INSIDE STEM

Vol. II, Issue 17: Military Engineering **Need STEM? You got it!** February 7th, 2021

STEM in the News

A new program has been added to the military engineers training. The program is called BUCK-I or Basic Unit Combat Knowledge instruction. This program teaches a variety of things, for example it covers the basics in chemical, biological, radiology, nuclear training, and self-aid buddy care. The program can be altered depending on what kind of an engineer is going to be trained with this program.

"Success is how high you bounce when you hit the bottom." - General George S. Patton, U.S. Army

STEM Career Spotlight

Military engineers have a variety of responsibilities including making tactics, weapons, and new kinds of military transport. The job requirements are knowledge of STEM, a high score on the ASVAB or a bachelor's degree in engineering or architecture. The pay depends on what type of engineer you are. A civil engineer usually gets paid around $69,726 a year, a project engineer around $74,559 a year, and a mechanical engineer around $60,442 a year.

STEM in History

Humans have been adapting to their environments since before recorded history. There have always been people who designed and improved tools for the benefit of themselves and others. The profession that we know as engineering today emerged in the 1500s when specialists began developing tools using mathematics to design military fortifications. These special military architects would generally let craftsmen do the actual construction, therefore becoming the first true engineers in the modern sense of the word. Up until the Civil War, U.S. engineers were obtained at military academies or through industry apprenticeships. More emphasis has been placed on formal training that includes significant courses in mathematics and science since the 1860's.

STEM Across the Curriculum

Military Engineering

Discipline: Language Arts

Go to *Society of American Military Engineers*, click on 'become involved' or this link https://www.same.org/STEM-Community, and read about student members, scholarships, STEM partnerships, STEM camps, and more. Write a letter (or an email) to a friend, a teacher or a family member telling them a few facts about this organization.

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STEM Movies

Dunkirk explains how military engineering is the art and practice of designing and building military works and the building and maintaining lines of military transport and communication. In May 1940, Germany advanced into France, trapping Allied troops on the beaches of Dunkirk. Under air and ground cover from British and French forces, troops were slowly and methodically evacuated from the beach using every serviceable naval and civilian vessel. While at the end of this heroic mission, 330,000 French, British, Belgian, and Dutch soldiers were safely evacuated.

"The soldier is the army. No army is better than its soldiers. The soldier is also a citizen. In fact, the highest obligation and privilege of citizenship is that of bearing arms for one's country."

-George S. Patton

Famous STEM Person

George Gordon Meade was a career United States Army officer and civil engineer. Known for decisively defeating Confederate General Robert E. Lee at the Battle of Gettysburg in the American Civil War. He previously fought with distinction in the Second Seminole War and the Mexican–American War.

STEM Challenge

Do you want to make a catapult?

Materials: 7 rubber-bands, 1 plastic spoon, 4 clothespins, 3 binder clips , tape, and 9 popsicle sticks.

Step 1: Begin by taping two piles of three sticks about a half inch from each end. Your last pile should be taped just before the round wooden end.

Step 2: Then, clip the two identical groups into two clothespins. Use the tape as a connection guide. Next, slip the clothespins into vertical sticks. When done, use the rubber band to hold the structure together.

Step 3: Clip the last pile into the upright clothes pins then secure with two rubber bands. Clip one of the binder cisp to the back of the spoon and remove the handles.

Step 4: Connect the other binder clip with tape and secure to the wooden sticks.

Enjoy your catapult!

Video tutorial

STEM Video

Military engineering is loosely defined as the art and practice of designing and building military works and maintaining lines of military transport and communications. Military engineers are also responsible for logistics behind military tactics. Watch this documentary to learn interesting facts and discover things you didn't know about military engineering.

https://youtu.be/mZvUSLaHnbo

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