

When in Davis, Do as the Romans Did

Kids from Cesar Chavez Elementary investigating plant life at the UC Davis Arboretum

Introduction

The overall school curriculum theme is the study of Ancient Rome. The challenge for the unit was to integrate life in Davis and the Arboretum with ancient Rome. With the field site, students were able to compare the environmental conditions of Ancient Rome and Davis and relate them to ancient and modern lifestyles.

CA State Standards that this unit can meet (click on a grade level):

Science

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Language Arts

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Visual Arts

All Grades
An Overview of the Unit
"When in Davis, Do as the Romans Did"

Students in these two sixth-grade classes learned about Ancient Rome in a four-week unit. The classroom context was combined with two field trips to the Mediterranean section of the Arboretum at the University of California at Davis. The Arboretum lies along the original channel of Putah Creek, now called the "North Fork". The Mediterranean section demonstrates the similarities in the climates of Davis and ancient Rome, making connections between Rome and Davis today, to relate ancient lives and places to the students’ lives through learning about plants.

In the two weeks before their first field trip, students learned about Roman myths, geography, politics, architecture, technologies, and history, as well as plants. Materials used for instruction included textbooks, a student guidebook, plant and herb books, and videos. Each student chose a Mediterranean plant found in the Arboretum to research. Their reports included information about where the plant grows, what adaptations it has to its environment, how it was used in Ancient Roman times, and how it is used currently.

Some students even researched how the plant came to the United States (for example, many were brought by early Spanish settlers).

A Davis artist came to the classes to teach the students how to draw plants. Giving each student his or her own plant to work with, she focused their attention on observing details. They learned how to translate forms and shapes to the page, and how to depict shading.
During their first field trip to the Arboretum, students rotated through three different learning stations. In one station, students identified the plants of the Mediterranean in their natural setting, such as lavender, rosemary, olives, and sage, and learned how they would have been used. These were the same plants that most of them had chosen for their reports. Students explored leaf characteristics and then created skits to illustrate the adaptations that plants have to the Mediterranean climate.

The second station was a poetry-writing workshop by a Davis poet and the third station was a drawing session with the Arboretum’s outdoor education coordinator. These stations combined the experience of scientific inquiry with artistic and creative exploration. The poems and drawings would accompany the students’ final reports.

After this field trip, the Cesar Chavez garden coordinator taught about native and Mediterranean plants, helping students make connections between the Mediterranean, Davis, and the school garden.

The school garden contains an herb section with plants used by the Greeks and the Romans. The coordinator showed the students many of the plants and talked about their uses in Roman times. Students also learned how these plants were portrayed in Roman Mythology. Students were impressed that humans had used these plants for such a long time, and that their Latin names originated with Greeks and Romans.

The school garden also grows several crops cultivated by ancient civilizations, including the Romans. This allows the students to see what these crops look like, such as flax, millet, and fava beans, and how they were harvested and what they taste like.

The culmination of the unit was the second field trip to the Arboretum—a chance for students to show off their knowledge and hard work and have fun. Dressed in togas, they presented their Roman citizen and read their plant poems. Small groups walked around the Mediterranean section of the Arboretum, telling peers and adult chaperones about their plants. Afterwards, students presented skits of Roman stories, and then had Roman "chariot races" (wheel-barrow races), and a feast of Roman appetizers: grapes and grape juice, apricots, almonds, olives, feta cheese, and Roman-style bread.
Unit Topics

These are the content areas integrated into this unit:

**Field Site Focus**
Mediterranean plants that grew in Rome and now in Davis: adaptations to climate, ancient and modern uses.

**Title**
When in Davis, Do as the Romans Did

**Language Arts**
Write research report, present reports to classmates and teachers, write poems

**Social Studies**
Legacies of Roman art, architecture, technologies, and language

**Performing and visual arts**
Perform skits, poems, botanical drawings, and Roman feast

**Mathematics**
(not addressed)

**Science**
Plants adapt to different environments
Unit Objectives

Learning Outcomes/Goals for the Unit

Students will learn about Ancient Rome and connections with present-day life. Students will learn about how plants are adapted for their environments, and see how certain plants thrive in the similar climates of the Mediterranean and Davis.

Classroom-field site connection

The fieldtrip is an essential aspect of the unit since it will give the students first-hand experiences for their reports about Mediterranean plants that grow in the Arboretum. The field site exercises will also expand students’ knowledge of Mediterranean environments and the plants that occur within them. The plant lessons will highlight similarities between the environmental conditions and plant characteristics found in both Mediterranean and native Californian plants. These activities will directly inform students for their research papers.

What are ways that the unit is student centered?

Students choose which plant to research and report, they choose a historical Roman figure to study, and they create poems and drawings of their plants. At the Arboretum, students choose the five plants to study leaf characteristics, and they create skits demonstrating how these leaf adaptations allow plants to survive successfully in Mediterranean habitats.
Timeline for Integrated Unit

Week 1: Introduction to Ancient Rome
- Myths, Geography
- Rome Republic
- Legacies, Roman city video
- Introduce research project in classrooms
- Ancient Roman history, Time/Life video

Week 2:
- Drawing/sketch workshop with visiting Artist
- First field trip to UCD Arboretum
- Follow-up visit with Maria Melendez (poet)

Week 3:
Maria Melendez—poetry follow-up in classroom—make poem about students’ plants; classroom lesson on native plants with school garden coordinator

Week 4:
Final fieldtrip to Arboretum, plant research report due in classroom

Students enjoying a field trip to the arboretum
Here are some of the Inquiry-based field activities that the team created or used

Three paths for exploring the Arboretum: Science, Art, Poetry

Goals

Students will see some of the adaptations that plants have to survive in the Mediterranean climate; relationships with leaf size and shape to water loss and area for photosynthesis.

Materials List

Worksheet, notebooks, writing utensils.

Activity Description: Three Stations--plant adaptation, plant drawing, and plant poetry

Plant Adaptation station: Students become explorers for the Roman Emperor, who wants to learn about the kinds of plants that grow well in his Empire. He will use this information to decide what to plant in his gardens and fields. Explorers work in teams of 3-4 and must find five plants to research. They are given a table in which they write information about leaf color, leaf size, leaf texture, leaf orientation, and leaf smell for each plant. Then they answer questions that help them synthesize this information and form a coherent statement about general leaf characteristics for plants in the "Empire."

The explorers then engage in a discussion of the climatic characteristics of the Davis area, which they discover is very similar to the Mediterranean area. They then discuss why plants
have the characteristics they have, given the climate. The final activity is for students, in teams, to create skits that illustrate why each plant characteristic, or adaptation, helps it survive in the Mediterranean climate. Teams are given cards that explain each adaptation. This is an immediate evaluation to see if students understood the adaptations.

Click here to view plant activity worksheets

CA State Standards for this activity:

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Plant Drawing station: A professional artist had visited the students in their classroom and taught about drawing plants. Now, they have the opportunity to draw the plant they chose to research. They can draw their plant in any way that they choose: a close-up of a bud, a cluster of leaves, an entire tree. The students are reminded to sit and look at the plant for a couple of minutes before drawing, noticing the details about the plant like the hairy leaves, the vein and bark patterns, the various shapes. They can even draw themselves in the picture with the plant. We relate this project to the unit by telling them that drawing is something that our culture shares with cultures throughout the ages. The picture is meant to be the cover for their final research reports.

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Plant Poetry station: In My Dream

For this poetry-writing station at the Arboretum, students met on the boat dock and sat in a circle. A poet-teacher with California Poets in the Schools led the activity, and began by telling students that they'd be writing rough drafts, so spelling, punctuation, etc. don't matter for now. She told them that they'd be writing poems because poetry is a way of making surprising connections that they might not make in everyday language. Students were also reminded that poetry doesn't have to rhyme!
They began by drawing two large circles on a sheet of paper; each of these circles became a "word pool." Students filled the first pool with a written collection Arboretum words, working collaboratively by sharing ideas aloud, and being encouraged to be as specific and descriptive as possible. The second word pool was filled with words relating to Ancient Rome.

Then, students were asked to write a poem on the back of their paper, using as many combinations of words from the two pools as they could. The suggested title for their poems was, "In My Dream," and students composed some example lines out loud, such as "In my dream I saw a mallard family walking through the Coliseum," or "In my dream I heard a valley oak yelling at Caesar." Then, students wrote their individual poem silently, and were aloud to deviate from the "In My Dream" format, so long as they were still creatively combining the two word pools. In the last few minutes, students who wanted to could read their poems aloud to the group.

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Here are some In-Class Activities

*Writing Odes*

For this in-class poetry activity, the poet-teacher returned and asked students to take out all their written materials and illustrations of the Mediterranean plant they’d each chosen earlier in the unit. She then explained that *odes* were a traditional form of poetry in praise of something, and introduced the lesson by saying they would be writing odes to their plants. (The whole poem didn't have to be in praise of their plant; they could say both positive and negative things about it, so long as they used specific, descriptive terms.)

The poet read Pablo Neruda's "Ode to a Cluster of Violets" out loud to the students as a model poem, asking them to listen for words they liked, and words and phrases that they found memorable or surprising. The poem was read aloud a second time by a student, and then the class created a big word pool by taking turns saying the words and phrases they’d liked, while the poet wrote them on the board. The poet explained that one place to get inspiration for amazing writing is to read amazing things, and that incorporating some of Neruda's language would help wake up our brains to new ways of talking about plants.

Students were then asked to write their own, individual odes. The beginnings of some of Neruda's lines were written on the board for optional use by students who might wonder how to get started, such as "You resemble______________," "Up close, your fragrance______________," and "You deliver__________________." After 15-20 minutes of writing time, students were given a chance to share with the class, while those who were still writing finished up.

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*Drawing Plants*

A few days before the field trip, a local artist visited the classroom to teach the students how to make botanical drawings. She gave each student a plant cutting, and had the students observe details of the plant, focusing on shape and texture. The students experimented with pencil and charcoal drawings, and included some of these in their portfolio.

**CA State Standards for this activity:**

*Visual Arts*

*All Grades*
A Vignette from the Unit

“We welcome all of you brave explorers. The Emperor of Rome has ordered you here because he wants you to explore his empire. He wants you to gather information about the characteristic of plants in his empire so he will know what kinds of plants and crops to grow in his gardens and fields.”

The teams of 6th grade “explorers” fan out over the empire (the Mediterranean Section of the Davis Arboretum) to search for plants. Each team discovers five new plants and records information about leaf color, size, texture, position, and smell. The explorers reunite after their travels and work together to figure out what general characteristics Mediterranean plants have. “Most of the plants have small, furry, gray leaves,” says one group. They report their findings to the Emperor.

Students then brainstorm about the features of the Davis climate (hot, dry summers and cold, wet winters). One student raises his hand and informs the class that “our climate is called a Mediterranean climate.” This leads them to discover that the Davis climate is very similar to the climate of the Mediterranean region.

Finally, students make the connection between climate and plant characteristics. Each group of students gets a card that describes one of the general plant characteristics, or adaptations, they have already learned. They create a skit to explain to their classmates how that adaptation helps plants survive in the Mediterranean climate. In one skit, a student is the sun and showers rays over the horizontally-held palms of another student, who acts out how hot he is. Then the sun showers rays over the vertically-held palms of another student, who acts out how comfortable she feels. After viewing the skit, students in the audience interpret what they saw. “Leaves that are flat get more sun and get hotter, leaves that are upright don’t get as much sun and stay cooler.”
Field Site: UCD Arboretum

Location Description:
The UCD Arboretum consists of 100 acres of the old North Fork of Putah Creek, bordering the southern edge of UC Davis. It has hundreds of species of plants adapted to local Mediterranean climate, including both natives of California and non-natives. The Arboretum is an ideal place for teen involvement in environmental education, through programs such as naturalist training, a summer camp, and habitat tours.

TB32 LaRue Road, office 3233.

Hours: 8-12, 1-4, M-F.

Meeting Space

Inside: none

Outside: Amphitheater near Putah Creek Lodge; Wyatt Deck; picnic areas

Educational component/activities/programs:
Tours for 1st-5th grade students; adult tours on Sundays and by request; self-guided tours; some displays

Miscellaneous Resources:
Picnic areas, miles of trails for walking and biking, restrooms at Headquarters.

For more information, please visit http://arboretum.ucdavis.edu/
Unit Creation Information

Participants:
Chris O’Neill, Cesar Chavez Elementary Teacher, 6th Grade
Maite Sureda, Cesar Chavez Elementary Teacher, 6th Grade
Carmia Feldman, UCD Arboretum
Sara Kalmanovitz, UCD Arboretum
Betsy Faber, UCD student

Field Site Location:
UC Davis Arboretum

School:
Cesar Chavez Elementary, Davis CA