



Wonder Valley

Outdoor Education Center

Course Offerings

SCIENCE

Geology (1 class period) – Learning the three basic rock types and how they are formed is just the beginning of this class. The students will also explore the world of geology, geomorphology, and petrology as they inspect and learn about rocks in our seasonal creek bed. This class will teach students that Geology is more than just another science – it is the foundation of the earth.

Journey of the Water Cycle (1 class period) – The water cycle is more complex than what we actually think. Here the students will learn how the water cycle works and all that it entails from land, ocean, and atmosphere via transportation, evaporation and so forth.

Ecosystems & Food Chains (1 class period) - This class leads students through the ins and outs of how an ecosystem survives and thrives. They will learn the importance of not only the biotic parts of the community that is formed but the abiotic parts that are just as important. By the end of the class students will be able to identify at least 3 types of ecosystems, as well as explain certain relationships within the ecosystem.

Zoology (1 class period) - Students will learn of the differences and similarities of many different animals through hands-on exploration of skeletons, skulls, and other visual aids. Students will also learn to identify both predator and prey.

Echolocation (1 class period) - Students will hone in on the senses that are not normally used in their day to day life. They will learn how animals use echolocation to locate each other and other survival uses and they will be put to the test to find their peers through echolocation.

Tree Ecology (1 class period) – While on a walk around property, students will learn about the local species of tree and how to identify them. They will also get to know the different parts of a tree as well as how trees adapt to their environment.

Circle Of Life (1 class period) – Students will learn about food webs, about cause, effect, and adaptation in our local ecosystems, and about population growth and decline, all through a game that they will play across the property.

Owl Pellet Dissection (1 class period) – What is a pellet? Students will learn about owls—and how to tell how healthy an owl's ecosystem is—by dissecting owl pellets.

Pond Ecology (1 class period) – Students will get to learn about healthy pond environments in this hands-on experiment class. Students will use nets and microscopes to inspect pond findings, learn about catch and release, and discuss what really makes a pond healthy.

Fire Ecology (1 class period) – How has California's ecosystems adapted to the amount of fires it gets? What is biodiversity? In this class, students will learn about how fires can affect the environment, what a "fire follower" is, and how to interact safely with fire in the outdoors.

Pollinators (1 class period) – What is pollination? How does it happen? Students will learn about this and the local pollinators here in the Central Valley, as well as what they can do to help pollinators grow and thrive.

Rocketry (2 class periods) – In this 2 part class, students will learn concepts of force, momentum, gravity, and vectors (i.e. Newton's laws) and explore speed and velocity. The hands-on class project consists of making rockets out of 2-liter bottles. These rockets will be launched using compressed air and water. Students will also learn triangulation, which will enable the students to measure the height of the flight of their rockets.

Boats and Bridges (1 class period) – In this class, students will use collaborative learning in conducting hands-on experiments to test the limits of forces. They will use the basics of engineering and will be introduced to basic concepts like; gravity, pushing forces, pulling forces, and different classification of engineers.

Paper Airplane Aerodynamics (1 class period) – Students perform a series of trials with paper airplanes including measuring flight distance and time, graph and collect data, and use their observations of paper airplane flight to explain flight.

Egg Drop (1 class period) – Using the Engineering Design Process, students will use limited materials to form a protective exterior for an egg. They will discuss methods of protection, different design ideas and solutions, and then test their theories by dropping their creations in the hope that their egg will remain protected.

OUTDOOR EDUCATION

Native American Culture (1 class period) - Hands-on learning will help teach students the different aspects of the Yokut tribe, native plant and animal species that have been used for the past several hundred years, and Indigenous cultural traditions that are local to the San Joaquin Valley.

Orienteering (1 class period) – Can you find true north? Do you know what a topographical map is and, if so, do you know how to use it? After this course, students will be able to answer "yes" to all of these questions. They will learn to use a compass and map to navigate through a predetermined course with ease.

Nature Dye (1 Class Period) – Students learn the history of tie-dye through the techniques once used in the beginning days of color transferring. This knowledge will be used to make a keepsake of their lesson, with a souvenir t-shirt.

Plant Art (1 Class Period) – Using flowers and leaves that they've found, students will create an art project to design a card or a painting to take with them.

Equine Studies (1 Class Period) – Students explore the uses of horses throughout history and learn why various methods of handling horses have become standard – such as why you mount from the left. They will be able to reconstruct a horse from a full set of horse bones while learning the different functions and purpose, as well as perform a science experiment to learn how to determine a horse's health.

Wilderness Survival (1 Class Period)- This class will focus on the skills needed to survive in the wilderness; it is both an attitude and skill. They will learn how to handle certain situations if they ever find themselves in the wilderness.

Cultural Differences (1 Class Period) – Students will use this immersive and fun activity to learn about cultural differences, societal norms, and how to interact with people from different backgrounds. Groups will be divided into two societies – “Wondertown” and “Valley City” – where they must abide by certain cultural norms while learning how to interact with each other.

Geodesic Dome “Geodome” (2 Class Periods)– Students will learn about geometric shapes, knot-tying, and architecture. Through this hands-on building activity, the group will work together to make a structure that can support the weight of a person.

Raft Building (1 Class Period) - In this hands-on activity, students will use effective group participation, planning, and knot-tying, to build a raft that someone can successfully float on. To make it more challenging, this activity can also be done in a timed relay to acquire materials!

Animal Care (1 Class Period) - In this lesson, students will learn how to properly care for different types of animals. Anything from a horse to a chicken, and discuss how these lessons transfer to their daily life.

Edible Plants (1 Class Period) - “Can I eat that?” is a question we've all asked at some point about a plant we've seen. This class will get to try local native plants, as well as discuss the health benefits, history of foraging, and ways to eat our findings safely.

ADVENTURE RECREATION

Trail Ride (1 Class Period) – Students will learn how to ride and direct a horse, and then get to practice what they learn by going out on a short ride to see the Valley in its natural beauty!

Sequoia & Kings Canyon National Park Tour (5 Class Periods) – The Kings Canyon/Sequoia National Parks and Visitor Centers can be the highlight of this outdoor education experience. Students will see the oldest living things in the world: the Giant Sequoias. A lecture on the history of this National Park and the environment is given by one of our own naturalists. Hikes through the forest reinforce what students have learned in class about ecosystems and habitats. Lunch and bus transportation are provided for the field trip.

Team Building (1 Class Period) – A one hour team building session in which students can learn how to work together through a series of challenges. Our facilitators will develop a series of team building challenges based on the group's dynamic and goals for the future.

Challenge Course (2 Class Periods) – A two-hour experiential learning program challenges students to choose their own challenge while interacting with each other through a variety of elements, while safely reaching and exceeding their own capabilities. Dramatic results are produced in team building, problem solving, communication skills, leadership development, decision-making, self-esteem, exercise and more... all while having fun!

Canoeing (1 Class Period)) – Students will learn the proper way to hold and use a paddle, the proper canoeing terms, as well as how to safely move in a boat. Once comfortable, students will receive added challenges to test their canoeing knowledge and their teamwork skills.

LEADERSHIP

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