

# Pre-Trip Lesson #1

## Summary of Activity

Students examine maps and other sources of information about Walker Creek Ranch.

<b>Time:</b>	30 to 45 minutes
<b>Setting:</b>	Classroom
<b>Materials:</b>	Maps, student journals
<b>Subjects:</b>	Geography, math, and language arts
<b>Key Words:</b>	

## Objective

The students will: 1) locate places on a map, 2) choose a practical route between them, and 3) measure the distance using a map scale.

## Preparation and Lead-up

Collect as many maps of the area as you can (such as maps of California, Marin County or USGS topo maps). A variety of types of maps will make the activity more interesting. If you cannot get enough maps, assign students to bring them from home or make copies of maps (be sure to include scale).

## Procedure

Organize students into groups of three and distribute maps to each group. Ask students questions and let the groups work together to answer them. When a group has an answer, they raise their hand without calling out the answer so other groups can keep working.

## Discussion Questions

1. Where is your school on the map?
2. Where is Walker Creek Ranch on the map?
3. What direction is Walker Creek Ranch from your school?
4. What is the most efficient route to the Walker Creek Ranch Outdoor School?
5. How far is it from your school to Walker Creek Ranch? How accurate is your estimation?
6. Following posted speed limits (you will have to guess), approximately how long will it take to get to Walker Creek Ranch?
7. In what county is Walker Creek Ranch located?
8. Where are the other schools who will also be at Walker Creek Ranch Outdoor School located?

## Evaluation

Students' responses and observed cooperation demonstrate the students' map-reading skills and group dynamics.

## Extension Idea

Discuss map scale in terms of ratios (topo maps usually show scale in terms of a ratio).

Ask the student groups to come up with good questions for all of the other groups to try to work out. Students may also be interested in looking at special maps such as geological maps. For example - how close is Walker Creek Ranch to the nearest major earthquake fault?

## Home Learning Suggestion

Students choose one animal from the species list, research information about it (find out where it lives, what it eats, what eats it, and special features that it has that help it survive). Fill out the Wildlife Report sheet (See Pre-Trip Lesson 3). Draw a poster size drawing of the animal. Prepare a two minute presentation for the rest of the class.

## Species List

<b>Bay Woodland</b>	<b>Grassland</b>
Shelf Fungus	Puffball Fungus
California Bay Laurel	California Buttercup
Poison Oak	California Poppy
Sword Fern	Grass
Earthworm	Golden Argiope Spider
Carabid Ground Beetle	Darkling Ground Beetle
Springtail	Grasshopper
California Slender Salamander	Gopher Snake
Ensatina Salamander	Western Fence Lizard
Pacific Tree Frog	Common Raven
Great Horned Owl	Red Tailed Hawk
Northern Flicker	Turkey Vulture
Dusky-footed Wood Rat	Western Bluebird
	Black-tailed Deer
<b>Coastal Scrub</b>	<b>Riparian Areas</b>
Coyote Bush	Blue-green Algae
Sagebrush	Cattail
Bush Lupine	White Alder
Indian Paintbrush	Willow
Soaproot	Back Swimmer
Sticky Monkey Flower	Caddisfly

Bordered Plant Bug	Damselfly
Buckeye Butterfly	Diving Beetle
Western Toad	Dragonfly
Anna's Hummingbird	Giant Water Bug
California Towhee	Mayfly
California Quail	Water Boatman
Scrub Jay	Water Penny Beetle
Wrentit	Water Scorpion
Black-tailed Jackrabbit	Water Strider
Gray Fox	Whirligig Beetle
	Steelhead Trout
	Foothill Yellow-legged Frog
	Rough-skinned Newt
	Western Aquatic Garter Snake
	American Coot
	Black Phoebe
	Great Egret
	Red-winged Blackbird
	Raccoon

# Pre-Trip Lesson #2

## Summary of Activity

Students write a letter to a pen pal at the school that will be at Walker Creek Ranch the same week as their class.

<b>Time:</b> 30 to 45 Minutes
<b>Setting:</b> Classroom
<b>Materials:</b> Pencils and paper
<b>Subjects:</b> Language Arts

## Objective

The students will: 1) write letters to introduce themselves to new people, and 2) take active steps to meet students from other schools.

## Background Information

Involving your students in pen pal relationships with other schools will greatly enhance socialization while at the Outdoor School. Students get off the bus looking forward to meeting their pen pals rather than viewing the students from the other schools as rivals.

## Preparation and Lead-up

Call the Outdoor School to get the names of teachers or contact persons in the other schools that will be visiting the outdoor school concurrently with your class. Exchange names of students, pair up pen pals and find out basic information about the school.

## Procedure

Discuss how people make new friends. Relate this to the experience that they will have with people from the other schools at Outdoor School. Discuss writing to a pen pal as a way of getting to know new people. Discuss how to write a letter and what specifically about themselves, would be of interest to someone in another school.

Give students time in class to write letters to their pen pals. Let them know that these letters are open and that you will read them. Collect and mail letters in one envelope. Teachers might want to screen some students' letters before mailing to make sure that they are appropriate. When the packets of letters arrive from other schools, distribute them to the students. Have the students write a second letter to their pen pals. Ask them to answer any other questions that their pen pal had for them and to talk about things that they are looking forward to.

## Discussion Questions

1. How many people have ever gone to a new school or moved to a new neighborhood where they had to meet a lot of new people?
2. What is it like trying to make new friends?
3. What are some things that make it easier to meet new people?
4. How many people have had a pen pal before? Ask students to describe that experience.
5. What would you like to know about a student in another school?
6. What would a student in another school like to know about you?

## Evaluation

Look over letters and analyze students' participation in discussions to determine if students are making an effort to make new friends. You may find students that develop a negative attitude toward the other school. This is a good time to talk with them about changes that they need to make in their behavior.

## Extension Idea

Students make artwork and send it to the other school or make gifts to send or give to their pen pals when they meet them.

# Pre-Trip Lesson #3

## **Summary of Activity**

Students give presentations about animals at Walker Creek Ranch and demonstrate interdependent relationships between them.

<b>Time:</b>	30 to 45 Minutes
<b>Setting:</b>	Classroom
<b>Materials:</b>	Completed Wildlife Report forms, animal posters, name tags and ball of string or yarn
<b>Subjects:</b>	Science
<b>Key Words:</b>	Interdependence, habitat, adaptation

## **Objective**

The students will: 1) describe adaptations, physical appearance, habitat, and position in the food chain of one species of animal, and 2) demonstrate relationships between species of animals.

## **Preparation and Lead-up**

Collect Home Learning Assignments (Wildlife Report forms and posters) from previous week. Prepare a place from which students can make presentations.

## **Procedure**

Students make brief presentations to the rest of the class about their animal. Following the presentations, instruct students to stand in a circle, choose or ask for a volunteer to start. Ask the student to tell the name of their animal and give that student the end of the string. Ask the students: "Does anyone have an animal that affects or is affected by the first student's animal?" Pass the string to that student and continue until all students are connected by the web of string. You may have to help include students who are being passed up by specifically asking if anyone affects their animal. The result is a web of interconnections with each animal connected to every other in some way (albeit indirect). To avoid a string tug of war, instruct students to gently hold the string with one hooked finger and not to pull on it.

Once the web is complete examine how anything that affects one organism in the web affects all others. Tell the students that hunters have eliminated all the mountain lions in the area. Instruct the mountain lion to gently pull on the string by wiggling their finger. Any student who feels the pull on their string should also wiggle their finger and so on, until all students have felt the pull. Stop them and start with another animal. To re-roll your string, retrieve the string from the student's one at a time as you discuss the results.

## **Discussion Questions**

1. John Muir, a conservationist and naturalist, once wrote "When we try to pick out anything by itself, we find it hitched to everything else in the universe." What do you think he meant?
2. Who can give me an example of an unusual way that two real animals affect each other?
3. How do we affect some of these animals?
4. How do some of these animals affect us?

## **Evaluation**

Students discuss connections between different animals. Students demonstrate relationships by connecting related animals with string.

## **Extension Idea**

Collect Wildlife Report sheets and make a "Walker Creek Ranch Field Guide" to bring with you to the Outdoor School. Use posters to make a wildlife display in your classroom.

## **Home Learning Suggestion**

Students write haiku, cinquains, or poems about their animal.

# Marin County Outdoor School

## Wildlife Report

Animal name:

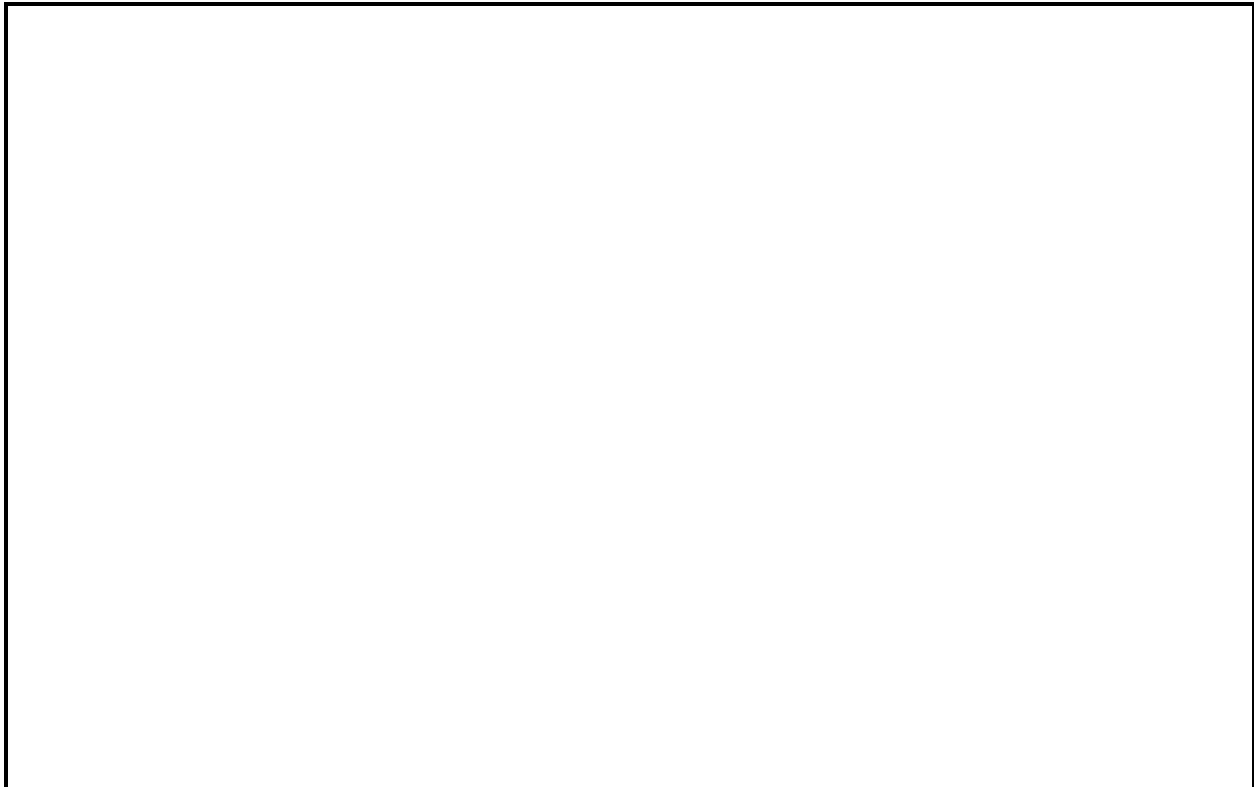
Where does this animal live?

What does this animal eat?

What animals eat it?

What features does it have that help it survive (adaptations

Draw a picture of the animal below (also make a second poster size drawing).



# Pre-Trip Lesson #4

## Summary of Activity

Students review guidelines for behavior and express expectations about their visit to Walker Creek Ranch.

<b>Time:</b>	30 to 45 minutes
<b>Setting:</b>	Classroom
<b>Materials:</b>	Student journals
<b>Subjects:</b>	Language Arts
<b>Key Words:</b>	Goals, expectations

## Objective

Discuss behavior expectations and school rules. Define expectations of what the week at Outdoor School will be like.

## Preparation and Lead-up

Paper and pencils for each student

## Procedure

At Walker Creek Ranch there are certain guidelines and expectations for all students. Discuss the following rules with your class and ask students to think of reasons for each rule.

### **General Rules**

- Be Safe
- Be Responsible
- Be Respectful of yourself, others, and the environment
- Follow the directions of your Teachers, Cabin Leaders, and Naturalists. Stop talking when signaled to be silent.
- Use appropriate language. No swearing, or offensive language of any kind.
- Use the buddy system. Students should never go anywhere alone.
- Rule of three: No staff member should be alone with a student at any time.

### **Safety and Trail Rules**

- No Running – except for on the ball field or in designated areas.
- Leave No Trace: Leave sticks, rocks, plants and animals where you found them. Watch, examine, and observe without disturbing.
- Stay on the trail, walk behind your Naturalist or Cabin Leader / Chaperone.
- Wear closed toed shoes as well as long pants (unless your Naturalist approves shorts).
- Stay on the ball field or Dining Hall patio (or designated indoor facility, in case of rain) during recreation time after lunch.
- Don't throw rocks
- No climbing trees

### **Cabin Rules**

- Stay with your cabin group. If your Naturalist, Cabin or Teacher authorizes you to leave the cabin group (to go to the Health Center, for example), use the buddy system.
- Be in bed and quiet by "lights out" time at 9:30 PM and remain in bed (except for emergencies) until 7:00 AM.
- No entering other cabins.
- No pillow fights, wrestling or roughhousing in the cabins.
- Keep food out of the cabins.
- No medications are allowed in the cabins, except Epi Pens, inhalers, or other emergency medications.

### **Dining Hall Rules**

- Use good table manners.
- Do not talk during announcements.
- Talk quietly at your table.
- Only “hoppers” are allowed up during serving and clean up.

### **Discussion Questions**

1. How many people have been away from their families for a week or more?
2. What are you looking forward to doing most at Walker Creek Ranch?
3. What about the upcoming trip are you the most concerned about?
4. What can we do (individually or as a group) to help with some of those concerns?
5. What are some problems that might arise in a group living situation?
6. What can we do to prevent those situations from arising or deal with them if they do?
7. What special goals do you have for yourself at Outdoor School?

### **Extension Idea**

Teachers may want to have students write or sign a student contract if behavioral problems are expected. A sample Student Behavior Contract (Appendix M) is to be used at the teacher's discretion.

## **Additional Pre-Trip Activities**

<b>Language Arts</b>	<ul style="list-style-type: none"><li>• Write letters to public and private agencies requesting information and materials about environmental problems.</li><li>• Use the vocabulary list for a pre/post spelling or vocabulary test.</li></ul>
<b>Social Studies</b>	<ul style="list-style-type: none"><li>• Gather information concerning current, local environmental issues. Debate the issues.</li></ul>
<b>Science</b>	<ul style="list-style-type: none"><li>• Study constellations that will be in the sky when your students are at Outdoor School. Have each student write a report on one constellation and draw a picture of it.</li></ul>
<b>History</b>	<ul style="list-style-type: none"><li>• Study the lives of the Coast Miwok Indians. Investigate how they used the natural resources of the area to meet their needs.</li></ul>
<b>Art</b>	<ul style="list-style-type: none"><li>• Paint a wildlife mural using species found at Outdoor School.</li><li>• Design posters to depict solutions to environmental problems.</li></ul>



# Vocabulary List

The following vocabulary list contains words that may be used during the student's week at Outdoor School. Students are not expected to know all these words upon arrival at the Outdoor School. However, some teachers have found this list to be helpful in planning their own curriculum in preparation for their visit.

**Abiotic** – Not alive.

**Acclimation** - Changes in an organism due to conditions in the environment during the lifetime of the organism (not genetic).

**Adaptation** – A characteristic or behavior of an organism that helps it survive in it's habitat (genetic).

**Aerobic bacteria** - Bacteria that needs oxygen to survive.

**Algae** - Simple, usually aquatic plants without true roots, stems or leaves. Almost all of them contain chlorophyll and thus are able to produce their own food. Kelp is one example.

**Amphibian** - A vertebrate with cold blood and usually with smooth, moist skin (frogs and salamanders). Many are aquatic as young and terrestrial as adults.

**Anaerobic bacteria** - Bacteria that does not need oxygen to survive.

**Aquatic** - Growing or living in or on water.

**Bacteria** - Small single-celled organisms. Some help break down dead animals and plants into soil.

**Biotic** – Alive, pertaining to life or specific liife conditions.

**Carnivore** - Animals that eat only other animals.

**Chlorophyll** - The green pigment in plants that allows them to make food by the process of photosynthesis.

**Commensalism** - A symbiotic relationship in which one organism benefits and the other neither benefits nor is hurt.

**Community** - The living organisms in an area.

**Consumers** - Living organisms that feed on living material. They are not capable of making their own food.

**Crepuscular** - Active during and adapted to dawn and dusk.

**Decomposer** - Organisms that feed on dead material, breaking it down into soil.

**Diurnal** - Active during and adapted to the day.

**Ecology**- Science of the relation of living things to the environment.

**Ecosystem** – All living and non-living things within a defined area and the interactions between them.

**Environment** - All external conditions affecting the life of plants or animals.

**Erosion** - The wearing away of earth or rock, particularly by water, air, and temperature changes.

**Evolution** – Changes in an organism that are passed on to successive generations.

**Fungi** - A group of organisms that lack chlorophyll and feed on decomposing matter (includes mushrooms).

**Habitat** - The environment in which an organism (plant or animal) lives and contains all the things an animal needs, including water, food and shelter.

**Herbivores** - Animals that eat green plants but not other animals.

**Humus** - The top, organic portion of the soil formed by partial decomposition.

**Inorganic** - Matter that has never been living.

**Insect** - Small invertebrate animals. Adults have three clearly defined body regions, three pairs of legs and usually wings.

**Interdependence** - Reliance of two or more living things on one another for survival.

**Invertebrate** – Animals lacking a backbone or spinal column (such as worms, slugs and insects).

**Lichen** - A composite organism consisting of algae and a fungus living together in a mutually beneficial relationship.

**Mammals** - Warm-blooded animals they give birth to live young and nurse with milk.

**Mutualism** - Symbiotic relationship in which both organisms benefit.

**Niche** - An organism's role in a community (its job).

**Nocturnal** - Active during and adapted to the night.

**Omnivores** - Animals that eat both meat and plants.

**Organic** - Pertaining to or derived from living organisms.

**Organism** - A living individual plant or animal.

**Parasitism** - A symbiotic relationship in which one organism benefits and the other is harmed.

**Photosynthesis** - A process by which green plants produce food in the presence of sunshine.

**Predator** - An animal that hunts and kills other animals for food.

**Prey** - An animal that is hunted as a source of food.

**Producer** - Green plants that have the ability to convert the sun's energy into food by the process of photosynthesis; i.e., food makers.

**Riparian** - Plants or animals living along the banks of streams or other bodies of water.

**Reptile** - Cold-blooded, air-breathing vertebrates usually covered with scales or bony plates (snakes, lizards and turtles).

**Scavenger** - An animal that consumes dead organic material.

**Symbiosis** - Two organisms living together in a close relationship. (See Mutualism, Commensalism and Parasitism).

**Vertebrate** - Animals that have a backbone or spinal column (such as snakes, birds, and humans).