

VEX IQ STEM Career Readiness Online Challenge - Everything Depends on STEM

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Team 10142X

The Importance of Stem

Do you know how much you depend on STEM? You depend on STEM more than you think. Have you ever used a device? STEM workers made the first phones and computers. Have you ever taken medicine? STEM workers made the formula for medicine. STEM workers also made the machines to make processing faster and easier.



This is a photograph of Daniel, Preston, Paige, and Sloane getting ready to drive at the West Honolulu league. We used stem skills to drive and build our robot.

Why STEM Is Important

STEM related jobs are crucial because if we do not have scientists that are making pills and cures for viruses, that will really have a negative effect on everyone's lives. It is also really important because some people with STEM related jobs make new technology for us to use. We need more people doing these jobs. There should be about 8.65 million people with STEM jobs, instead there are only about 600,000 people. Now, many elementary schools are introducing students to STEM courses.



This is a photograph of Paige, Maile, Sloane, and Liana using STEM at a tournament.

Pediatric Oncologist

Maile wants to be a Pediatric Oncologist because it involves helping kids and doing Chemotherapy. A Pediatric Oncologist treats cancers and blood disorders that develop in patients under 18. There will probably be less Pediatric Oncologists because there will be more robots. Robots help the kids calm down when they receive IV chemotherapy drugs. They also can do surgeries. Problem solving is a skill robots might not be able to do so people would do it instead. There will be more advanced technology and medicines. That will make it better for patients. You have to complete up to 13 years of training, including an undergraduate degree that focuses on the sciences, a medical degree, a residency in pediatric oncology.



This is a photograph of Maile as a Pediatric Oncologist.

Elizabeth Blackwell

Elizabeth Blackwell was a physician. When she told some physicians her idea of being one they told her it was a good idea, but impossible. She was accepted to Geneva Medical College in western New York state. Elizabeth Blackwell became the first woman in America to earn the M.D. degree. Dr. Elizabeth Blackwell established a practice, but had few patients. She opened the New York Infirmary for Women and Children. She inspires me with her bravery. She opened a new door for many women in America. Her attribute to her success was persevering and working hard.



This is a photograph of Elizabeth Blackwell.

https://cfmedicine.nlm.nih.gov/physicians/biography_35.html

Photovoltaic engineer

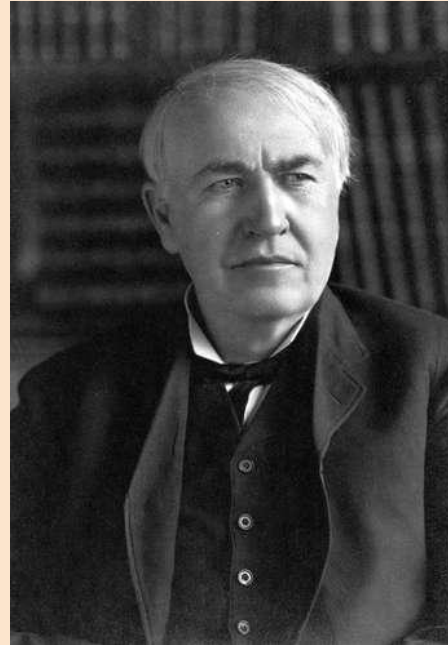
Dylan wants to be a photovoltaic engineer (solar engineer) by getting a bachelor's degree in mechanical engineering or electrical engineering. He thinks that becoming a photovoltaic engineer will create more energy for people to use and it will lower the pollution in the air. There will be more photovoltaic engineers trying to design better solar panels. By the next decade, there will be enough energy to replace all non-renewable fuels with solar energy.



This is a photograph of Dylan as a photovoltaic engineer.

Thomas Edison

Thomas Edison is an electrical engineer and is also described as America's greatest inventor. Thomas Edison was born and raised in the Midwest in Milan, Ohio on February 11, 1847. When he was 12, he lost most of his hearing from scarlet fever. When he was 15, his father taught him how to use a telegraph. Soon after, he became an employed telegraph operator. After 7 years of being a telegraph operator, he became an inventor. In 1876 he moved to Menlo Park, New Jersey to establish his first laboratory. This is where he invented the light bulb and many of his other inventions. After everything that has happened to him, he still persevered.



This is a photograph of Thomas Alva Edison.

<https://www.britannica.com/biography/Thomas-Edison>

Wildlife Biologist

Sloane wants to be a wildlife biologist because it involves helping animals. Wildlife biologists use science, math, and technology to locate and study animals. There will probably be more wildlife biologists because there will be more endangered species to protect. Over the years, there are more and more endangered species. So, wildlife biologists will have to help animals faster so they can help more animals. Wildlife biologists need a bachelor's degree (minimum) or a P.H.D. (for promotion). You also need to either do volunteer work or do an internship to become a wildlife biologist.



This is a photograph of Sloane with her dog, Ponyo, and her cat, Zebo.

Leela Hazzah

Leela Hazzah is a wildlife biologist. Her main focus is on lions. She realized that Maasai people were killing lions so she talked to them and they found a solution, lion guardians. Lion guardians help restore the live stock, and stop lion hunting. Lion guardians were maasai people who protected the lions, they made sure nobody killed them. Her attribute to her success was working hard and never giving up. Leela Hazzah makes people want to learn more because she solved the problem of the lion killing by talking instead of fighting to the people of Maasai. Leela Hazzah inspires me to become a wildlife biologist because she saved lions from being endangered or even extinct. She also inspires me to never give up and to always be brave. Leela Hazzah once said *"The lion is iconic. If there are no lions left in Africa, it will have a significant effect. ... We could lose a lot more than just the lion."* This inspired me to see more than "if you kill the lion, the lion loses its life." (even though that is really bad) It is actually "if you kill the lion, you kill the food web and everything in it"



This is a photograph Leelah Hazzah in Africa.
<http://edition.cnn.com/2014/07/24/world/cnnheroes-hazzah/index.html>

System Software Engineer

Ian wants to be a system software engineer. A system software engineer codes and makes software. Ian wants to be a system software because he wants to make a program that will help people in everyday life. In the future, there will be more system software engineers because there will be more technology and programs.



This is a photograph of Ian.

Jack Dorsey

Jack Dorsey is the CEO of twitter. He was interested in technology at a young age. He first started his career in coding when he started making programs to dispatch taxis and emergency vehicles from the web. He wanted to make an instant messaging program so he dropped out of NYU to create Twitter. The first code for twitter was made by him. Now that code is completely gone and replaced with new code because they fixed the glitches and errors so they make the program better. He inspires me to be a system software engineer because he persevered even when the code didn't work.



This is a photograph of Jack Dorsey.
<https://www.britannica.com/biography/Jack-Dorsey>

Robotics Skills

Robotics is preparing us for these fields because it is helping us practice skills that will be used later in life. Knowing how to work as a team is important. We exercise this skill by driving together and communicating. We talk to people like the judges or once, explaining our program and robot to legislators. This helps us speak more clearly and explain. We explain to them what we do in robotics, how we make our decisions, how our robot works, and give everyone a voice. Interviewing skills are helpful because it prepares us for job interviews and talking with people.



This is a photograph of Sloane, Maile, and Liana talking to a legislator.

Robotics Skills

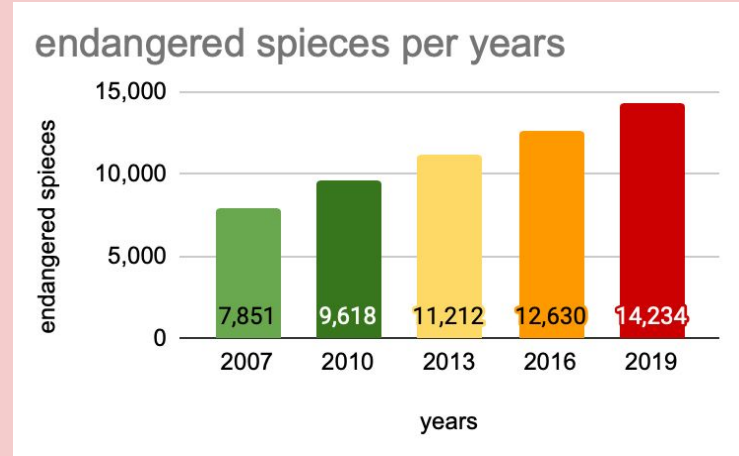
Robotics can prepare us for working with difficult people. It can help us be comfortable with alliances and talking with people we don't know. We work on the computer because we need to program for skills. Programming helps our problem solving ability get stronger. Documenting refines our writing. We do math because we need to calculate the gear ratios or areas. Robotics prepares us to work under pressure. For example, when we have to fix the robot in the middle of the match or we have to drive in front of a huge crowd. Time management experience will help because in most jobs, there are many deadlines. These skills are important in our careers.



This is a photograph of Liana, Sloane, Maile, and Paige talking to a judge at the West Honolulu League.

Our Careers Evolving

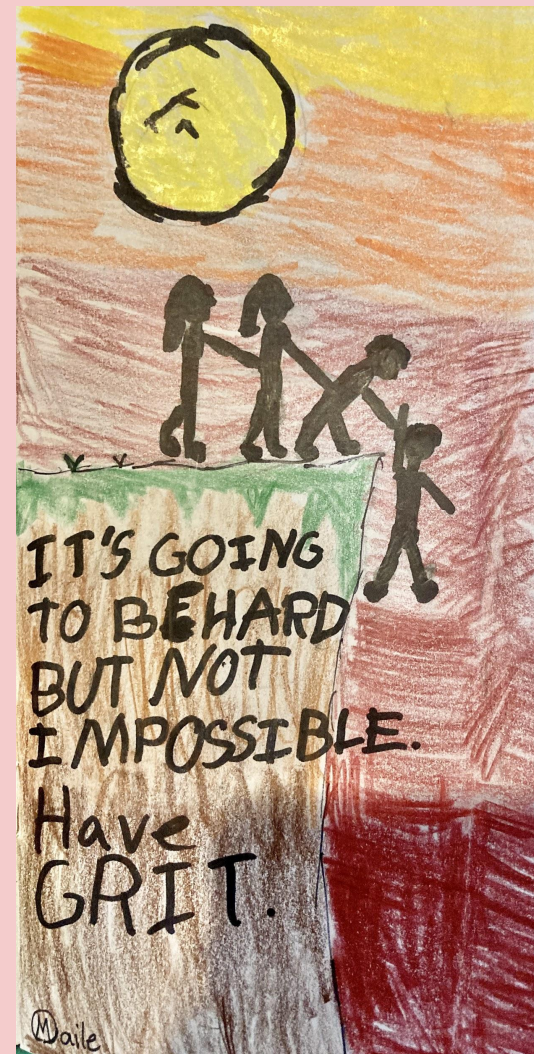
Our careers will evolve more over time but we don't exactly know what is going to happen. We predict there will be more solar engineers trying to use the sun for energy and designing better solar panels. There might be less Pediatric Oncologists because there will be more robots, but there will still be some helping out. There will be more system software engineers because there will be more technology and programs. There will be more wildlife biologists because there will be more endangered species to protect.



This is a graph Sloane made of the amount of endangered species per year.

Inspiring Stem People

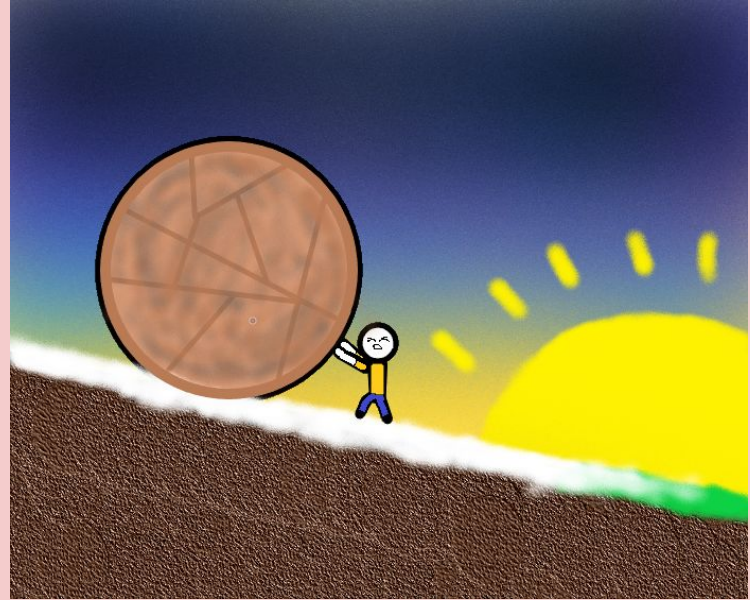
All of our inspiring stem people have some common attributes to success. They all had challenging times in their lives including Thomas Edison losing most of his hearing and is still one of the most famous electrical engineers. Jack Dorsey overcomes being kicked out of his own company. He also overcomes being criticized by a lot of people, including the current president. Elizabeth Blackwell was the only woman in an all boys school. Many people hated the idea of a girl doctor. Leelah Hazzah stopped the Maasai people from killing lions and their livestock.



This is a drawing made by Maile.

Strive to be your best

As you can see, these people really inspire us to become better people. We are inspired by their actions and choices. They met their goals by persevering, working hard, and working together. We all want STEM jobs, so we can help people and animals. Being in robotics helps to achieve this goal because we learn to work together, persevere, communicate, problem solve, and learn to manage our time. The engineering design process has us strive to be better and to never be satisfied with our work.



This is a drawing made by Dylan. It was made with an app called Paint 3D

Citation Section

Entrants: Sloane, Maile, Dylan, and Ian

Team: 10142X

Title: Everything Depends on STEM



This is a picture of our team. Maile, Sloane, Dylan and Ian

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