# TITLE: Native Plant Labels

***Subtitle:*** Making labels for native plants

**Authors:** Jenn Yost, PhD, Ecology and Evolutionary Biology, UCSC, CA.

Bill Callahan, Biology/Chemistry Teacher, Watsonville High School, Watsonville, CA.

**Field tested:** 10th grade Biology, Watsonville High School, Watsonville, CA (Fall 2012)

**Module Type:** Computer lab activity

**Duration:** 1 hour (or short-day period)

**Key materials:**

* Computer lab (or library with native plant information)
* List of scientific names of the plants that need labels
* Large index cards and laminating machine
* Plant stakes that can be placed in ground to display labels
* Native plant garden or native area where labels can be placed

**Concepts:** Scientific names, Taxonomy, Native Plant Biology

**Skills:** Conducting research, Summarizing research information, Communicating research findings to the public

**Science Education Standards:**

* NGSS Practices: Obtaining, Evaluating and Communicating Information

# Overview:

This project is an opportunity for students to:

* Learn about a native plant species
* Learn about basic taxonomy
* Learn how to produce a plant description/label for general public education

**Navigate:** [Background](#Background) [Materials &Time](#Materials) [Starting Point](#StartingPoint) [Procedures](#Details) [Standards](#Standards) [Supplemental](#Supplemental)

# Background for Teachers

**Why this matters**

California is considered a biodiversity hot spot, meaning it has a large number of endemic species plant species and has suffered a large amount of habitat loss. California is home to more than 5,000 native species of plants and ~30% are endemic, meaning found only in California. David Orr, a professor at Oberlin College, says “The average person has come to recognize over 1,000 corporate logos, but can now recognize fewer than 10 plants and animals native to his or her locality.” This is especially true for young people growing up in urban spaces.

In this module, students are asked to choose a native plant, and then research it using the internet. Wikipedia is a fairly accurate site for the types of questions they should answer about their plant. Adopt and learn about a native plant species, create a label for it, and follow the plant through the transplant process.

More information about biodiversity hotspots:

<http://www.conservation.org/where/priority_areas/hotspots/Pages/hotspots_main.aspx>

The following are web sites with good information about native plants in California. Encourage students to visit these sites. Each one has an index or search function for the students to enter the scientific name of the plant.

Calflora

<http://www.calflora.org/index.html>

San Marcos Growers

<http://www.smgrowers.com/index.asp>

California Flora Nursery

<http://www.calfloranursery.com>

**Scaffolding supplements**

* Yost\_PlantLabels\_Worksheet.docx - worksheet for native plant research activity
* Yost\_PlantLabels\_WHSgarden.doc – native plants planted in the WHS native garden
* Yost\_PlantLabels.pptx – Labeling presentation and an example label in a powerpoint file
* Yost\_PlantLabels\_2013.doc – Sample list of plant names used in the WHS garden
* This website with a scavenger hunt for native plants might be useful – it has a link to photos and info cards for many CA natives. <http://nrs.ucop.edu/host/curricula/plants/nativeplants.html>

# Module Description

## Materials

* PowerPoint Lecture
* Computer lab with presentation equipment
* Plant label worksheet (1 for each student)

## Preparation

* Create a list of scientific names for the native plants that need labels
* Reserve time in the computer lab for this activity
* Copy Plant label worksheets (1 per student)

## Timeline

1. PowerPoint Lecture: 5 mins.
2. Research activity in computer lab: 25 mins.
3. Review label descriptions and complete label: 10 mins.
4. Laminate label, attach to stake and place next to plant: 20 mins

## Starting Point For Inquiry

One short day each student chooses a native plant species to research (from the plants available or from a list). They go to the computer lab and/or library to research their choosen native plant and make a label for it. There could potentially be a second day for students to make corrections on their labels. The best label will be selected for permanent display in the garden. The student places his/her label next to the native plant.

This module requires access to native plants either in the form of a native plant garden or a nearby native area where labels can be placed.

## Detailed Procedure

Step 1 (5 mins)

Teachers should first go through and understand the material in the PowerPoint in advance. Begin with a short lecture on taxonomy and what a scientific name is. Talk about the difference between a common name and a scientific name.

Step 2 (25 mins)

Students chose a native plant to research (hopefully from the plants available or from a list). In the computer lab, direct students to the best websites to use. The students answer the questions on the handout and then summarize it into 2-3 sentences of interesting material for their label.

Step 3 (10 mins)

Review each student’s 2-3 sentence summary, helping them to correct mistakes or improve the clarity of these sentences before giving them the index card. Once the sentences are clear and correct, then give student the index card to make their label. Students can be directed to the garden to observe and draw their plant on the index card if there is time.

Step 4 (20 mins)

Choose the best label for each species of native plant. Laminate the index cards and attach to a label stake. Have student place finished label into the ground next to the appropriate native plant.

## Assessment Methods

The worksheet and final labels can be used to determine if the students have:

1. Answered the research questions asked

2. Shown interest in their native plant informnation

2. Been able to summarize their research into a brief 2-3 sentence statement

3. Been able to convey the information in a way that is of interest to the lay public

## Possible pitfalls

Students might not understand what a scientific name is. It is important that when they pick a plant, they write the name down correctly or they will have difficulty searching for it online. It is important to emphasize that the scientific name is the key to finding information about the species you are interested in.

Correct the writing that the students want to put on the label on the handout before they write on the index card. If they students make the label in a different class period than when the research is conducted, or if there is time in the same period, it is nice to ask the students to go out into the garden to draw a leaf and flower of their plant. Stress direct observations of the plant.

# Science Education Standards

* NGSS Practices: Obtaining, Evaluating and Communicating Information