The Migrant VOICE
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Tulare County Office of Education
Tim A. Hire, County Superintendent of Schools
Migrant Education Program Region VIII Access to Success

Fresno State STEAM Conference

By: Keylen Lua

The STEAM Conference was held on April 15, 2023. One of the coolest things we did at the STEAM Conference at California State University, Fresno was to go inside the Downing Planetarium. First, we heard all about the planets and then saw a cool video on the big dome-shaped screen. The show started with us entering a big, dark room that had some comfortable chairs. Inside of the room, they had a huge projector that covered the entire ceiling. The projector showed images and videos of our solar system. I felt like I could touch the planets as they moved.

Second, you could get inspired by all the different people speaking at the conference. For example, there were some engineers who told their story, sharing who helped them become better engineers. One of the engineers spoke about how she thought it was hard for Hispanic people to meet their goals, but then she realized that with the education she received from Fresno State, she could do anything.

Attending the Fresno State STEAM Conference was a great experience for me. Not only did I learn about our solar system and careers in engineering, but I also toured the campus, learned about geology, viewed information about water contamination, and so much more. Overall, it was a great learning experience for a young girl like me, who likes to draw and has aspirations to become a lawyer someday. I know that if I never give up, I can meet all my goals.


The show at the Downing Planetarium is about to begin


Walking with our new friend

STEAM Conference


Ximena, Keylen and the Meteorite in the Environmental Science Lab


Mrs. Duenas, Ximena and Keylen exploring the AR


STEAM Conference


STEAM Conference

Brain Research

By: Ximena Delgado and Gael Saldana

Have you ever wanted to know what it would be like to do research and discover the answer to a scientific question? Or have you ever wondered what it would be like to do brain surgery on a mouse?

Well, if so, a STEM career might be for you! On Thursday, February 2, 2023, our journalism team conducted a virtual interview with Hailey Gordon who is the STEM Pathways Director for Boston University.

During our virtual interview with Gordon, we learned about her job as a STEM Pathways Director as well as gained some knowledge about STEM careers. If you are wondering what STEM stands for, we learned the answer to that question. First, the "S" in STEM stands for science, the "T" for technology, the "E" for engineering, and the "M" stands for math. All of these subjects are combined and used by scientists.


Hailey Gordon wears a mask and a lab coat to stay safe.

Gordon's interest in pursuing a STEM career began after a visit to the NASA-JPL (National Aeronautics and Space Administration/Jet Propulsion Laboratory) facility in Pasadena, California where her aunt works in the STEM field as the Deputy Manager of Data Services. One scientific experiment, in Gordon's field of study, which she was able to explore, included conducting brain surgery on mice. Her research involved discovering how different materials affect the long-term implantation of devices into a mouse's brain. Gordon started her scientific process by using different laboratory procedures. The first step in this process was to create a prototype using different types of materials to help test out her idea. Then, she designed a blueprint to help plan out her idea while designing the prototype. The next step was the manufacturing stage of her prototype using simple materials to start with and then moving on to more advanced or expensive materials to test the prototype. After several trials and improvements, she was finally rewarded with her final product. Once Gordon had her final successful prototype, she was able to implant the device into the mouse's brain. The mouse was running around happily and healthily post-surgery, which meant that the surgery was a success! Through this STEM research project, Gordon was able to reach her dream goal of discovering valuable information about the brain.

A mouse is shown with Hailey Gordon's developed device successfully implanted

Did you know that there are a lot of different types of STEM jobs to choose from? During our interview we discovered that some of those jobs include computer, chemical, civil, biomedical, and mechanical engineers. Gordon is a neural engineer whose focus is on the brain. All of these jobs use knowledge in the areas of science,

BRAIN RESEARCH... Continued on page 3

Computer Animation

By: Fernando Leon Herrera & Sebastian Mendoza

"For every bad drawing that you make, you are that much closer to uncovering a masterpiece."

The Arts

After learning about many STEAM careers this year our group of migrant students conducted an interview with Oliver Duenas Ramirez, an independent Digital Concept Artist. The love of digital animation in video games was what truly influenced our curiosity in this interview. Ramirez went on to explain how digital concept artists are used for many other jobs aside from entertainment consults.

STEAM

WHAT IS DIGITAL ART?

We asked Ramirez what digital art is? He replied

"Digital art for me is an umbrella term, meaning that it's not limited to only television or video games. You can have someone that is a photographer that uses digital programs to correct and change photos. You can also have a graphic designer that uses digital programs to make book covers or posters. Above all, digital art is just a different way to express anyone's creativity."

WHAT ROLE DOES STEAM PLAY IN YOUR JOB?,

We also questioned Ramirez on what role does STEAM play in his job. He said,

"Technology and art, computers and software, play a big role in my job as I need programs like Photoshop and Illustrator, among others, to complete my designs. You also must be able to keep up with the computer hardware and upgrade parts to be able to run these programs."

WHAT SKILLS DO YOU NEED?

Another question we asked was, what skills do you need? His response was,

"No matter what type of digital medium you choose to pursue, it is important that you study the fundamental principles of art such as the anatomy of the human body and the anatomy of animals, color theory, and art history."

What we learned...

While interviewing Ramirez, an independent digital artist, we learned that there are many different jobs. Some of the jobs that are needed are 2D & 3D graphic artist and animator, advertising & marketing, media (videos, music), software design, and much more. We also discovered that college students who want to be digital artists, take many classes of anatomy in order to know how to create a realistic human body, not only on paper but with clay. Overall we learned that the life of an artist is always colorful.

Duenas works on album cover artwork for a local band

Putting the final touches

Meet Hailey Gordon

By: Keylen Lua

Hailey Gordon is the Executive Director of Boston University's STEM Path Program. During our virtual interview with Gordon, I learned that she is an amazing woman who reached all her goals by never giving up. Her work depends on technology, science, and how to use medical resources. She is a very talented woman who also works with high school students and Boston University students who are interested in a career in the field of STEM.

One of the great things that Gordon did was go to Paris for a science competition. At the competition she worked in a group to solve problems. She was nervous and thought that she might not place, but...SHE WON! She was so happy because all her time and hard work was rewarded.

Gordon also shared some work she is currently doing. She was able to create a microchip and implant it into the brain of a mouse and attempt to interpret data. This was made possible by her hard work and dedication. Gordon shared that she attended three colleges, which were University of California, Berkeley, Carnegie Mellon University, and University of California, Los Angeles to get where she is today. Her story was very inspiring.

Hailey Gordon's lab

Hailey Gordon's team learning STEM

Screen Printing Fun!

By Ximena Delgado

Have you ever wanted to know how an image is transferred onto an item? Or have you ever wondered what is happening or if there is life on other planets? Well, if so, California State University, Fresno might be for you!

Fresno State conducted a science, technology, engineering, and mathematics, STEM, along with the science, technology, engineering, art, and mathematics, known as STEAM, conference that was designed to allow students the opportunity to experience and learn about various jobs in the various fields of study. Our journalism team attended the conference on Saturday, April 15, 2023, where we participated in a series of rotations through different activity sessions, presented by professionals in those fields. Our team learned about some of the classes that are offered and required for students to take at Fresno State in order to pursue a career in the STEM/STEAM field. In addition, we gained some hands-on knowledge about these careers by participating in different activities.

My new freshly screen printed hat

Our journalism team attended a session during the conference that involved creating digital images and then using a printing press to place those created designs on clothing or hats. Our presenter for the screen printing session was Moises Somilleda, who is a screen printer and faculty member at Fresno State. Somilleda explained that the three different types of screen printing methods that he does are puff printing, vehicle wrap printing, and embroidery printing.

To begin this process, the first step is to digitally create and print the image that you would like to transfer. Next, the completed image is cut out by using a machine called a plotter. Then, the backing on the image must be removed and positioned

SCREEN PRINTING FUN... Continued on page 3

School Introduces Students to the Amazing World of STEM

By: Nydia Izazaga, Ana Navarro, and Wendy Valdovinos

On March 31, 2023, we toured the Earlimart Middle School STEM Lab to learn about what it offers students and how it prepares them for a future career.

We were instantly amazed and very curious when we walked into the STEM lab. In the STEM lab, we saw many different stations from lifetime wellness to engineering. From talking to a few students, we learned that most enjoyed using the different tools in the lab. We saw students using table saws to tune up a wooden car.

The students were exposed to various activities in the STEM Lab. We saw students learning about health and wellness. We also saw students learning about culinary skills. There was even a station on home maintenance. Here students learned about electricity and how to replace door knobs. As we walked around, we were able to see how the STEM Lab prepares students for future careers.

Students go to the STEM Lab to be exposed to various careers. They learn that science is not just reading from a textbook. Science has to be experienced through hands-on activities that are enjoyable.

Students get to use the STEM lab twice a week. According to eighth-grade teacher, Ms. Simoes, students will have at least 20 days for one station. This means that students usually will complete at least three stations in one year. Ms. Simoes also stated that she enjoys going to the STEM lab because it helps students be exposed to careers like dentistry or medicine.

How do students get ready for the STEM lab? Well, according to Ms. Simoes, students are taught the expectations ahead of time. While we were there, all students were on task and working at their stations. This showed that students are interested more in the activity at hand rather than spending their time socializing.

From our visit to the Earlimart Middle School STEM Lab, we learned all the rich activities it provides students. It is interesting how early students can begin to prepare for a career. We look forward to using this amazing lab in the future. We are really glad that Earlimart School District offers these types of opportunities for students.

Ana and Nydia ready for the tour

STEM Lab teacher Ms. Simoes

BRAIN RESEARCH...Continued from page 1

in order to make our world more efficient.

Gordon shared that one challenge she faced when pursuing a STEM career was finding examples of her desired field in the workforce. She stated that some ways that she was able to overcome this challenge was through exploring real hands-on experiences through internships, lab assistant positions, and by asking questions of professionals in various fields. Jobs in the STEM field are available for students who have a high school diploma, but a college education or a graduate degree will allow you to explore higher level projects and jobs in the STEM field. Gordon believes that although there are some challenges with pursuing a STEM career, making a difference in this field is worth it!

It was exciting to interview Gordon and find out information about the numerous job opportunities in the STEM field. Now you have a little more information regarding STEM jobs, as well as, some insight into what a neural engineer does if you ever decide to pursue a career in the STEM field. Gordon told us, "Some important things that you will learn about STEM are to never give up, and to reuse and recycle your ideas." Gordon's favorite quote that she likes to share with future scientists is by "Rosie Revere Engineer"(the main character in a book with the same name), "Life might have its failures, but this was not it. The only true failure can come if you quit." (Beaty & Roberts, 2013)

Gordon also shared a study from the National Science Foundation estimating that more than 80% of jobs over the next decade will require skills in STEM (science, technology, engineering, math) (McDonnell, 2020). If you have ever dreamed of becoming a scientific research specialist who designs innovative technology, a STEM career might be for you!

Citations

Beaty A. & Roberts D. (2013). Rosie revere engineer. Abrams Books for Young Readers.

McDonnell, C. (2020, January 7). STEM education for future career growth: More essential than ever in the 2020's. Emerging Education Technologies. Retrieved February 28, 2023, from https://www.emergingedtech.com/2020/01/stem-education-future-career-growth-more-essential-than-ever-2020s/#:~:text=According%20to%20DRPFConsuls.com%2C%20the,education%20at%20an%20early%20age

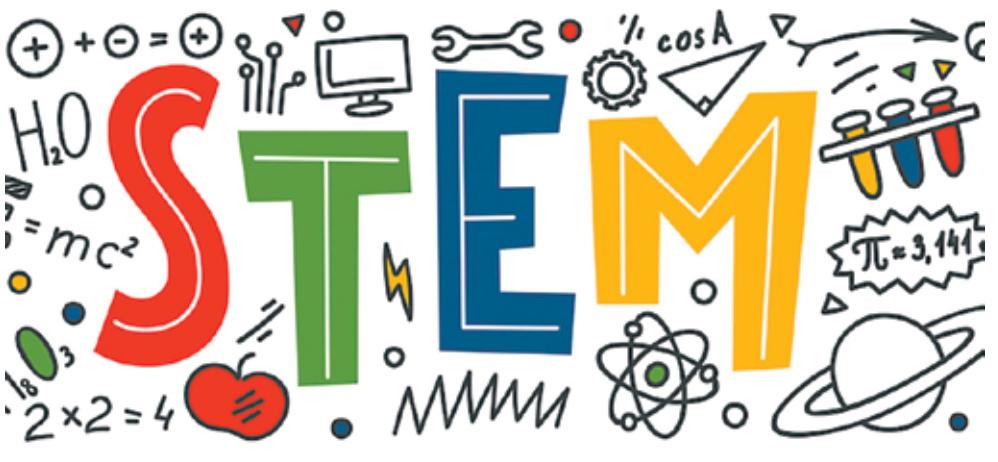
SCREEN PRINTING FUN...Continued from page 2

Next, the completed image is cut out using a machine called a plotter. Then, the backing on the image must be removed and positioned on the item that you would like to use. The item is then placed under the arm of the printing press machine and the lever is pulled down and stays in that position until the machine beeps. The heat from the machine transfers the image onto the item. We were advised that when lifting the arm of the machine up, you have to be very careful because it is very hot. Once the item has been removed from the machine, the design is applied and the process is successfully completed.

Another session that our team was able to experience was the Downing Planetarium. In the planetarium we sat down in comfortable reclining chairs and viewed two different movies. The first presentation displayed a variety of color combinations and patterns that were created using various mathematical equations. The next video was about the different planets. The focus of the presentation was on the stars and planets along with big rockets. We learned that the newest rocket is currently being prepared for a test launch. It has the ability to fly four or five times a day and can send 100 people to the moon at once.

The next rotation we visited was the Environmental Science Lab where we learned about different geoscience careers and different types of rocks. We learned that geoscience includes so much more than just rocks and volcanoes. In the geoscience field, scientists also study the processes that form and shape the earth's surface, the natural resources we use, and how water and ecosystems are interconnected. In addition, geoscience also involves using tools and techniques from the chemistry, biology, and the math and science fields. During this session, we were able to touch sand that was in a specially designed sandbox with a computer light projector (e.g., a Microsoft Kinect 3D camera) mounted over it. The augmented reality sandbox (AR), uses the light to project lines, color scenes, peaks, and mountains on the sand as it is being moved around. The camera recognizes the movement and correspondingly projects the different color designs. We learned that this corresponding light process is used to make the exploration of the Earth's processes easier to see. Another area in the Environmental Science Lab was a variety of different types of rocks and animal fossils displayed behind glass cabinets. We also saw a meteorite and had the opportunity to observe its size and weight. We learned that this particular meteorite weighed a little more than 80 pounds.

Our journalism team had an exciting time at the Fresno State STEM/STEAM conference. When we arrived, we were provided a free breakfast before going through the different scheduled science rotations. We also received a custom made bag that contained a specially designed t-shirt which had the conference logo on it, along with various conference themed supplies. We rotated through the planetarium, environmental science lab, screen printing, and engineering sessions. After attending all of the rotations, we had a final raffle for more prizes and then ate a buffet lunch. If you ever want a fun way to learn about the STEM/STEAM program provided at Fresno State, you might want to attend one of their STEM/STEAM conferences.



Meet Our Journalist

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