

WORKSHOP	TITLE	DESCRIPTION	CONTACT NAME(S)	AFFILIATION
A.	Be a Beekeeper!	We will start our class by assembling a current day beehive in the classroom as we study/explore the architecture and engineering used in this system of wooden boxes that beekeepers have been using since 1851. Live bees not included! Learn how bees communicate by observing live bees in an observation hive. Learn and decipher the “Waggle Dance”. Use instruments and tools used by beekeepers and scientists today.	Carla Fillippone	Mt Diablo Beekeepers Association
B.	Cool Chemistry	In this workshop, we'll conduct exciting chemistry experiments! Sign up for this session to learn more about color-changing reactions and the different forms that chemicals can take. We'll also make a multicolored tower of liquids with different densities. You'll leave with a better understanding of how chemistry impacts your life each and every day.	Megan Newcomb	Mango Materials
C.	Engineers, Structures & Earthquakes	Students will learn about structures and ways to improve their strength & resist earthquakes better. The workshop will start with 5-minute presentation, followed by hands-on activities at four stations.	Amarnath Kasalanati	Pacific Earthquake Engineering Research Center (PEER), UCB
D.	Experiments in Space - Where No One Can Hear You Scream	See ice, water, & steam happen simultaneously. Coat a penny with gold. Figure out what happens to water, light, and sound when there is no air. Watch what happens to a marshmallow peep in vacuum. These hands-on experiments promise noise and fun.	Kathy Arnold	American Vacuum Society
E.	Exploring the Human Brain	Participants will compare the neuroanatomy of real human brains to sheep brains. Participants will dissect the sheep brain and will touch and observe the real human brain specimens. We will discuss neuroanatomy (the brain parts) and their physiology (the function).	Barb Puder	Touro University
F.	FBI Evidence Response Team	To demonstrate evidence collection to include a mock crime scene. Fingerprinting demonstrations and hands on. Other activities include collecting evidence, processing a crime scene, dust lifter demonstration, and Alternate Light Source (ALS) demonstration.	Shannon Cox	Federal Bureau of Investigation Evidence Response Team
G.	Green Plants Make Rubber Tires	Natural rubber is a critical agricultural material required for production of thousands of products. It is produced from carbon dioxide sequestered by plants through biosynthesis. We will explore rubber biosynthesis by several plant species, and learn how molecular biology and gene sequencing contribute to domestic natural rubber agriculture. A compounded rubber product will be made.	Colleen McMahon Co-Presenters: Grisel Ponciano, Chen Dong	US Dept. of Agriculture
H.	Heart Matters: The Cardiac and Peripheral Vascular Examination	After a brief introduction to heart anatomy, the cardiac cycle and physical examination of the cardiovascular system, students will rotate through 3 stations to apply understanding of human heart anatomy, examination of the heart and peripheral vascular system, and the difference between normal and abnormal heart sounds.	Tana Summers	Samuel Merritt University

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I.	Learn Architecture with LEGOS	We'll be learning about how Architects use different drawing types as instructions for builders. Participants will create a small lego model and then practice drawing it using these techniques. Later they will take it all apart and see if a partner can use the drawings to recreate it.	Kelli Franz	kkf architecture
J.	Math Festival Fun	Many people think math is just about memorizing formulas and filling out worksheets. Our goal is to show you how much fun math can be at a "Julia Robinson Math Festival". You'll explore some of our favorite math puzzles and play with math in the same way that mathematicians do. You'll choose where you want to go and decide how long you spend at each of our hands-on math activities. At the end of the festival, we'll show you how to access our free online math puzzles so that you can keep playing with fun and meaningful math at home.	Daniel Kline, Nancy Blachman	Julia Robinson Math Festival
K.	Why Spatial is Special	This workshop provides an introduction to data collection, data visualization (in maps and infographics) and data communication in the form of dashboards.	Charlotte Smith	UC Berkeley
L.	Greenhouse Gases & the Warming Earth	Learn through hands on experiments how gases like carbon dioxide and water vapor warm the Earth's surface.	Dr. Alice Baldrige, Molly Stanley, Mia Schowengerdt	Saint Mary's School of Science
M.	Build Your Own Power Plant with Renewable Energy	Girls are exposed to the energy industry innerworksing while also offering solutions to the oil and gas industry through renewable energy. The workshop will teach the girls how to build their own power plant using renewable sources.	Nia Jones	Director of Community Engagement Program, Dept Civil/Envir Engineering, UCB
N.	Robotics a-CAD-emy: Bring Your Imagination Alive with CAD	Learn about CAD from a local competitive robotics team. Design 3D dice or use your imagination to bring a design to life.	Jessica Liu, Beck Peterson	Highlander Robotics Team 8033 (high school students from Bay Area communities)