STEAM Day 2018

Session Descriptions

33 Activities

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| **Building Triangular pyramids:** Do you love puzzles? Don’t be a square, build triangular pyramid sculptures!! | **Guided Nature Walk**: A one hour guided tour around the school trails. |
| **Coding:** Can you play the piano with a banana? With a little coding, some wiring and a lot of imagination we can, | **Boat Races**: On your mark, get set, float! Come build and race boats using fans and gutters.  |
| **Soldering:** In this session you will have a chance to try your hand at soldering! Soldering is a process in which two or more items (usually metal) are joined together by melting and putting a filler metal (**solder**) into the joint, the filler metal having a lower melting point than the adjoining metal.  | **DNA Extraction**: DNA carries our genetic information that makes us who we are. Come and learn how to extract the DNA from fruit! |
| **Kaleidoscope design:** Come and make your own kaleidoscopes! Don’t know what that is? It is a toy consisting of a tube containing mirrors and pieces of colored glass or paper, whose reflections produce changing patterns that are visible through an eyehole $$when the tube is rotated. | **La Tour Eiffel**: Make your own model of the Eiffel Tower using popsicle sticks, toothpicks, and creativity while you learn about this famous Parisian monument. |
| **Paper Textiles:** Greetings from your boring paper. We’re about to spice things up! Make your own light up greeting cards or a fancy notebook! | **Robotics**: Meet with members and mentors of the Essex High School Robotics Club! They will bring some of their robots to share, demonstrate and challenge you to see the possibilities and opportunities of both the club and robotics. Yes, you will have a chance to interact with the robots yourself. |
| **Rockets:** This fun-filled activity is a blast with Mr. Airoldi! 5,4,3,2,1...Design, build, and blast off! | **Escape room:** *"Sir Isaac Newton has decided to use his laws of motion against us to trap us in 8th grade science...unless we can solve his puzzles and use his clues and our knowledge of forces and motion to unlock the Breakout box."* Assemble your team! You and an unfortunate group of scientists have been locked in a room with only 45 minutes of oxygen. Team up with your fellow scientists, and solve the puzzles to escape your "prison" to share your newfound knowledge that will help save the world! |
| **Roller coasters:** Do you squeal like a little girl when you ride the rides at an amusement park? Create a ride for a marble and get your G forces on. | **Bridge Building:** Experience what it is to be an engineer. Your team will build a bridge to the specifications and then see them perform their function through a fun competition. Winning teams from each session will have the opportunity to attend the VT Bridge Building Competition in April at VTC. |
| **Megastructures:** Trying to create the largest structure using rolled up newspaper. Create a stellated icosahedron. | **Geometric Art:** Geometric Design: Create intricate and elaborate mathematical designs from just a compass and straightedge! We'll start with individual shape patterns and work our way towards tiled patterns. Prepare to be amazed at what you can create. |
| **Hot Air Balloons:** Come build and launch your own hot air balloon out of tissue paper! | **Barbie Bungee Jump**: Barbie is an adventure seeker to the max. She loves the thrill of death defying activities. She believes the adrenaline rush makes her hair more lustrous and her waistline thinner; so she will pay big bucks to the company which gives her the most thrilling bungee ride. In the back of her mind though, she wants to be sure that she's really safe. You are going to create a bungee line for Barbie that will give her the most thrilling, yet *SAFE,* fall. |
| **Water Bottle Rockets:** 5,4,3,2,1 Blast off! Build water rockets out of plastic bottles. | **Biomechanics of Olympic Style Weightlifting:** The weightlifting session will be the physics that go into skillful lifting. Students will first see videos and hear a presentation on World Class Lifters. How they use the science of levers of the body to make the movement more efficient. Students will then practice what they heard and saw, with video analysis of their own lifting. |
| **Jelly-belly-ology**: Eat Candy. Enough Said! In this session you will use a dichotomous key to determine flavors of jelly beans. Dichotomous keys are used in Biology for classifying plants and animals. | **Airdrop packages**: How can you make sure an aid drop package can protect its contents? Following the Engineer Design Process, we will make up mock aid drop packages, consider how to best drop them safely, be sure they can be seen and communicate what is in them. We will then be testing our packages to assess our designs. |
| **Yikes! It’s Alive!:** Come find out about the magic of baking with yeast and make a loaf of "Cinnamon Swirl Bread" to take home. | **Origami:** In this session you will be testing your skills with the Japanese art of folding paper into decorative shapes and figures**.**  |
| **Rubber Band Cars:** Gas prices getting you down? Build a car powered by elastic bands! | **IBM engineers:** Join this session to try outedison robots and snap circuits! |
| **Sugaring!:** Come and learn the art of making maple syrup! | **CSI Forensics**: Someone has broken into the Museum of Natural History and stolen the skeleton of the Tyrannosaurus Rex! Yep--ALL of it! It's up to you and a crack team of crime scene investigators to examine the evidence and interrogate the suspects to find out whodunnit... and return Rita T Rex to her rightful home! |
| **Zipline:** Using string, construct a zipline and see how fast an object can go. | **Geocaching:** Do you like treasure hunts? Geocaching is an outdoor recreational activity, in which participants use a Global Positioning System (GPS) receiver or mobile device and other navigational techniques to locate hide and seek containers, called "geocaches" or "caches", at specific locations marked by coordinates all over the world.  |
| **Microscope Exploration:** Step into the world that cannot be seen with the naked eye. Discover the secrets the mouth of an insect holds, view the “arteries and veins” of a plant. Learn the basics of microscopy including how to use a microscope and how to create quality slides of both wet and dry ingredients.  | **Intro to ArcGIS Online:** If you love looking at maps, find yourself wondering where things are and why they are there, or are interested in a powerful digital tool to visualize and interpret data in ways that reveal patterns and relationships, come find out what you can do with ArcGIS online. GIS is used in business, all levels and types of government, social sciences, natural sciences, emergency response, and more. The average salary for entry-level GIS analysts was over $40,000 in 2014! Student Survey  |
| **Science Jeopardy!:** Now entering the studio are today’s contestants. Test your knowledge in this battle of science brains. |  |