

Point Bonita YMCA - Residential Outdoor Education Program

PROGRAM DESCRIPTIONS

Our Outdoor Environmental Education program involves group members in the world around them, teaching natural history and community issues in a safe, interactive and cooperative way. Our program challenges the spirits, minds, and bodies of thousands each year by emphasizing the connections between humans and their environment. Our primary goal is to get participants out into nature, to embrace the sun, wind, rain, and fog. In addition to addressing each group's preferred topics, our naturalists embrace the moment, tuning in to each member's interests and needs. We want each group's time with naturalists to be dynamic, interesting, enjoyable, and most of all, fun! Weather, season, length of stay, safety, and other factors also determine which opportunities are available.

As a YMCA, we interweave **wellness** components throughout the program: **physical** (e.g. nutrition, exercise), **social** (e.g. team building), **emotional** (e.g. independence), **environmental** (e.g. stewardship), and **intellectual** (e.g. academic content).

We have organized our program topics into three main categories which include: **Earth Systems**, **Life on Earth**, and **Change Over Time**. Our program supports the Next Generation Science Standards including most of the *Crosscutting Concepts* and *Science & Engineering Processes*. NGSS *Disciplinary Core Ideas* that can be addressed are listed within each theme below.

Earth Systems: Our Abiotic World

Students will explore primarily *abiotic* (non-living) components of our Earth, focusing on rocks, and water. Students will learn hands-on geology through various activities involving weather- and human-caused erosion, the formation of the Marin Headlands, plate tectonics, local rock types and the ways that they are formed and shaped. The connection between geology and hydrology will be forged through exploration of watersheds and examining our local Headlands watershed, Rodeo Lagoon. This program topic also includes hands-on, interactive water cycle activities, the formation of waves, tides, and currents, and discussion and examination of renewable (e.g. solar, wind) and non-renewable resources (e.g. fossil fuels). Students will gain an understanding of the importance of *abiotic* elements to the survival of all living things.

Earth Systems also correlates with the following Disciplinary Core Ideas:

LS2.A Interdependent Relationships in Ecosystems
LS2.B Cycles of Matter & Energy Transfer in Ecosystems

ESS1.B Earth & the Solar System
ESS1.C The History of Planet Earth

ESS2.A Earth Materials & Systems
ESS2.B Plate Tectonics & Large-Scale System Interactions

ESS2.C The Role of Water in Earth's Surface Processes
ESS2.D Weather & Climate

ESS2.E Biogeology

ESS3.A Natural Resources
ESS3.C Human Impacts on Earth Systems

Life on Earth: Our Biotic World

This program theme focuses on *biotic* (living) organisms and their relationships. Through close examination of local plant and animal communities, students will gain an understanding of Marin Headlands ecology. In exploring local habitats such as coastal scrub, tide pools, beach, and pond, students will learn about predator-prey relationships, plant and animal adaptations, food webs, life cycles, and interdependence. Students will also learn how they are connected to and impact the Earth through activities such as gardening and beach clean-ups, as well as discussions of human impact on our fragile environment.

Life on Earth also correlates with the following NGSS Life Sciences Disciplinary Core Ideas:

LS1.A: Structure & Function
LS1.B: Growth & Development of Organisms
LS1.C: Organization for Matter & Energy Flow in Organisms
LS1.D: Information Processing

LS2.D: Social Interactions & Group Behavior
LS3.A: Inheritance of Traits

LS2.A: Interdependent Relationships in Ecosystems
LS2.B: Cycles of Matter & Energy Transfer in Ecosystems
LS2.C: Ecosystem Dynamics, Functioning, & Resilience

LS4.A: Evidence of Common Ancestry & Diversity
LS4.C: Adaptation
LS4.D: Biodiversity & Humans

Change Over Time: Cultural & Natural History

Headlands human, geologic, and local plant and animal species histories comprise the main components of this theme. Through visiting historic sites, such as military batteries, and learning how the Miwok people relied on the native plants and animals, students will view the Headlands through a historic lens. Geologic history, including the formation and erosion of the Marin Headlands, as well as plant and animal adaptations and the history and impact of invasive species in the area will be studied.

Change Over Time also correlates with the following Disciplinary Core Ideas:

LS1.A Structure & Function
LS1.D Information Processing
LS2.A Interdependent Relationships in Ecosystems
LS2.C Ecosystem Dynamics, Functioning, & Resilience
LS2.D Social Interactions & Group Behavior

ESS1.C The History of Planet Earth
ESS2.A Earth Materials & Systems
ESS2.B Plate Tectonics & Large-Scale System Interactions
ESS3.A Natural Resources
ESS2.E Biogeology

LS4.C Adaptation
LS4.D Biodiversity & Humans

ESS3.C Human Impacts on Earth Systems

Evening Programs

In addition to the night hike, which usually takes place on the first night, you may choose one program for each of the remaining nights you are staying with us.

Night Hike/Sunset Stroll: Every student is given the opportunity to experience a nature hike under sparkling stars or the glow of the setting sun! Learning opportunities include lessons on nocturnal animals and their adaptations, myths and facts about stars and the moon, and sensory experiences. Barring extremely foul weather, night hikes occur rain or shine.

Creating Communities: Students explore both what is required and desired to create a sustainable community. In small groups, students delve into art and their imaginations as they design their own communities! After presenting their visions for the entire group, students consider the needs of our larger planetary community. This night program may also include other team building exercises at the request of the teacher(s).

Dividing into Oceans: Discover the small yet hardy creatures that thrive and survive in the volatile intertidal zone! Learn about the adaptations and strategies of these specialized creatures that live constantly in extreme conditions. Students move through a variety of learning stations then tour our tide pools through a photographic journey!

Skits & Stories: Create a magical skit that demonstrates one of the many adaptations native animals use to survive in their environment. Students make up stories that evoke the feel of native legends and tap into students' sense of imagination, and then perform them for the whole group. This is a creative and fun group challenge.

Marine Mammals: Learn about the different species, characteristics and adaptations of our local marine mammals through hands-on fun! Students move through a variety of learning stations and then journey through a slide show of the Farallones Islands, and vivid images of whales, seals, and sea lions that give students an awe-inspiring sense of life beneath the surface.

Town Hall: Through an interactive theatrical performance, reenact the real-life 1960s debate on the proposed development of the Marin Headlands! During a town hall meeting, students experience how competing and conflicting interests affect public policy. Representing various local agencies, companies, and non-profits, students defend and advocate for their "character" position, asking critical questions of students representing other positions. At the end of the night, an in-character vote determines the fate of our National Park!

Campfire: The campfire program will include hilarious skits, sing-along songs with musical instruments, opportunities for students to showcase their talents and be involved in the skits, and more! Please note that we may not be able to have an actual fire due to weather conditions. There may also be an additional fee for the extra naturalists needed for this program to be successful.