How a career in geology can turn you into a STEM rock star!

THE ABCs of STEM

Emergency response save lives for a living

Forestry love nature? Help preserve it with STEM

Geology a solid career that can take you places

Hydroponics these jobs will really grow on you
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JOBS AS COOL AS A FALL BREEZE

Hopefully you’re hitting your stride now that the school year is fully underway, no longer using maps to find your classrooms or screwing up your locker combination.

Here at STEM Jobs, it feels like the school year is flying by as we continue to explore “The ABCs of STEM,” one letter at a time. The issue you’re holding covers letters E through H, and we were excited to interview STEM professionals in industries we’ve never thought about before.

We selected emergency response as our focus for E because it is a field that includes such diverse STEM careers as police officer, firefighter, emergency medical technician (EMT), mental health counselor, and environmental scientist and engineer. We had the honor of interviewing Mark Swanson, the deputy director of the Department of Public Protection in Volusia County, Florida, who has performed most of the jobs listed above in his long career of public service.

Next comes forestry, an industry that contains a surprising number of STEM career paths. To give you just a sampling of the options within the field, we interviewed four different forestry professionals, ranging from an associate professor to a bioproducts specialist. Because forestry is so focused on sustainability and reducing environmental impact, innovative STEM minds are in high demand.

The broad field of geology comes next, and we discovered there’s a lot more to geology than rocks as we interviewed a geologist for the National Park Service and a climate and earth science specialist from the Science Museum of Virginia.

We close with a look at hydroponics, an area some think could be the future of farming. Even though it has “hydro” right in the name, hydroponics actually uses less water than traditional farming methods and could provide solutions for regions where water is scarce. If solving the world’s food supply problems is appealing to you, check out the Hot Jobs in Hydroponics on page 32.

Time to kick off the issue by busting another STEM myth. Thank you so much for reading. We hope STEM Jobs can play a small part in helping you discover a way to #DoWhatYouLove!
BIG PINK BOULDERS ROCKED HIS WORLD

BY SUE HAMILTON
Seeing and touching rocks left behind or shaped by glaciers just fascinated Jeremy S. Hoffman as a child growing up in Wisconsin. He dedicated himself to learning about the effects of climate changes, especially the changes that were so plain to see in the geology, or rock formations of the Earth.
JEREMY S. HOFFMAN
CLIMATE AND EARTH SCIENTIST, SCIENCE MUSEUM OF VIRGINIA
DEGREES: BACHELOR’S IN GEOLOGY, PH.D. IN GEOLOGY/PALEOClimATOLOGY WITH A MINOR IN OCEANOGRAPHY
YEARS IN THE INDUSTRY: 1
STEM TYPE: EXPLORER
“Sitting on a riding mower with my grandpa avoiding big, pink boulders in my grandparents’ yard turned into a passion for paleoclimatology,” explains Jeremy. “When I found out that I could get a job communicating and inspiring that interest in others outside of the academic world, I jumped at the opportunity.”

Jeremy earned a bachelor’s degree in geology at Augustana College in Rock Island, Illinois. While in college, he taught geology to elementary students in an after-school program called “Let’s Rock.” He didn’t know it at the time, but this opportunity led him to his current job. “I discovered that I had a talent for inspiring people to look at the Earth in a new and curious way with interactive, hands-on activities and social learning. It was a blast!”

Working as the climate and earth scientist at the Science Museum of Virginia, Jeremy is responsible for making complex science concepts easily understood by visitors to the museum and to the museum’s website through hands-on activities and video/audio productions. He also develops teaching materials for use in school classrooms. Another side of his job is research. He studies things like pollen-producing plants that grow in Virginia and how they respond to the seasons. He also researches the city of Richmond’s urban heat island effect, a condition in which the city is much warmer than the rural areas around it, by outfitting bicycles and cars with thermometers and GPS units to gather information for analysis.

Jeremy has a strong educational background that helped him get this job that he loves. After earning the David E. Lumley Young Environmental Scientist Award from the American Geophysical Union, he was accepted into a Ph.D. program with the paleoclimate research group at Oregon State University. He was awarded two research fellowships before getting his doctorate degree in geology from Oregon State. But he also credits the fact that he did improvisational comedy for 10 years with helping him to improve his communication and public speaking skills.
"I DISCOVERED THAT I HAD A TALENT FOR INSPIRING PEOPLE TO LOOK AT THE EARTH IN A NEW AND CURIOUS WAY WITH INTERACTIVE, HANDS-ON ACTIVITIES AND SOCIAL LEARNING. IT WAS A BLAST!"
There may not be too many funny geologists out there, but Jeremy was a hit at the 2017 annual meeting of the Virginia Junior Academy of Science where he gave the George Jeffers Memorial Lecture. He entertained the middle and high school students attending by showing his own baby pictures and internet memes for each of the major milestones of the Anthropocene (the geologic time period since people starting impacting the Earth’s systems). “That group of you young scientists has given me renewed hope for the future of American science,” Jeremy reported.

The most rewarding part of his job is when he talks about an Earth science concept and someone tells him that they never thought of it like that before. “Those sorts of moments are exactly why I decided to pursue science and science communication.” Students interested in a career in geology should find the type of geology “that really gets you buzzing,” advises Jeremy. “For you, it might be exploring cave stalagmites and water quality studies, or sailing for deep ocean drilling and oil exploration.” Whatever your interest, he encourages students to take courses in a variety of sciences as well as geology, and participate in every field course and research project that your schedule allows. And while you’re studying to become a future scientist, Jeremy reminds geology students to take an improv class—you’ll never be boring while explaining why there are all of those big pink boulders in Wisconsin!