

Overview of Classes at High Trails

ADVENTURE COURSE

Overview:

The Adventure Course takes students along a short hike through the woods loaded with obstacles and challenges. There is one way through to the end of the path. The only way to get there is to talk to each other, utilize everyone's strengths, and work like a team. This is a low ropes course with a goal; can the entire team make it all the way through?

Objectives:

Students will be able to:

- Establish and experience an atmosphere that makes use of trust, support, encouragement, communication, emotional safety, and challenge by choice through group goal initiatives
- Demonstrate safe and proper use of adventure course equipment and elements
- Participate and successfully complete unique problem solving initiatives using mental, emotional, and physical resources of the group
- Process and share what they saw, thought, felt, and learned during the initiatives
- Transfer and apply new knowledge to actual situations at camp, home, school, or the next initiative

ARCHERY

Overview:

The invention of the bow and arrow played an invaluable role in the progression and growth of the human race. Students will not only learn the importance of archery, but they will also learn basic safety and shooting techniques and get to practice firsthand on our range.

Objectives:

Students will be able to:

- Describe the history of the bow including native and modern hunters
- Summarize the interdependence between native hunting, modern hunting, and our communities
- List the major parts of the modern recurve bow and arrow
- Explain the safety precautions taken while inside the archery range
- Demonstrate the proper techniques for shooting

Vocabulary:

Arrow	Arrow Rest	Fletching
Handle	Nock	Odd Flight
Recurve Bow	Shaft	String
Tip	Upper/Lower Arm	

ASTRONOMY

Overview:

Always fascinating, always perplexing, and truly overwhelming, the night sky offers endless discoveries to those wanting to learn and explore. Students will learn about the importance of the cycles of both sun and moon, at the same time, gaining a unique perspective on current issues concerning astronomy. They will also explore, through indoor demonstrations, what different constellations, stars and planets look like, so that they are prepared for the search outside later in the evening.

Objectives:

Students will be able to:

- Identify a diversity of stars, planets, constellations, and asterisms
- Describe the relationship between our planet and the solar system
- Give examples of environmentally responsible choices related to astronomy

Vocabulary:

Asterism	Asteroid	Astronomy	Comet
Constellation	Earth Cycle	Galaxy	Gravity
Light Year	Meteor	Milky Way	Moon
Moon Cycle	Orbit	Planet	Pollution
Satellite	Solar Energy	Solar System	Star
Sun			

Science content standards:

Students know:

- The Sun, an average star, is the central and largest body in the solar system and is composed primarily of hydrogen and helium. (5.5.a)
- The solar system includes the Earth, the Moon, the Sun, eight other planets, their satellites, and smaller objects such as asteroids and comets. (5.5.b)
- The path of a planet around the Sun is due to the gravitational attraction between the Sun and the planet. (5.5.c)
- The Sun is the major source of energy for phenomena on the Earth's surface. It powers winds, ocean currents, and the water cycle. (6.4.a)
- Solar energy reaches the Earth through radiation, mostly in the form of visible light. (6.4.b)

CAMPFIRE

Overview:

Closing Campfire takes place on the last night the students are at camp (usually Thursday night) and starts promptly at 7:45pm. It is meant to be a fun experience where all the students at camp, their cabin instructors and their teachers come together and perform skits for one another. It is a great closing for the students to get them ready for their last day of camp, and to be able to act silly for their peers and instructors as well as supporting the other cabins in their performances. Campfire is also a wonderful way to encourage your cabin to work together as a team while preparing their skit, and also encourages them to enhance their public speaking skills.

Objectives:

- Students will perform a skit with their entire cabin working on teambuilding and support skills as well as public speaking skills.
- Students will encourage and support their peers' skits.
- Students will leave campfire calmly, ready to pack and go to sleep.
- Visiting Teachers are recognized and shown appreciation for bringing their students to camp.

CLIMBING

Overview:

Fear. Limits. Safety. Challenge. Rewards. Relief. Memories. A million words can describe our High Challenge Course, which puts students 30 feet in the air on an outdoor climbing wall. The experience is entirely safe and supportive. Afterwards students will discuss the difference between actual and perceived risk, and how it felt before, during, and after their experience.

Objectives:

Students will be able to:

- Establish and experience an atmosphere that makes use of trust, support, encouragement, communication, emotional safety, and challenge by choice.
- Demonstrate safe and proper use of high ropes equipment and elements.
- Participate and successfully complete unique climbing elements using the mental, emotional, and physical resources of the group and self.
- Process and share what they saw, thought, felt, and learned during the initiative.
- Transfer and apply new knowledge to actual situations at camp, home, and school.

Vocabulary:

Belay	Carabiner	Commands	Figure 8 Knot
Gri-Gri or Belay Pole	Harness	Helmet	Rope

EARTHWORKS

Overview:

Mountains, valleys, volcanoes, and beaches. Students become budding geologists as they study weathering, minerals, and the wonders of rocks.

Objectives:

Students will be able to:

- Describe the geologic cycle as it relates to the slow structuring and shaping of the earth
- Identify a diversity of elements, minerals, and rocks
- Describe the interrelationship wildlife and humans have with the fast occurring geologic events

Vocabulary:

Chemical Weathering	Deposition	Element	Erosion
Gem	Geology	Igneous	Mechanical Weathering
Mineral	Rock	Rock Cycle	Sedimentary

Science content standards:

- Students know how to differentiate among igneous, sedimentary, and metamorphic rocks by referring to their properties and methods of formation (the rock cycle). (4.4.a)
- Students know some changes in the earth are due to slow processes, such as erosion, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes. (4.5.a)
- Students know natural processes, including freezing and thawing and the growth of roots, cause rocks to break down into smaller pieces. (4.5.b)
- Students know moving water erodes landforms, reshaping the land by taking it away from some places and depositing it as pebbles, sand, silt, and mud in other places (weathering, transport, and deposition). (4.5.c)
- Students know water running downhill is the dominant process in shaping the landscape, including California's landscape. (6.2.a)
- Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns. (6.2.b)
- Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats. (6.2.d)

ENVIRONMENTAL AWARENESS

Overview:

Each and every one of us plays an important role in the long-term health and survival of our race and planet. This class will give students a clear understanding of our environment, the challenges we face, and what we can do about it.

Objectives:

Students will be able to:

- Identify a diversity of renewable and nonrenewable resources
- Identify the natural origins of common objects
- Determine energy sources
- Summarize the interrelationship between natural resources and our communities
- Give examples of environmentally responsible choices related to conservation and natural resource utilization

Vocabulary:

4 Rs (reduce, reuse, repair, recycle)	Acid Rain	Alternative Energy Source
Atmosphere	Biomass Conversion	CFCs
Conservation	Fossil Fuel	Geothermal Energy
Greenhouse Effect	Hydroelectricity	Natural Origin
Nonrenewable Resource	Nuclear Energy	Ozone Layer
Pollution	Renewable Resource	Smog
Solar Energy	Wind Energy	

Science content standards:

- Students know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process. (6.6.a)

- Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable. (6.6.b)
- Students know the natural origin of the materials used to make common objects. (6.6.c)

FEATHERED FRIENDS

Overview:

Students will open their eyes in wonder as they explore the natural world of birds. They will investigate first hand the homes and habitats of small birds, hawks, eagles, and owls native to the San Bernardino Mountains.

Objectives:

Students will be able to:

- List biotic and abiotic factors that birds need in order to survive.
- Identify a diversity of local birds and their adaptations.
- Describe the interdependence birds have within an ecosystem.
- Summarize the interrelationship between birds and our communities.
- Give examples of environmentally responsible choices related to birds.

Vocabulary:

Abiotic Factor	Adaptation	Binocular Vision	Biotic Factor
Camouflage	Consumer	Contour Feather	Downy Feather
Ecosystem	Food Chain	Food Web	FWARPS
Habitat	Hollow Bones	Limiting Factor	Monocular Vision
Niche	Predator	Prey	

Science standards:

- Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem. (4.2.b)
- Students know ecosystems can be characterized by their living and nonliving components. (4.3.a)
- Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. (4.3.b)
- Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter. (4.3.c)
- Students know energy entering ecosystems as sunlight is transferred by producers in chemical energy through photosynthesis and then from organism to organism through food webs. (6.5.b)
- Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment. (6.5.b)
- Students know populations of organisms can be categorized by the functions they serve in the ecosystem. (6.5.c)
- Students know different kinds of organisms may play similar ecological roles in similar biomes. (6.5.d)
- Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, range of temperatures, and soil composition. (6.5.e)

FURRY FRIENDS

Overview:

One of the most distinguishing characteristics of mammals is fur. Students will explore a diversity of mammals through exploration and active, experiential games. They will learn about the food chain and food web, how to spot the home of an animal, and the relationship mammals have with the rest of the forest community.

Objectives:

Students will be able to:

- List biotic and abiotic factors that mammals need in order to survive.
- Identify a diversity of local mammals and their adaptations.
- Describe the interdependence mammals have within an ecosystem.
- Summarize the interrelationship between mammals and our communities.
- Give examples of environmentally responsible choices related to mammals.

Vocabulary:

Abiotic Factor	Adaptation	Binocular Vision	Biotic Factor
Camouflage	Carnivore	Carrying Capacity	Consumer
Ecosystem	Estivate	Food Chain	Food Web
FWARPS	Habitat	Herbivore	Hibernate
Limiting Factor	Monocular Vision	Niche	Omnivore
Predator	Prey	Torpor	

Science standards:

- Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem. (4.2.b)
- Students know ecosystems can be characterized by their living and nonliving components. (4.3.a)
- Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. (4.3.b)
- Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter. (4.3.c)
- Students know energy entering ecosystems as sunlight is transferred by producers in chemical energy through photosynthesis and then from organism to organism through food webs. (6.5.a)
- Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment. (6.5.b)
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- Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, range of temperatures, and soil composition. (6.5.e)

LINE DANCING

Overview:

After putting all the snakes back in their terrariums, students will ready themselves for a fun filled session of Line Dancing. Whether you've brought your cowboy hat or not, the music will start you moving and the rhythm will carry you away.

Objectives:

Students will:

- Learn three easy dances in a safe environment.
- View adults (i.e. instructors and teachers) taking a risk and being silly.

LITTLE WORLD

Overview:

When was the last time you actually sought out those little creatures all around us? We generally spend much of our time trying to scoot these creepy crawly things away. But insects, arachnids, and other decomposers like fungi and bacteria serve a valuable purpose in the world. This class will allow students the opportunity to learn about the little world of insects and other decomposers. They will search everywhere to see firsthand what these little creatures look like and what they actually do with all of their time.

Objectives:

Students will be able to:

- List biotic and abiotic factors that decomposers need in order to survive.
- Identify a diversity of local decomposers and their adaptations.
- Describe the interdependence decomposers have within an ecosystem.
- Summarize the interrelationships between decomposers and our communities.
- Give examples of environmentally responsible choices related to decomposers.

Vocabulary:

Abiotic Factor	Adaptation	Bedrock	Biotic Factor
Camouflage	Decomposer	Duff	Ecosystem
FBIs	Food Chain	Food Web	FWARPS
Habitat	Humus	Limiting Factor	Litter
Mimicry	Niche	Nitrogen Cycle	Predator
Prey	Soil		

Science content standards:

- Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem. (4.2.b)
- Students know ecosystems can be characterized by their living and nonliving components. (4.3.a)
- Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. (4.3.b)
- Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter. (4.3.c)
- Students know plants are the primary source of matter and energy entering most food chains. (4.2.c)
- Students know that most microorganisms do not cause disease and that many are beneficial. (4.3.d)
- Students know energy entering ecosystems as sunlight is transferred by producers in chemical energy through photosynthesis and then from organism to organism through food webs. (6.5.a)
- Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment. (6.5.b)
- Students know populations of organisms can be categorized by the functions they serve in the ecosystem. (6.5.c)
- Students know different kinds of organisms may play similar ecological roles in similar biomes. (6.5.d)
- Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, range of temperatures, and soil composition. (6.5.e)

NATIVE CULTURE

OVERVIEW:

Our Native Culture class will study Serranos, the long ago inhabitants of the San Bernardino mountains. Students will learn the uses of local plants (Which one was used to make tea? Which one makes a good toothbrush?) and talk about how people long ago lived in this forest. The class culminates with the opportunity to start a safe, controlled fire by rubbing two sticks together (the Bow Drill method).

OBJECTIVES:

Students will be able to:

- Explain the effect of disease on the local Serrano population.
- Identify local edible plants and describe their uses
- Use primitive strategies to build, ignite and bank a fire safely.
- Describe the Serrano culture in terms of artifacts, ecofacts and oral tradition known to archeologists.

VOCABULARY:

Archeology	Artifact	Ecofact
Hunter/Gatherer	Mano	Metate
Oral Tradition	Smallpox	Smothering a Fire
Yuhaviatam		

NOCTURNAL NATION

Overview:

Nocturnal animals are a fascinating topic for everyone! Using indoor props, such as slides and animal skulls, students will get a first hand look at those sometimes elusive nighttime animals. Students will learn about the adaptations of nighttime creatures and compare them to the senses we possess as humans. To finish off the presentation, students explore the nighttime environment hands on. Utilizing the knowledge learned during the indoor class, they will explore the nocturnal world in search of owls and other nighttime creatures. This is a chance for your students to understand, appreciate, and feel comfortable in an environment that we traditionally shy away from.

Objectives:

Students will be able to:

- Identify local nocturnal animals and their adaptations
- Describe the relationships nocturnal animals have with the ecosystem
- Give examples of environmentally responsible choices related to nocturnal animals

Vocabulary:

Asymmetrical	Binocular	Cones	Crepuscular
Diurnal	Echolocation	Monocular	Nocturnal
Predator	Prey	Rods	Symmetrical

Tapetum

Content standards:

- Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. (4.3.b)
- Students know populations of organisms can be categorized by the functions they serve in the ecosystem. (6.5.c)
- Students know different kinds of organisms may play similar ecological roles in similar biomes. (6.5.d)

ORIENTEERING

Overview:

Being in the wilderness means not only knowing about the animals and plants, but knowing how to find your way around as well. Map and compass skills will be learned as students challenge themselves to complete a designated orienteering course.

Objectives:

Students will be able to:

- List the major parts of the compass and topographic map.
- Identify the four cardinal directions on a compass.
- Orient a topographic map.
- Demonstrate the proper use of map and compass to navigate camp terrain.

Vocabulary:

Base Plate	Bearing	Contour Interval	Contour Line
Dial	Direction of Travel Arrow	Elevation	Index Line
Magnetic Needle	Map Legend	Map Scale	Orienteering Arrow
Relief	Topographical Map		

OUTDOOR SURVIVAL HIKE

Overview:

You're on a beautiful hike and the unexpected happens. Are you prepared? Though we can never predict what will happen when we venture off into the wilderness on a hike, we can learn skills that will help us cope if anything ever does happen. The focus of this class is on wilderness survival, but the skills are universal and can be tied to surviving a natural disaster such as an earthquake. Class begins with a comprehensive look at minimum impact hiking, how to hike, and what to carry while hiking.

Objectives:

Students will be able to:

- List ways to prepare for a hike and avoid survival situations.
- Give examples of environmentally responsible choices related to hiking.
- Identify a survival situation that could happen while hiking in the wilderness, at home, or both.
- Develop and demonstrate methods for sustaining basic human needs.

Vocabulary:

Dehydration	FWARPS	Hyperthermia
Hypothermia	Leave No Trace	Rule of 3s
STOP	Survival Situation	Switchbacks

PLANT DETECTIVES

Overview:

Students will explore the fascinating world of plants and trees while learning about photosynthesis in a whole new way. The forest offers many opportunities to learn about the diversity and significance of plants and trees. Students will understand how important producers are to the earth and that through various connections; we are all dependent on plants to live.

Objectives:

Students will be able to:

- List biotic and abiotic factors producers need in order to survive.
- Identify a diversity of local producers and their adaptations.
- Describe the interdependence producers have within their ecosystem.
- Summarize the interrelationship between producers and our communities.
- Give examples of environmentally friendly choices related to producers.

Vocabulary:

Abiotic Factor	Adaptation	Biotic Factor	Carbon Cycle
Chlorophyll	Chloroplast	Commensalism	Conifer
Deciduous	Evergreen	Food Chain	Food Web
FWARPS	Habitat	Limiting Factor	Mutualism
Niche	Parasitism	Photosynthesis	Pollination
Producer	Root	Seed	Seed Dispersal
Symbiosis	Transpiration		

Science content standards:

- Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete for resources in an ecosystem. (4.2.b)
- Students know ecosystems can be characterized by their living and nonliving components. (4.3.a)
- Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. (4.3.b)
- Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter. (4.3.c)
- Students know plants are the primary source of matter and energy entering most food chains. (4.2.a)
- Students know many multicellular organisms have specialized structures to support the transport of materials. (5.2.a)
- Students know how sugar, water, and minerals are transported in a vascular plant. (5.2.e)
- Students know plants use carbon dioxide and energy from sunlight to build molecules of sugar and release oxygen. (5.2.f)
- Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs. (6.5.a)
- Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment. (6.5.b)
- Students know populations of organisms can be categorized by the function they serve in an ecosystem. (6.5.c)
- Students know different kinds of organisms may play similar ecological roles in similar biomes. (6.5.d)
- Students know the number and types of organisms an ecosystem can support depends on the resource available and on abiotic factors, such as quantities of light and water, a range of temperatures, and soil composition. (6.5.e)

SNAKES**Overview:**

Students will have the opportunity to explore the intriguing world of snakes through hands-on study of our slithery camp reptiles. They will learn about the adaptations of snakes, where snakes live, and their importance in an ecosystem.

Objectives:

Students will be able to:

- Identify a diversity of snakes and their adaptations.
- Describe the interrelationships snakes have within their ecosystems.
- Give examples of environmentally responsible choices related to snakes.

Vocabulary:

Camouflage	Constriction	Consumer	Fangs
Infrared 'Vision'	Jacobson's Organ	Low Frequency Hearing	Mimicry
Molt	Non Venomous	Predator	Prey
Scales	Venom	Venomous	Vertebrae

Content standards:

- Students know populations of organisms can be categorized by the functions they serve in the ecosystem. (6.5.c)
- Students know different kinds of organisms may play similar ecological roles in similar biomes. (6.5.d)
- Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors, such as quantities of light and water, range of temperatures, and soil composition. (6.5.e)

TEAM DISCOVERY HIKE**Overview:**

Designed to acclimate students to their new environment. Through carefully planned activities, students will discover each other, their environment, and the importance of working as a team throughout the week. An excellent way to begin the camp experience, the Team Discovery Hike sets the foundation for a week of community, trust, nature, and exploration.

Objectives:

Students will be able to:

- Establish a curiosity for discovery of self, group, environment, and surroundings.
- Discover their new surroundings by locating camp on a California map and learning about local history.
- Discover their new outdoor environment through planned sensory and natural history activities.
- Discover their new field group through Name Games, Ice-Breakers, and Team Initiatives.

WATER WONDERS**Overview:**

Water is the major ingredient of not only our bodies, but the earth as well. Every living thing in the world depends on it to survive. Discovering what lives in it as well as on it and around it, students will develop a practical understanding of water's importance to a healthy and well-balanced world.

Objectives:

Students will be able to:

- Explain the water cycle and its components
- Identify origins of water for Southern California
- Describe different types of pollution affecting the water supply
- Give examples of environmentally responsible choices related water

Vocabulary:

Abiotic Factor	Aqueduct	Aquifer	Biotic Factor
Chemical Pollution	Condensation	Conservation	Desalination
Ecological Pollution	Ecosystem	Evaporation	Groundwater
Irrigation	Organic Pollution	Percolation	Precipitation
Reservoir	Runoff	Spring	Transpiration
Thermal Pollution	Water Cycle	Well	

Content standards:

- Students know ecosystems can be characterized by their living and nonliving components. (4.3.a)
- Students know most of Earth's water is present as salt water in the oceans, which cover most of Earth's surface. (5.3.a)
- Students know when liquid water evaporates, it turns into water vapor in the air and can reappear as a liquid when cooled or as a solid if cooled below the freezing point of water. (5.3.b)
- Students know water vapor in the air moves from one place to another and can form fog or clouds, which are tiny droplets of water or ice, and can fall to Earth as rain, hail, sleet, or snow. (5.3.c)
- Students know the amount of fresh water located in rivers, lakes, underground sources, and glaciers is limited and that its availability can be extended by recycling and decreasing the use of water. (5.3.d)
- Students know the origin of the water used by their local communities. (5.3.e)
- Students know the sun is the major source of energy for phenomena on Earth's surface; it powers winds, ocean currents, and the water cycle. (6.4.a)