



Placer Nature Center

Our Changing Lands

Food Chains



4th Grade



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About Us & Our Programs

Started as a project of the Placer Land Trust in 1990, today Placer Nature Center functions alone as non-profit organization. We share our 60-acre Auburn site, which is owned by the State of California, with the California Conservation Corps.

Placer Nature Center's mission is to provide educational programs that evoke a sense of discovery and wonder about our place on earth. The work of Placer Nature Center helps us understand that our daily choices impact the environmental, social and economic well being of the planet. This is essential, because a healthy world means the world to us.

Upon request, Placer Nature Center will provide schools with field tips to Placer Nature Center's campus, meet you out in the field and/or deliver presentations in the classroom.

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Program Overview

A team of trained docents use a holistic perspective to present our programs. That is, the total environment – living and non-living – will be studied while students weave together the disciplines in relation to their program theme (represented schematically in Figure 1).

The Placer Nature Center provides a three-part program, including:

- ✎ Pre-visit activities
- ✎ Field trip
 - Exhibit Hall theme orientation
 - Hands-on activities
 - Nature Walk
- ✎ Post-visit activities

Plus other relevant information is also provided to enhance the student's field trip experience.

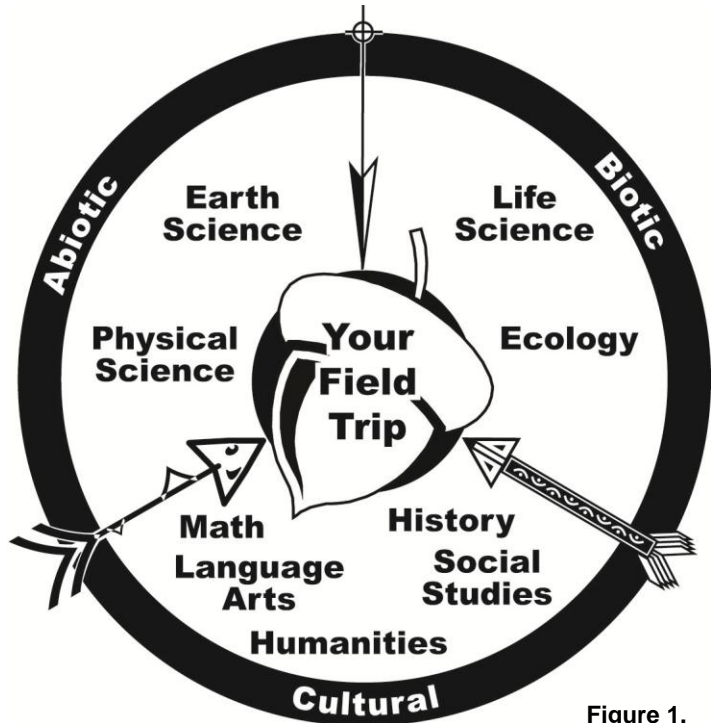


Figure 1.

Poison Oak

Description

Poison oak is a native shrub of the foothills and the Nature Center has many fine examples throughout the nature trail area and even atop the granite outcrop in our courtyard. Because many people react to the plant oil, it is important for our visitors to be able to identify this plant.



New Spring buds on Poison Oak, pretty but not nice to touch!

Poison oak is not actually an oak although its leaves have an oak-like appearance. It is commonly found among oak trees. The species name, *Rhus diversiloba*, was well chosen as it describes the diversity of lobe shapes and sizes one can find on a leaf. Here is an identification checklist for poison oak:

1. Stems are smooth, with no spines.
2. Each leaf stem has three glossy leaflets.
3. Where the three leaves meet, there is a red spot.

A Nature Center docent will help you to identify this plant. Get to know the poison oak in all its forms: shrub, vine and seasonal variations (more pictures on the next page).

Foothill fauna depend on this native plant: deer browse on it; birds eat its berries; others den, burrow, nest or roost in it. Poison oak is an important part of the foothill ecosystem.

Reactions

Apparently only humans (and not all humans) react to urushiol, an oil found on the plant's stems, leaves, flowers and berries.

Contact with this oil can result in a rash. The

oil remains active for a long time. Thus, it can pass first onto clothing or animal fur before skin contact and still be capable of forming a rash.

The best prevention against contracting poison oak is to:

1. Learn to identify the plant
2. Avoid touching the plant
3. Wear long sleeves and long pants
4. Stay on the trail
5. Wash thoroughly and immediately upon returning home, both skin and clothes

Leaves of Three, Let them Be!



Poison Oak by Season



Fall

Mostly red – from bright crimson colors to brown dying leaves.



Winter

A little more tricky to spot! Look for bunches of straight, upright twigs growing near rocks, trees and amongst other shrubbery.



Spring

After the pretty red buds (see previous page), leaves turn a shiny green. It may be intermixed in black berry bushes and other shrubs, hiding under oak trees and around rocks.



Summer

Various shades of green, yellow and red all mixed together in the same bush and sometimes on the same leaf!

Pre-Visit Information

Before you arrive... Please take the time to go over the pre-visit information and activities. It helps the students and docents enjoy a more successful program!

In The Classroom

- 1) If there is a special needs student in your group, let us know how we can best meet her/his needs.
- 2) Divide your class into groups of 10-12 students with one adult each if possible. Make sure the students know which group they are in so they can be divided quickly after exiting the bus/car.
- 3) Make name tags and wear them to the Nature Center. Following is an activity for making name tags. (see activity #1)
- 4) Have students do the Word Search and Word Match (if provided) to familiarize themselves with new vocabulary words. (see activity #2 and #3)
- 5) Review the information and accompanying sketch of poison oak. Although the docent will identify this native shrub for the students, it helps if they are aware of it before arriving.
- 6) Remind students to dress for the weather. The program will be conducted rain or shine. Closed toe walking shoes (no sandals) are a must.
- 7) Have a payment envelope ready to hand the docent as soon as you arrive. If possible, make payment by check. We are not able to make change.
- 8) If you choose to have lunch on site, all related garbage must leave with you. The Nature Center does not have a disposal service.
- 9) Please arrive 15 minutes before your scheduled time.

On The Trail

- 1) The docent will lead the group at all times on the trail, with a parent or other adult taking up the rear.
- 2) Stay on the trail.
- 3) No picking of plants or rocks or anything. Take only memories. Leave only footprints.

We are excited to share an enjoyable, educational experience with you and your students at the Nature Center. Have fun with the pre-visit activities!

Pre-visit Activity

ACTIVITY #1 - NAME TAGS

OBJECTIVE: Students will make name tags from the four designs that symbolize producers, herbivores, carnivores, and decomposers. During the program, the students, using their name tags, will construct foothill food chains.

MATERIALS:

Crayons/felt tip pens
Index cards or other heavy tag board
String or pins to attach to name tag
Glue
Scissors

PROCEDURE:

1. Make copies of next page on index stock. Explain to the students that each design represents a component of the food chain: coyote (carnivore), rabbit (herbivore), leaf (producer), mushroom (decomposer). Food chains will be formed from these with the assistance of a Nature Center docent.
2. Have each student decide which food chain component he/she would like to represent and then cut it out.
3. The student should then write his/her name in the center of the picture.
4. Be sure to wear name tags to the Nature Center.

Cut out Name Tags



Word Search

S Q C D S N O E I T Z B E H
M D O V N T P F N T U Y Y W
R J M W U S R O R A J S G J
Y O W I T I O O E O E A R G
R W C U R D D D S L R I E E
D H C Z I S U C O S O R N X
Z X A Y E E C H P B V E E M
D Y R H N R E A M E I T Q Z
Q R N I T O R I O W B C E S
K J I F S V H N C D R A P H
J T V N K I G A E O E B S Z
F K O H O N B H D O H V U I
E A R V Z M D N G F O N N S
W E E Q J O L X T A N Z U U

Bacteria
Carnivore
Decomposer
Energy
Foodchain

Herbivore
Nutrients
Omnivore
Producer
Sun

Activity #3

Food Chains Word Match

Directions: Match the word with its definition. Place the letter of the correct definition in the space beside the number of the word defined.

- | | |
|--------------------|--|
| 1. _____ food | A. Source of energy for plants and animals. |
| 2. _____ food web | B. Food Value – usually vitamins, minerals, and fiber |
| 3. _____carnivore | C. Micro-organism (such as bacteria) that breaks down large molecules into smaller parts |
| 4. _____herbivore | D. The way energy passes from one living thing to another |
| 5. _____omnivore | E. A decomposer |
| 6. _____decomposer | F. Green plants that make their own food |
| 7. _____sun | G. More than one food chain linked together |
| 8. _____producer | H. Eats only plants |
| 9. _____bacteria | I. That which is passed from the sun to living things |
| 10. _____energy | J. Eats only meat |
| 11. _____nutrients | K. Eats plants and meat |

Answer Key

Word Match

- 1.D 2.G 3.J 4.H
- 5.K 6.C 7.A 8.F
- 9.E 10.I 11.B

Word Search

S	Q	C	D	S	N	O	E	I	T	Z	B	E	H
M	D	O	V	N	T	P	F	N	T	U	Y	Y	W
R	J	M	W	U	S	R	O	R	A	J	S	G	J
Y	O	W	I	T	I	O	O	E	O	E	A	R	G
R	W	C	U	R	D	D	D	S	L	R	I	E	E
D	H	C	Z	I	S	U	C	S	S	O	R	N	X
Z	X	A	Y	E	E	C	H	P	B	V	E	E	M
D	Y	R	H	N	R	E	A	M	E	I	T	Q	Z
Q	R	N	I	T	O	R	I	O	W	B	C	E	S
K	J	I	F	S	V	H	N	C	D	R	A	P	H
J	T	V	N	K	I	G	A	E	O	E	B	S	Z
F	K	O	H	O	N	B	H	D	O	H	V	U	I
E	A	R	V	Z	M	D	N	G	F	O	N	N	S
W	E	E	Q	J	O	L	X	T	A	N	Z	U	U

- Bacteria
- Carnivore
- Decomposer
- Energy
- Foodchain

- Herbivore
- Nutrients
- Omnivore
- Producer
- Sun

Your Field Trip at a Glance

Correlations:

Common Core: W2a,b,c,d,e, SL1a,b,c,d

Next Generation Science Standards: 4-LS1-1, LS1.A, 4-PS4-2

A team of docents will meet your class in the parking lot, lead the group to the Nature Center courtyard, and point out restrooms and drinking fountain. Each docent will take a group of 10-12 students and begin their program at one of the following stations: Exhibit Hall, Discovery Room, Outside Activity, or Nature Walk. The docent will rotate through all stations to complete the program. Following is an outline of what to expect at each station for your program at the Placer Nature Center.

EXHIBIT HALL

20 MINUTES

The docent will begin by introducing the theme of the visit. To stimulate thinking and further discussion, the docent will lead the students in an interactive game. Using the foothill ecosystem mural to help name animals and plants, the students will form a foothill food web. This activity will familiarize the students with the names of the foothill flora and fauna and enable them to categorize these natives as producers, herbivores, carnivores or decomposers.

Following the docent-led activity, students will be given 10 minutes to explore and interact with the other exhibits. A docent will answer any questions and/or ask leading questions to enhance student involvement.

DISCOVERY ROOM

20 MINUTES

Discovery Diner

The Discovery Room will become the Discovery Diner for the fourth grade students. In groups of two, students will order dinner from the menu for their “guest skull”. Students will soon realize that dentition determines the diet and will order from the menu accordingly. Students will examine skulls of herbivores, carnivores and omnivores.

OUTSIDE ACTIVITY

20 MINUTES

The docent will lead the students in a Popcorn Food Chain activity. This activity focuses on the flow of energy through the food chain. As solar energy (popcorn) passes through the producers, herbivores, carnivores, and decomposers, students get a visual and tasteful experience of the pyramid of life.

NATURE WALK

60 MINUTES

The docent will guide the students on the nature trail, examining the foothill ecosystem. The docent will emphasize:

- 1) the flora and its role as a producer in food chains
- 2) the fauna and its role as a consumer (herbivores, carnivores, omnivores)
- 3) identify decomposers and discuss their importance to the food chain.

Post-visit Activities

Activity #1

FOOD CHAIN MOBILE

PROCEDURE

1. Have students either cut pictures of animals and plants from magazines or draw them.
2. Arrange the pictures to form a food web or food chain.
3. Connect the pictures with a thread or string.

Encourage students to make food chains with themselves in it. For example: Food chains made from items found in their lunch or dinner (i.e. milk: me – cow – grass).

Activity #2

CREATIVE WRITING WITH FOOD CHAINS

PROCEDURE

1. Have students choose an animal.
2. Have them imagine they are this animal for a day.
3. Have them write a story about their day.
4. Include:

What did you see in the forest today?

What did you find to eat?

How and with whom did you play?

Where and when did you sleep?

Did a predator chase you today?

Did anything scare you today?

What makes this animal special

