

SESSION II AM

Ascending Mt Everest

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“Mount Everest is the tallest and most famous mountain in the world; a global beacon and metaphor wrapped in awe and mystery.” John Branch

You are a freelance reporter and have been asked by the New York Times to record your experiences when joining a tourist adventure team that will climb Mt. Everest. During your adventure you discover many situations that cause you to ponder whether this form of tourism has a positive or negative impact on the culture and environment of Nepal and Everest. An accident on the mountain may force your thoughts to a particular side. Will your survival impact your moral and ethical judgments? Will you be able to face the consequences of your choices when or if you come back down the mountain?

Re-enact the 1996 disaster on Everest in a simulation. Make dramatic choices, risk survival, and dive into the culture that surrounds this monstrous mountain. Learn what makes this mountain so deadly through scientific experiments, STEM, and live video footage as you ascend Mt. Everest.

Instructor: Cami Webb, Teacher of Gifted, Fulton Public Schools

Chain Reaction Contraptions

Session II AM

Explore the engineering process by asking questions, planning, building, creating, and analyzing. Learn to generate multiple creative solutions to a problem as you build a wacky chain reaction machine. Create a slow-moving marble run. Build a machine that will make something happen. Connect the marble run to the contraption. Connect the contraption to another one for a multiple chain reaction. Make your machine do work in the most simple-complicated way possible. Use the principles learned to create other machines or mechanical games. Be prepared to plan, build and tinker as you create chain-reaction contraptions.

Lab Fee: \$5:00

Instructor: Melissa Milius, Fulton Public Schools

Do the Wave (Length)

Session II AM

Make a radio that transmits sound and hear the AM wave. Build a wave generator and learn to calculate the speed of a wave. Work with radio waves, infrared rays, visible light, and ultraviolet rays, as you discover how the electromagnetic spectrum describes the entire range of light, (see the wave), visible and invisible. Even blindfolded the body will react to different color rays (feel the wave). Explore how often you observe the Doppler Effect, (like when a car passes you as you're walking down the street and you hear the wave). Learn how guitar strings make sound, (play the wave). Discover the many other phenomena that sound and light waves have to offer as you do the wave.

Instructor: Jill Roberts, High School Science Teacher, Blair Oaks High School

Lab fee: \$5.00

Engineers in Action

Session II AM

Chemical, mechanical, and civil engineers solve real world problems. Our society depends on engineers to design every aspect of our lives--where we live, what we drive, how we communicate, and even what we eat! Think like an engineer as you solve hands-on challenges and develop good solutions. Take on the roles of the mechanical, chemical, and civil engineer to explore material science, learn about molecular gastronomy and test the integrity of structures. Make and package S'mores and cherry cordials according to guidelines, create watermelon "caviar", build a chain and test its weight capacity, make silly putty, and more! Participate in building activities and labs each day as you become Engineers in Action.

Lab Fee: \$5.00

Instructor: Karen Hirst, Teacher of Gifted, Jefferson City Public Schools

Film Festival

Session II AM

Explore the visual medium of short film making. Then, become a writer/director as you create, write and produce your own short film. Create memorable characters to tell your story. Study lighting, camera angle, writing, and film technique as you develop the movie. Show your work to your friends as we kick off the first ever CK film festival.

Instructor: Peter LaMear, Stephens College

Find the Right Way to Go

Session II AM

"Orienteering is an outdoor sport where you have to figure out where to go based on figuring out where you are." -Business Lessons-

Experience the sport of orienteering as you find the best route to the hidden treasure. Get your team to the treasure before time runs out! Develop the skills to navigate with a map and compass to find the final destination. Experience the thrill of completing challenges in and around the Westminster College campus. Experience "I found it moments" and celebrate as you and your CK friends complete orienteering obstacles. Find the right way to go while having a blast!

Bring tennis shoes and a pair of long pants.

Lab Fee: \$5.00

Instructor: Jon Myers, AP Teacher of English, Columbia Public Schools

Great Math Escape!

Session II AM

Let's be math rebels! Break out of that tired ol' math class box of rules while we use creativity to PLAY with some pretty wild and crazy problems, strange stories, games, puzzles, and even infinity. The FUN never ends!

Bring your ingenuity and your best hunches while we stare down challenges in logic, greedy pigs, probability, preposterous paper creations, Donald Duck, and black holes. Who knew fractions could be FUN? —just toss in some giant Hershey chocolate bars and a room full of your best friends and see for yourself. Rules slow us down, so none of that here— Own your magic, and let's make our escape!

Instructor: Patty Avery, Retired Mathematics Teacher, Columbia Public Schools

See the Fire, Hear the BOOM!

Session II AM

Explore the colorful, loud, explosive side of chemistry. New explosive experiments are planned each day. Use chemistry to explain and create fires, color changes, weird smells and effusions of gas! Learn why chemistry works the way it does and how to safely perform chemistry experiments. Due to the nature of this class there will be an emphasis on safety. NO horseplay allowed.

Lab Fee \$10.00

Instructor: Michelle Holtmeyer, AP Chemistry Teacher, Blair Oaks Public Schools

Sphero: A Look at Robotics

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Calling all robo-lovers! Have you ever wanted to apply the skills you are learning in your math/science classes to a real-life creation? Here's your chance! Sphero is a robot designed to inspire you to explore, learn, and put your creativity to the test. This robot's "brain" gets instructions from a program you will write that is similar to a real-life app you could find in the App Store. Program the sphero to bowl, navigate a maze, and learn a variety of tricks through simple coding. Roll your sleeves up and get a hands-on learning experience while exploring the world of science, technology, engineering, math, and of course creativity! The only limitation is your imagination. Take your new-found knowledge home to your friends and blow them away with your new, ground breaking robo-skills!

Lab Fee: \$5.00

Instructor: Joshua Howard, Media Specialist, Columbia Public Schools,

Whose Line is it Anyway?

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Whose line is it anyway is a comedy show spotlighting a series of spontaneous, improvised sketches. Telling jokes and sharing comedy on stage is an art. Practice the art as you play theatre games and try improvisation. Learn secrets from some of your favorite comedians. Use your creativity to bring your personality and sense of humor to stage. Try your hand at a variety of comic styles. Practice standup, storytelling, group scenes and comic strips. No experience necessary! If you love to laugh and are willing to be wacky, you're overqualified.

Instructor: Greg Irwin, AP History Teacher, Columbia Public Schools

Wilderness Survival Challenge

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Educate yourself in outdoor survival techniques. The first basic requirement of survival is shelter. Work as a team to build a dependable shelter. Another critical survival skill is to create a fire. Find and select the best sources of wood and learn multiple techniques of fire starting. The next wilderness survival requirement is finding sources of safe food and water. Discover edible plants, recognize poisonous plants, and track animals. Understand how to procure safe drinking water. Work with fellow outdoor enthusiasts to avoid disaster as you work through real-life scenarios of survival. Equip yourself to survive wilderness challenges.

Lab Fee: \$5.00

Instructors; Jamie and Ron Danuser, Missouri School for The Deaf