

Coast redwoods, the tallest living things on the planet are a great resource for cross-disciplinary studies. ***Life in the Coast Redwoods*** introduces students in second through fifth grades to coast redwood forests and offers ideas for exploring and taking action to protect these amazing trees. Below you will find an answer key to activities in the brochure and ways to use it in your classroom.

Introduction

Show students a photograph of a coast redwood tree. Create a K-W-L chart with the class. Give the students a few pieces of information about coast redwoods to entice them, such as

- they are the tallest living things on the planet
- they can live to be really old
- they are found in California.

Have the students think about the tallest thing they have ever seen; maybe a building, another tree.

Additionally, introduce the students to the idea of a forest. Have the students pair share what a definition of a forest is and what you find in a forest:

- a forest is a large area of land with trees and other plants
- things you may find in a forest are trees, plants, animals, fungus, rocks, fallen logs, trails and people!

Tell the students they are going to read more about a forest in California called a coast redwood forest.

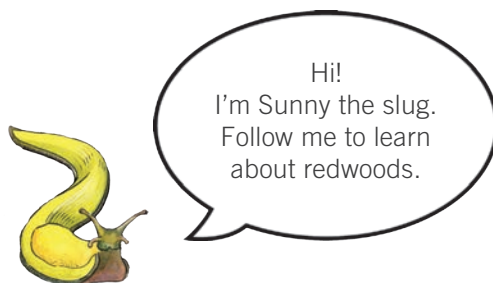


Coast Redwood Booklet

After students have read the booklet and answered all the Redwoods Superhero Challenges, review the answers with the class.

Redwoods Superhero Challenge

page 2: Map



1. Which park is farthest north? Which park is farthest south?

Farthest north – Jedediah Smith Redwoods State Park
Farthest south – Limekiln State Park

2. What type of weather do redwoods like to grow in and why?

Coast redwoods like a Mediterranean climate with winter rain and summer coastal fog.

Additional discussion questions:

- What is the climate like where you live? What is the difference between climate and weather?
- Do you think coast redwood trees could live in your backyard? Why or why not?

1. Compare how Native Americans used the redwoods with how European settlers used them.

Native Americans used fallen wood to make houses and canoes; they didn't actively cut down any redwoods. European settlers actively cut trees for houses, furniture and boats.

2. Why was there a redwood logging boom after 1849?

There was a redwood logging boom after 1849 because so many people came to California to search for gold. New houses and cities needed to be built to accommodate the growing population.

3. What does Save the Redwoods League do to protect redwood forests? Save the Redwoods League buys redwood forestland and protects the trees from being cut down by making the forests into parks.**Additional discussion questions:**

- What is one thing Native Americans did that shaped the redwood forests we see today?
- Which use of redwoods was better for the forest and why, how the Native Americans used the trees or the Explorers?
- Why do you think parks are so important for both plants and animals and humans?

1. In what year did the inner ring grow? 1989**2. In which years do you see scars in the wood?** 2008, 2007**3. What do you think might have caused these scars?**
Fire**Additional discussion questions:**

- What are three adaptations that help coast redwoods live a very long time and grow really tall?
- How many types of needles do redwood trees have? What are the differences between them?
- If fires, insects, and fungus do not kill redwood trees, what do you think might?



Vocabulary

Introduce the vocabulary words appearing in bold in the brochure (listed below). Have the students think about if they have heard the vocabulary word before and in what context. Have the students create a visual glossary. On a sheet of paper, have the students write the word and next to it illustrate the word.

tannins a chemical that is found in the bark of redwood trees. tannin helps give the redwood bark and wood its reddish color and makes the wood less wanted by insects and fungus. it protects the tree from decomposing and being eaten.

reproduce to make something new, to create a new tree.

seeds a small, flattish part of a plant which houses all the material needed to make a new plant.

burl a rounded growth, often at the base of a tree, with special cells that can sprout into new trees.

adapted when a plant or animal is especially suited for their environment or habitat.

conserve to prevent loss of, to preserve or save. to use less.

evaporation when water turns into a gas. when water on a plant will turn into a gas and go into the air.





Try
This

Draw a line from the animal, plant or fungus to what they eat, or what eats it.

Additional discussion questions:

- What do you think the bat eats? What does the woodpecker eat?
- What would happen to the redwood food web if there were no more mice/voles?



Activities



Create a redwood timeline. Create a timeline of redwood's history starting in the 1600's when Native Americans were on the land until the present day. Use the information in the brochure to start your timeline. Look up additional information on the web or in books to add to your timeline. Add in additional historical information based on what you are studying in class and what major events happen in your state.

Personal forest story. Write and present to the class a personal story about being in a forest or around trees. How did they make you feel? What did you do in the forest? What did you notice was in the forest? Include student drawings of their experiences as well.

Redwood research paper. Research one aspect of the redwood forest that you learn about in the text. Examples include: food webs, logging, adaptations, a specific animal, citizen scientists or tree rings. Give a short presentation about your topic to the class.

Create a Food Web Model. Brainstorm with the class possible food webs for different habitats, ocean, river, prairie, etc. What animals would be in that habitat? Who would be at the bottom of the food web and who would be at the top? You may need to review who would be a producer, consumers and decomposers for each habitat. Have each student create their own food web diagram for their habitat.



Analyze redwood height and weather data. Show students the following graphs which show the tallest redwood trees and where they are located and the annual rainfall in those areas. Then have them look on the map of the coast redwood range on page three of the *Life in the Coast Redwoods* brochure. Have the students work in groups to create two bar graphs, one of the height of the trees and another of the annual rainfall.

Redwood Park	Tallest Tree	Annual Rainfall
Jedediah Smith	354 feet	210 cm
Redwood National Park	367 feet	175 cm
Humboldt Redwoods	367 feet	136 cm
Montgomery Woods	354 feet	119 cm
Muir Woods	262 feet	120 cm
Big Basin	295 feet	103 cm
Pfeiffer Big Sur	259 feet	111 cm



Once students have finished with their graphs have them look for any patterns. Then they can work together to answer the following questions:

1. What part of California has the tallest tree? What part has the shortest tree?
2. What patterns do you notice with the two graphs?
3. What are some things that trees need to grow?

Resources

Visit our Redwoods Learning Center at SaveTheRedwoods.org/learning-center for these great additional resources:

- Photo Libraries
- Reading Lists
- Redwood Maps
- Field Trip Guide
- Videos



Wrap-Up

Ask students to think about what they learned about redwood forests and the plants and animals that live in them.

Have each student write down a couple words to describe what they learned (sample words might be, tall, strong, adaptable, old).

Display any worksheets or artwork on the walls and if possible have students present to another class about redwood forests.



Standards

Common Core State Standards

English Language Arts

Grades 2-5: *Reading Standards for Informational Text – Key Ideas and Details, Craft and Structure, Integration of Knowledge and Ideas.*

Grades 2-5: *Speaking and Listening Standards – Comprehension and Collaboration, Presentation of Knowledge and Ideas*

Grades 2-5: *Writing Standards – Text Types and Purposes, Research to Build and Present Knowledge*

Mathematics Standards

Grades 3-5: *Operations and Algebraic Thinking, Measurement and Data*

NGSS

Grade 5: *Matter and Energy in Organisms and Ecosystems, LS2-1*

