do many intense hands-on activities and with PAX things are much smoother and quicker. We’re able to get more done and spend more time doing rather than talking.



What are your favorite lessons to teach the students each week and why?

I really enjoy leading the energy explorations lesson because we've set it up in such a way that students build their own knowledge by doing. The lesson consists of a series of demonstrations showing off different forms of energy. Students then rotate through stations getting to experiment with different forms of energy. Lastly, students decided which types of energy they saw at every station. It's great when you can have a completely student lead lesson where teachers are merely the guides and knowledge is gained through self-discovery.

We recently did a complete redesign of our STARBASE classrooms. From your perspective as the lead instructor, how has the redesign impacted student learning?

Building off my answer about PAX, I think it's important to have a peaceful classroom. Years ago, we had a student that was frustrated with the layout of the classrooms and how we were storing supplies. I'm glad the student made his feelings known because it inspired us to rethink and redesign our classroom spaces. The redesign is great and allows for much greater student success. We have more space to work and a great gathering space where we begin many of our lessons.

“It is incredible getting to see every 5th grader in the district. The most rewarding part of my job is getting to work with the Title 1 schools. Many Title students do not have access to educational enrichment opportunities, and it is special getting to provide them with 25 hours of science, technology, engineering, and math enrichment.” - Devon “Falcon” Lawson

STARBASE Montana Publishes New Website and Social Media Pages

STARBASE Montana recently published a new website as well as Facebook and Instagram pages. These resources will be important for you to connect to the STARBASE program as we continue to serve the students of Montana. We continually update the pages with current happenings and upcoming events. The links can be found below. Please give our Facebook and Instagram pages a like and/or follow so we can continue to grow the community around supporting our students.

STARBASE Montana Website

STARBASE Montana Facebook



STARBASE Montana Instagram



Students from the Helena Home School Community, Smith, Bryant, Kessler, and Central Elementary Schools Visit STARBASE

STARBASE Fort Harrison wrapped up their school year this last spring by welcoming nearly 200 local students. Students from Smith Elementary school, along with some additional Home Schooled students, visited STARBASE in late March and early April. Mrs. Beaver's class spent the last week of March at STARBASE and enjoyed a guest speaker from Montana Fish, Wildlife, and Parks. Mrs. Heun's Smith class was at STARBASE the first week of April and were able to participate in an interactive talk from a staff member with ExplorationWorks!. Ms. Ramirez's Smith class rounded our Smith crew by visiting us in mid-April. One Smith student, who went by H2O, said "I loved the robotics and chemistry and would love to continue to experiment with how they work, the possibilities are truly endless! I can't wait to see what is next in middle school!". It is great to hear that student's interest in STEM is being ignited at STARBASE as that is one of our major goals. Ms. Ramirez, who has brought her classes to STARBASE for years said, "STARBASE has, and continues to be, the most anticipated week for my students. The experiences and exposure students receive in these five days is truly indispensable. Students thrive this week in a way I don't always get to witness in the classroom at school. Students are more willing to take chances, ask questions, and work collaboratively with their peers out here at STARBASE." We appreciate the great feedback. Thank you Elyse.



Skylar Pester, a Project Manager with Energy Laboratories, presents a chemistry centered talk to Smith Elementary students in April.

STARBASE CLASSES BY THE NUMBERS

- Smith/Home School - 65 students
- Bryant/Home School - 39 students
- Kessler/Home School - 46 students
- Central/Home School - 48 students

Mrs. Hassler and Mrs. Voigt, with Bryant Elementary school, brought their classes to STARBASE the last half of April. The students had amazing experiences and got to hear guest speakers from Balanced Chiropractic and Montana Drone Company to help expose them to the various careers that are possible within STEM disciplines. Mrs. Lund's and Mrs. Suchy's Kessler Elementary students visited STARBASE in May. Mrs. Suchy's class visited the Montana National Guard's Civil Support team during their week and learned about how important STEM is to our military. The end of the school year was wrapped up with Mr. Herzig and Mr. Cicero bringing their Central Elementary school students to STARBASE. It was an incredible year for the STARBASE team as we got back to normal operations post-covid. We greatly enjoy meeting each and every 5th grade student but wish we had more time with them. We are looking forward to the 2022/2023 school year and having another wonderful year our students.



Summer Camp student, Axalotl, experiments with the properties of the polymer he recently constructed.

STARBASE Fort Harrison Hosts Nearly 200 Students for Summer STEM Programming

STARBASE Fort Harrison had a very busy June and July hosting nearly two hundred local students for summer STEM programming. We kicked off the summer with our annual Military Kids summer camp. This allows us to give back to our military families who sacrifice so much to enable family members to serve our country. The second week of summer season saw the first ever partnership with the Helena Indian Alliance to offer a summer STEM program to our tribal affiliated youth. The third week of June brought about another first, the inaugural Summer Academy program. We have a limited number of weeks during the school year to serve students so the Summer Academy is open to students who weren't on the school year schedule. This summer we saw students from Clancy, Montana City, St. Andrew School, and Helena Christian School attend. July was highlighted by our continued partnership with the Helena Public School District and their Camp Ascension program. Camp Ascension was born out of the pandemic and the realization that some of our students needed some extra academic support. We saw rising 3rd, 4th, and 5th graders enrolled in the program throughout the month of July and enabled them to immerse into hands-on STEM activities.

Favorite activities of the students this summer included creating/launching water rockets, building "Battlebots" and competing in a tournament, creating mini golf courses for Sphero robots, and performing chemical reactions to make their own custom bouncy ball. We are already looking forward to summer of 2023.

STARBASE Fort Harrison Summer Programming By the Numbers

Military Camp: 37 students

Helena Indian Alliance: 15 students

Summer Academy: 34 students

HPSD Camp Ascension: 103 students



STARBASE
MONTANA

STARBASE Attends National Science Teacher Association Conference in Chicago

Two members of the STARBASE Fort Harrison team, Director Michael Vannatta, and 2.0 Coordinator/Instructor Kinsey Vavruska visited Chicago in July to attend the National Science Teacher Association (NSTA) conference. The NSTA, founded in 1944 is an association of science teachers in the United States and is the largest organization of science teachers worldwide. NSTA's current membership of roughly 40,000 includes science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in and committed to science education.

Michael and Kinsey attended numerous talks and meetings, presented by dedicated educators, throughout the three-day conference. Additionally, the STARBASE team spent hours wandering the exhibition hall where there were hundreds of booths staffed by companies and organizations committed to STEM education. It was a wonderful three days of learning and networking. "STARBASE is dedicated to improving the student experience in any way we can. We always enjoy attending NSTA conferences as it allows us to seek out what is relevant and bring back what we have learned to our classrooms and students", Vannatta said. He went on to say "The new school year is just around the corner and we are looking forward to implementing some new practices that will assist us in building meaningful connections with our students."



STARBASE Fort Harrison Director Michael "Doc" Vannatta and 2.0 Coordinator/Instructor Kinsey "Newton" Vavruska at the NSTA Chicago conference in July.



One of the many exhibitor booths of companies and organizations involved with STEM education. This particular company was displaying the latest technology associated with coding and robotics.

STARBASE 2021 - 2022 Year By The Numbers

- > 839 students attended during the school year
- > 35 classes attended during the school year
- > 57 students participated in 2.0 clubs at 3 middle schools
- > 189 students participated in summer programming
- > 993 total hours of hands-on STEM