

Final Project: Shoebox Ecosystem Dioramas

LESSON INTRODUCTION

Time Frame: ~2 weeks

Note: To give families ample time to visit an outdoor space, we recommend notifying parents ahead of time and giving students at least 2 weekends to work on the project.

Materials:

- Shoebox Ecosystem Project [handout](#)
- Land Acknowledgement [handout](#)
- Internet access
- Notepad and writing utensil
- A shoebox or small box
- Craft, recycled, or natural materials for ecosystem components
- Optional: binoculars, folding chair or picnic blanket, snacks/water

In this final project, students will apply their knowledge of Indigenous presence and perspective through relationship-building with place. They will support Tribal sovereignty through a final land acknowledgement that reflects their research and continuing partnership goals with local Native tribes.

Expressive Outcomes:

I know I can construct a model ecosystem.

I know I can make a respectful and well-researched land acknowledgement.

Teacher Background:

To prepare for the final portion of this unit, you may wish to interpose your own lesson(s) on local ecosystems. What we aim to accomplish through this project is for students to make actionable efforts to build relationships with the land through observation and project-based learning. As put forth in the introduction lesson, the overall goal of this unit is to nurture *respect, reciprocity* and *relationships* with place and local Native communities.

The preceding lessons should have helped prepare both students and educators to enter

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a mental and emotional space to complete this project with those three values in mind. Before introducing this project, revisit the Intro Lesson on the 3 R's and ask students once more, **what does it mean to act as a guest on this land?** As students set out to visit these places, remind them to act as guests would act in someone else's home.

Based on where the majority of your students live, look up specific locations to recommend for visits. If it's an option, organize a group outing and build community within your classroom! Throughout the course of the project, give students time to visit the library or use personal computers to conduct research on the places they choose to visit. Encourage students to make this project personally meaningful, for they will forever be connected to this place upon completion of the project. We suggest giving them as much creative freedom as possible. They may enjoy putting together a Google Slides presentation, or pre-recording their presentation and sharing it this way. Make time to have a class discussion around their ideas and communicate expectations.

We recommend students come together to share their Land Acknowledgements for the purpose of contributing to a final group Land Acknowledgement that can be hung somewhere in the classroom!

We would like to express our sincerest gratitude for implementing this curriculum in your classroom. We hope it has offered valuable insight into all that our Native communities have to offer this place we call home. Please do not hesitate to provide feedback/suggestions/comments/questions to:

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STANDARDS

Common Core:

Speaking and Listening

CCSS.ELA-LITERACY.SL.4.4

Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

CCSS.ELA-LITERACY.SL.4.5

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Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

CCSS.ELA-LITERACY.SL.4.6

Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.

Language

CCSS.ELA-LITERACY.L.4.3

Use knowledge of language and its conventions when writing, speaking, reading, or listening.

CCSS.ELA-LITERACY.L.4.3.A

Choose words and phrases to convey ideas precisely.*

Reading: Informational Text

CCSS.ELA-LITERACY.RI.4.7

Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

Writing

CCSS.ELA-LITERACY.W.4.7

Conduct short research projects that build knowledge through investigation of different aspects of a topic.

CCSS.ELA-LITERACY.W.4.8

Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

CCSS.ELA-LITERACY.W.4.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

Native Knowledge 360° Essential Understandings about American Indians:

Essential Understanding #3: *People, Places and Environments*

For thousands of years, indigenous people have studied, managed, honored, and thrived in their homelands. These foundations continue to influence American Indian relationships and interactions with the land today.

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- The story of American Indians in the Western Hemisphere is intricately intertwined with places and environments. Native knowledge systems resulted from long-term occupation of tribal homelands, and observation and interaction with places. American Indians understood and valued the relationship between local environments and cultural traditions, and recognized that human beings are part of the environment.

NGSS Standards:

4-LS1-1 From Molecules to Organisms: Structures and Processes

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2 From Molecules to Organisms: Structures and Processes

Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

4-ESS3-1 Earth and Human Activity

Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

5-LS2-1 Ecosystems: Interactions, Energy, and Dynamics

Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

CA Environmental Principles and Practices:

Principle II - People Influence Natural Systems

The long-term functioning and health of terrestrial, freshwater, coastal, and marine ecosystems are influenced by their relationships with human societies.

SOURCES

- [The Native Seed Pod](#) is a beautifully directed podcast featuring a wealth of Native experts on biodiversity, ecology, and food sovereignty. Check out “Rekindling California Native Ecologies” - Parts 1 & 2

Other useful resources to become familiar with:

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- Pepperwood Foundation's "Wild Wonders" [YouTube](#) shorts
- [CA Indian Essential Understandings](#)
- [Native Knowledge 360 Essential Understandings](#)
- [List of Tribal Nations by County](#)

Suggested locations to visit and research:

[Hamilton Wetlands](#) in Novato, CA

[Petaluma Wetlands](#) in Petaluma, CA

[Laguna de Santa Rosa](#) in Cotati, CA

[Pepperwood Preserve](#) in Santa Rosa, CA

[Foothill Regional Park](#) in Windsor, CA

[Healdsburg Ridge Open Space Preserve](#) in Healdsburg, CA

[Agate Beach](#) in Bolinas, CA

[Armstrong Redwoods State Natural Reserve](#) in Guerneville, CA