expanding your horizons

2009 Workshops

Life Sciences

1. Extract DNA from Fruit
Kitchen chemistry releases DNA from the nucleus inside the cells that make up your favorite fruit. You will see the twists and turns that make kiwis taste like kiwis and not like carrots.
Isadora Ruvalcaba-Trejo, Research Associate, Molecular Cellular Developmental Biology, UCSC

2. Healing Hands – The Science Behind Acupuncture
Acupuncture isn't scientific, right? WRONG! Learn the scientific basis of acupuncture as well as acupressure points for headaches, stomach aches and cramps.
Maureen Rozenn, LAC, DAOM, PhD

3. Cold Lizards for Lunch?
Compare body temperature and running speed of live lizards to understand how temperature affects animals' ability to escape. Being slow in the cold can mean the difference between life and death.
Robin Dunkin & Laura Yeates, Ecology and Evolutional Biology Graduate Program, UCSC

4. So … You want to be a Doctor?
You know the drill: "Take a deep breath. Say 'ah'. Just relax. You'll just feel a small pinch". Use a stethoscope, a reflex hammer, and an otoscope. Practice your sewing skills while you suture a chicken leg.
Amy Solomon, M.D. Family Doctor

5. Central Coast Cuisine: Seafood for Sea Life
Examine the role of natural ocean cycles and human impact on predators such as sharks, turtles, and seals. Is there a domino effect? If one species is missing what happens to the others?
Sora Kim, Leslie Roland, Ocean Sciences, Graduate Program, UCSC

6. Scavenger Hunt: Up on the Roof!
Flowers are beautiful not just to you, but to birds and bees too! As you search for clues in our rooftop greenhouses, you will learn to see flowers from a bee's eye view. In your hunt through the gardens you will discover everything form meat eating plants to spices.
Kris Hulvey, Environmental Studies Graduate Program, Jenn Yost, Ecology and Evolutionary Biology Program, UCSC

7. What's inside a Nurse?
Considering becoming a nurse but don't know what to expect? Through collage and art discover the many facets of nursing careers.
Martha Orr, R.N., M.P.H., Katie Dowling, F.N.P., Natalie Stevens, R.N.

8. Underwater Wonders of the Coral Reef
Discover how marine biologists assess the diversity of life in the ocean. What affects the growth and health of a coral reef? Measure coral samples to determine their "age" and consider human impacts on life in the sea.
Daria Siciliano, PhD, Institute of Marine Science, UCSC

9. Tag It: The Secret Life of Animals
Learn how biologists tag individual animals to identify them and track their movements. Work together to find a tagged animal "in the wild" and use what you have learned to solve a mystery that has baffled scientists.
Valentine Hemingway, Yvette Alva, Earth and Marine Science Graduate Program, UCSC

Physical Sciences

10. The Science of Soap
Ever wonder what makes soap cleansing? Why are some soaps more moisturizing than others? Make your own hand-milled soaps and learn about the chemical process of saponification during natural soap making.
Andrea Smith, Wild Thyme Botanicals

11. Rock, Mineral, Candy!
Practice your observation skills on known specimens (CANDY). Then identify common rocks and minerals found in our region of California!
Calla Schmidt, Katie Snell, Earth & Planetary Sciences Graduate Program, UCSC

12. Organic Chemistry: Let's Synthesize Banana Oil
Mix it up in the lab. Synthesize isoamyl acetate, which smells like bananas and is used as a flavoring in products that range from candy to beer.
Rushia Turner, Yvette Suzanne Vaske, Chemistry Graduate Program, UCSC

13. Satellites: The Ultimate Observers
What are satellites? What do they do? They don't just float around in space. They "see" everything from your backyard to solar flares. Learn how solar storms may dim the lights and block your Wi-Fi.
Patricia La Velle, Lockheed Martin Space Systems Company

14. From 2D to 3D: Kinesthetic Calculus
From flat to fantastic. Design a solid shape. Draw it, shade it, rotate it & build it with clay. These simple steps give you a preview to integral calculus.
Nandini Battacharya, Mathematics, UCSC

15. Mysteries of the Deep
Uncover the mysteries of the deep sea. Be an engineer and a scientist. Build a Remotely Operated Vehicle (ROV) and see if it sinks or swims! Learn how scientists use ROV video to identify and categorize animals.
Stephanie Bush, Alana Sherman, Susan Von Thun, MBARI

16. Electricity and Magnetism: What's the Connection?
Electricity powers your house and magnets stick to the refrigerator. What is actually going on? Explore the relationship between electricity and magnetism.
Rebekah Graham, Bryna Hazelton, Physics Graduate Program, UCSC

17. Discover Chemistry in Nature
Many of the drugs available today come from or are inspired by nature. Follow the path that scientists use to discover new leads for drugs that may cure deadly diseases. Extract and separate chemical compounds from natural products; use molecular models to build and observe the 3-D structure of your compounds.
Kimberly White, PhD, Chemistry and Biochemistry Department, UCSC.

18. Climate Science: Concoct a Cloud
Discover what scientists know about clouds. Then create one right at your desk. Explore how clouds are connected to climate.
Kathleen Hutchison, Dione Rossiter, Earth and Planetary Sciences Graduate Program, UCSC