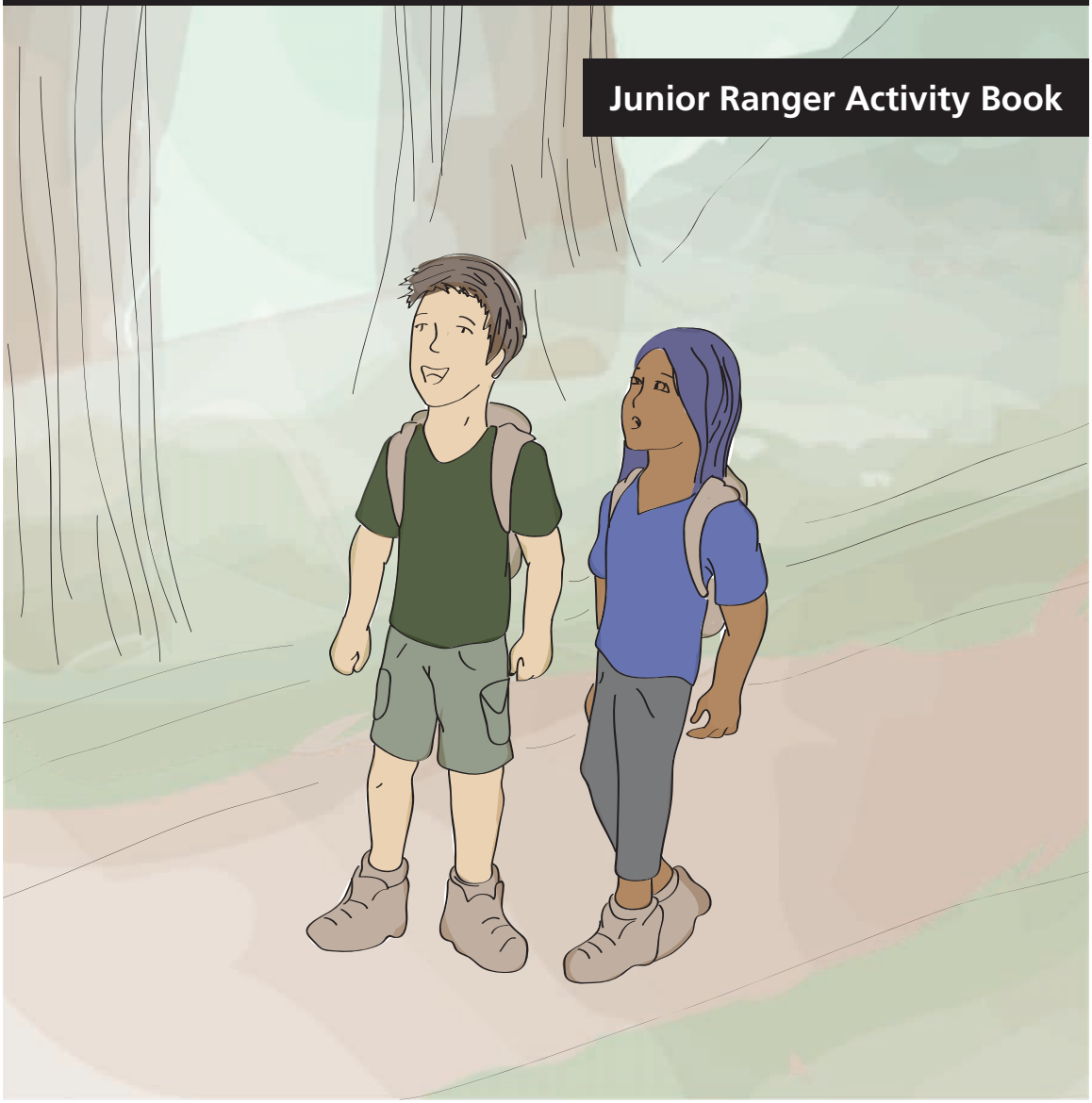
# Muir Woods National Monument

National Park Service
U.S. Department of the Interior

Golden Gate
National Recreation Area

## Junior Ranger Activity Book



Name _____ Date _____

Weather _____

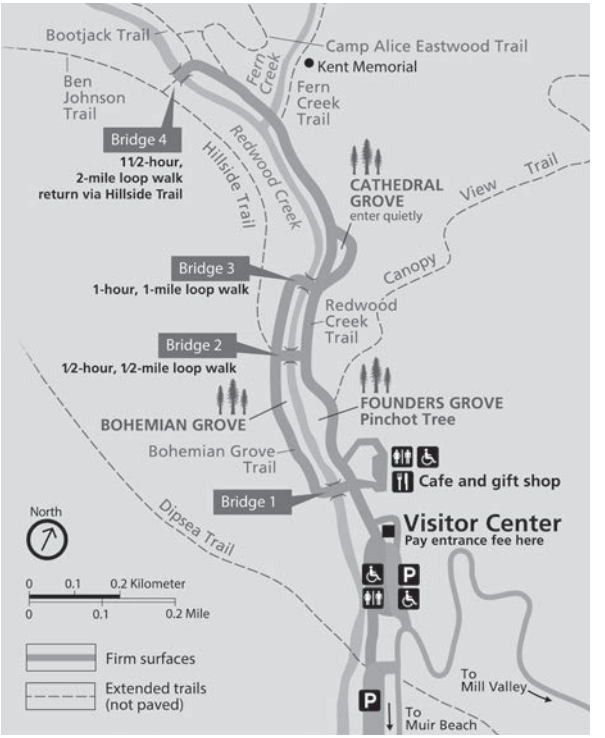
Muir Woods National Monument is one of over 400 National Parks. National Parks are special places that belong to everyone, and you can find them all over the United States! Muir Woods is a very special place - an old growth redwood forest. As you complete this activity book, you'll explore what makes this forest so unique.

## How to Become a Jr Ranger!

If you are 4-7,complete any 5 pages with a banana slug on them.

If you are 8-10, complete any 8 pages.

If you are 11 or older, complete all pages.




Muir Woods Map

**Ranger Tip: Stay on trail. Poison Oak is a plant that makes people itchy if they touch it, but deer like to eat the green, sometimes red, shiny leaves of three.**

**Remember: "Leaves of three, let them be."**

Animals rely on their senses to survive. Observe the forest by using your deer ears! What do you see, hear, and wonder about this place? Write or draw your observations:

**What do you think lives in this forest?**

**Ranger Tip: The quieter you are in a forest, the more things you will get to see and hear.**

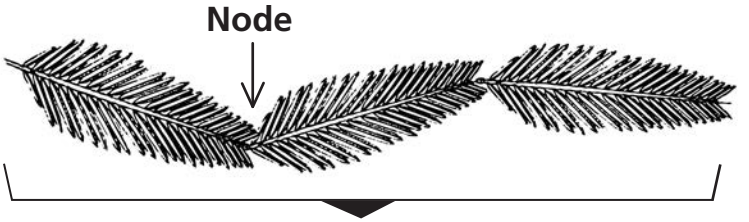
You can tell how old a fallen redwood tree is by looking at the rings of the cross section. A cross section is a big round slice from the trunk of a fallen tree, like when carrots are sliced into circles. Each ring is one year of a tree's life.

Walk along the trail and find a fallen tree or go to the large cross section near Bridge 1.

<u>Count the rings!</u>

Rings of Life Activity: Draw a cross section of your life. There should be as many rings as your age. Include any important dates in your life.

Redwood branches contain needles that grow flat along their stems, known as sprays. On each spray are bare spots on it are called nodes.  You can count the nodes to find out the age of the spray! One node equals one year.




**Redwood Spray**

Junior Ranger Challenge: Look on the path and find a long redwood spray. Use your pencil to make a rubbing or drawing of your spray.

How old is your branch?_____

**Ranger Tip: Take only pictures, no collecting.**
**Leave only footprints, no littering**

How do redwoods reproduce? Find a large lump on a redwood tree. It is called a BURL. A burl is a mass of redwood tissue that contains buds, and is about the same color as the bark. Burls can be found on the trunk or on the roots.

When a tree is stressed or hurt from fire, a strong wind, or humans, the burl will send up new sprouts.

Trees grow close together and in circles sprouted from burls on the roots. These are called family circles.

Fun Fact: The average age of the redwood trees in Muir Woods is between 500-800 years old.

How many family circles do you see growing around you? Draw a family circle below.

Trees that are standing all by themselves sprouted from seeds, which are actually only about the size of a tomato seed. They come from cones that are only about the size of an olive!

How many trees can you find that grew from a seed?

_____

Fun fact: Redwoods have really shallow roots, 6-13 feet! If a tree was your height, its roots would only go down as deep as your big toe.

Find a quiet, inspirational place along the trail to create a poem, drawing, song or your own creation about the redwood trees. You might want to write about the size, shape, or color of the trees. Be sure to include a line about the forest and what you hear.

Some years there is not enough water in Redwood creek that runs through Muir Woods. Other years there is too much water.

Take a look at the creek now, how does it look?

_____

_____

What are some things that rely on the creek to survive?

_____

_____

How might animals and people be affected if the creek is too high?

_____

_____

What if it's too low?

_____

_____

Fun Fact: Redwoods need a lot of water. In Muir Woods, they get their water from Redwood Creek, fog, and of course rain.

Think about some ways humans can help to protect waterways. Are there things that you can do to help keep waterways, like the creek, clean?

List some of the ways that you can help keep our waters clean:

_____

_____

_____

What does the creek look like today? Draw it below

**Ranger Tip: Just like a redwood tree, your body needs a lot of water to stay healthy. Make sure you remember to stop and drink water.**

**Who were the first people to see redwood trees here?**

Native Americans known as Coast Miwoks! Evidence from over 600 villages have been found near the bay and along streams, such as Muir Beach.

Coast Miwok gathered acorns and caught **salmon** for food, used **plants** for medicines and collected redwood **bark** to build part of their homes called **kótcha**.

Today thousands of descendants of the Coast Miwok people continue their traditions in this area. They are a part of the Federated Indians of Graton Rancheria.

Look for a bright yellow leaf on the board walk or trail. Pick it up and smell it.

Does it smell like something you know? If so, what?

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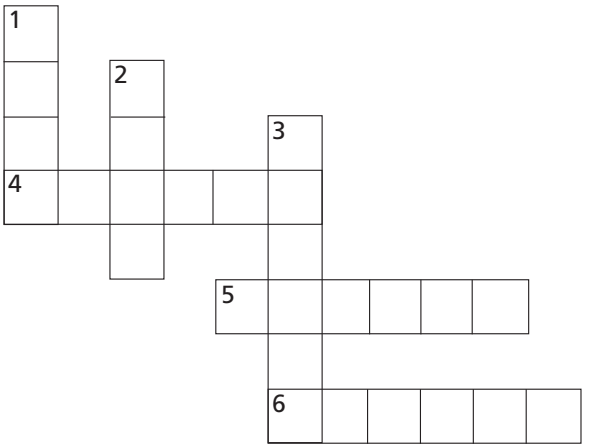
This leaf is part of a California Bay Laurel tree. Can you find the tree? The Coast Miwok called this tree **Sáwlas** and used the leaves to cure headaches, colds and repel bugs. They used the **nuts** to make flour c roasted them whole to eat.

# Miwok Way of Life

**Use the words in bold on page 11 to fill in the puzzle**




Down

1. Used this part of the redwood tree to make parts for their homes
2. Part of the Bay Laurel tree that the Coast Miwok would eat
3. Miwok word for California Bay Laurel

Across

4. Miwok word for home
5. Used this for medicine
6. The Miwok hunted this from the bay and from streams for food

Why do you think Coast Miwok no longer live in their traditional villages?

**Fire**

Fire is a natural part of a redwood forest. Fire recycles nutrients by burning leaves and branches and creates open space that allows for new plants to grow.

Circle the environment that is better for a new seedling to sprout in.

Fun Fact: Inside their bark is a special chemical called tannin. The tannin makes the tree red and protects it from fires, insects and rot.

**Write down or draw your favorite experience in Muir Woods today:**

**Why would you want to protect this forest?**

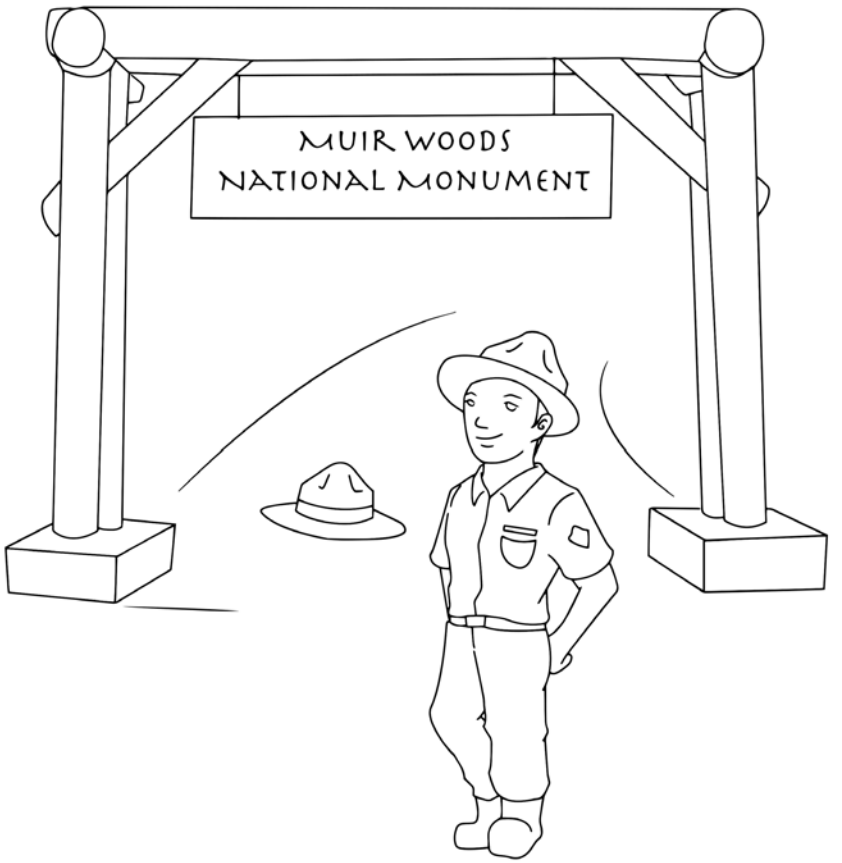
**Find someone who works in the park. List two questions you'd like to ask them:**

**Thank you for becoming a Jr Ranger and helping your park.**

**To find out more about Jr Ranger programs at other National Parks, visit the NPS website at:**

**Http://www.nps.gov/kids/jrRangers.cfm**

**Draw yourself as a ranger:**



# Muir Woods National Monument

## Certificate of TREE-MENDOUS Achievement

_____

Junior Ranger

_____ _____

Muir Woods Ranger Date

I promise to preserve and protect the plants, animals, and history of the national parks and my community by following the park rules, teaching others and showing respect for the environment wherever I go.