

Ocean Acidification

Ocean acidification is the ongoing decrease in the pH of the Earth's oceans, caused by the uptake of carbon dioxide (CO₂) from the atmosphere. Seawater is slightly basic (meaning pH > 7), and the process in question is a shift towards pH-neutral conditions rather than a transition to acidic conditions (pH < 7). In this workshop we will learn about the process of ocean acidification, how this process impacts marine organisms like corals and what we can do to lower the impacts of ocean acidification and protect the marine environment.

Math Games for Math Practice

Academic Specialists from Hartnell College's Panther Learning Labs (tutoring/learning centers) will give an interactive workshop on ways to make learning and practicing Math fun, motivational, and learner-centered through the use of Math Games. Students will work in small groups and pairs that will be focused on basic Math and Algebra, but can also be applied to Calculus and Trigonometry. In addition, the specialists will share ways in which women in STEM can use math for future jobs and careers, how women are very valued in different fields for their Math skills and knowledge. We will also engage the students in real-life focused discussions on their dreams and goals for STEM jobs, and how they can realize them through Math knowledge and skills.

All About the Planets

In this workshop, students will learn about the size scales, distance scales, and the properties of the planets in our Solar System. Students will see an exciting new show about the planets in Hartnell College's new Planetarium.

Where do beaches come from?

Sand travels far and wide and is always on the move. Find out where the sand on our local beaches came from and what it is made out of. We will test sand using microscopes, acid, magnets, rulers, and more. Sand samples from around the world will be on display for discussion. Students will leave with a lab folder including two local sand samples and their analyses.

It's a bird, it's a plane...No it's a BIRD!!!

Have you ever wondered what makes one bird different from another? Avian biologists will show you the ancient ways of wildlife scientists and naturalists! We can learn a lot about a habitat by observing the birds that call it home. Learn how to use binoculars and record data on the bird species of the Hartnell College campus.

Made with Code!

Students will be learning and be utilizing the languages, HTML and CSS, to create a holiday card. The project will be based on one of the "Hour of Code" courses from Khan Academy.

Marine Mammal Artifacts

Come explore your passion for animals, biology, and studying both living and non-living parts of the ocean world. We will discuss career options in marine sciences that fit your passions and attributes, and then take a closer look at some of the amazing marine mammals that live in Monterey Bay through hands-on comparisons of pelts and skulls. Come ready to ponder how to find your own place in the world of marine science.

The Land & Sea Interactive Watershed Model

See how human actions on land flow directly to creeks, rivers, and sea through storm drains. What we do on land has a direct impact on the environment and waterways. Students will “pollute” the hands-on model and simulate rain which leads to creeks, rivers and oceans. The model represents a neighborhood city, students will be invited to add pollutants to the model using kool-aid to represent litter, motor oil, soap from washing cars on streets, pet waste, antifreeze, pesticides, fertilizers, and chemicals. Students will be able to see the path of pollutants as they enter the creeks and rivers leading to the ocean Sanctuary on the model. The Monterey Bay National Marine Sanctuary is the home for many endangered species including: whales, dolphins, sea turtles, otters, seals, and more! Students will be asked how they can help reduce pollution and bring innovative ideas to their community and be left with a lasting impression of how pollution on land enters the sea. Workshop taught by a recent graduate from CSUMB who now works with Save the Whales. She started as a volunteer at the organization!

Amazing Lives of Sea Turtles

Do you love sea turtles? This is the workshop for you! Sea turtles have been on earth over 100 million years and face many obstacles. You will learn through video clips and artifacts how to identify the 7 unique species of sea turtles. Learn how each species has unique feeding techniques and diet; and explore their life cycle and migration routes. How does temperature determine the sex of a sea turtle? How many survive from a hatchling to an adult? See the unique throat adaptation in the leatherback sea turtle in order to eat jellyfish, how turtles navigate (without a smartphone) and find their way to nesting grounds. In 2012, the California Marine Reptile Bill was designated as Pacific Leatherback Conservation Day in October, each year. Learn how scientists perform research (see videos) on these amazing leatherbacks in the Monterey Bay National Marine Sanctuary and are working to save them from extinction. Discussion on the garbage patch in the ocean, the single-use plastic bag ban in California, and how YOU can make a difference to help sea turtles.

Weather verses Climate? Who's running the show?

In today's news and from political figures we hear plenty about climate change and weather and sometimes the two terms are mixed together. In our workshop, learn the difference between weather and climate, learn what issues we need to be concerned with, with increasing global temperature, and learn to look through the noise for trends to see what our future may hold.

What Do Sea Otters, Sand Crabs and Seabirds Have in Common? Acanthocephalans!

Explore an organism that has the ability to seriously harm the California sea otter population. Can you guess what this animal is? No, it's not a great white shark or an over-excited kayaker, it is a tiny spiny-headed worm called an acanthocephalan. An acanthocephalan is a type of parasite, an organism that lives in or on a host. Learn about the life cycle of this parasite and the animals it infects including sand crabs, seabirds and sea otters. Then look at a live acanthocephalan under a microscope after you dissect it from an infected sand crab.

Genetics and DNA!

Have you ever wondered why your sibling has different colored eyes than you, or really likes spicy foods but you prefer sweets? Exploring genetic heritability, recombination, and the molecular mechanisms behind what the heck made you the way you are lies in your DNA and the way DNA is passed through generations. We'll learn about what a gene is (spoiler: not the pants kind), take a peek at our own DNA, and see if our ideas have what it takes to survive natural selection.

Sea Level Rise

A sea level rise is an increase in the volume of water in the world's oceans, resulting in an increase in global mean sea level. Sea level rise is usually attributed to global climate change by thermal expansion of the water in the oceans and by melting of ice sheets and glaciers on land. In this workshop we will discuss the causes and consequences of sea level rise and what can we do to prepare for these changes.

Greenhouse in a Bottle

The greenhouse effect is the process by which radiation from a planet's atmosphere warms the planet's surface to a temperature above what it would be without its atmosphere. The earth's atmosphere contains trace gases, some of which absorb heat. These gases (water vapor, carbon dioxide, methane, ozone, and nitrous oxide) are referred to as "greenhouse gases." In this workshop we will learn about greenhouse gases and the greenhouse effect, how greenhouse gases are contributing to global warming and what we we can do to lower this effect.

Strawberry DNA Extraction

All living things have DNA inside their cells. How do scientists extract the DNA from cells in order to study it? In this workshop, you will get to perform an experiment to extract DNA from strawberries. In just a few simple steps, you will actually see the strands of strawberry DNA appear in the test tube before your very eyes!

PARENT/TEACHER WORKSHOPS:

10:00am Workshop

Engaging Science Ideas with a College and Career Focus Presented by Anna Muñoz

(Teacher workshop, Parents welcome to attend)

1:00pm Workshop

Growth Mindset, Confidence, Grit, Resilience, and Success Presented by Nina Vasquez

(Parent Workshop, Teachers welcome to attend)