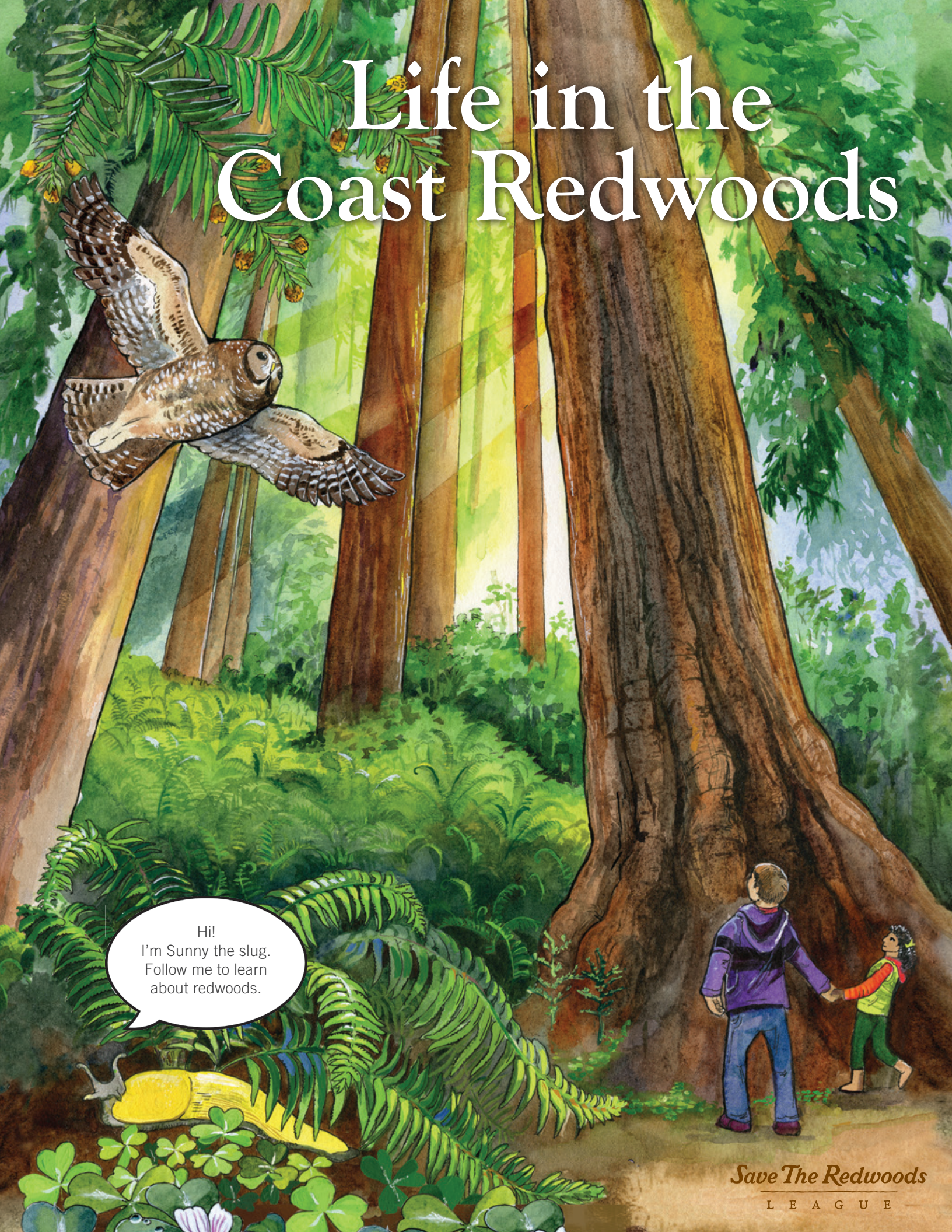


Life in the Coast Redwoods



Hi!
I'm Sunny the slug.
Follow me to learn
about redwoods.

Save The Redwoods

LEAGUE



The Tallest Trees in the World

Imagine standing beneath a coast redwood tree. You crane and stretch your neck, looking up, but the tree is so tall, you can't see the top! They can grow to **380 feet tall** – that's the same height as a 38-story building or 10 school buses lined up end to end! They are not only really tall, but they can be really big as well. If you and a group of friends were to hold hands around the largest redwood, it would take 17 of you to complete the circle.

Coast redwoods can also grow to be very old. The oldest coast redwood is more than **2,500 years old!**

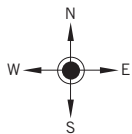
There are many coast redwood forests protected in local, state and national parks, available for you and your family to visit and enjoy. When you visit a redwood park with your family, look for banana slugs, pick up cones, and smell the needles as you walk below these giants.

Try This

Hold hands with your friends around a large tree in your neighborhood or local park. How many of you does it take to circle the tree?

What's in the duff?

From the forest floor to the highest branches, you can find evidence of life, big and small. On the following pages, find plants, animals, fungus or evidence of them in the redwood duff. Can you spot all 6?



MAP AREA



CALIFORNIA

Coast Redwood Forest Range

OREGON
CALIFORNIA

Jedediah Smith

Redwood National Park

Humboldt Redwoods

Montgomery Woods

Armstrong Redwoods

Bothe-Napa

Muir Woods

Redwood Regional Park

Big Basin

Pfeiffer Big Sur

Limekiln

Where do coast redwood trees live?

Coast redwood forests are found nowhere else in the world but the California coast. Here it is rainy in the winter and foggy in the summer. Fog and rain give the trees water all year long, which helps them grow and grow. Redwoods grow within 30 miles of the Pacific Ocean in California and southern Oregon.

To learn more about coast redwood parks, visit SaveTheRedwoods.org/maps.

Did you know...?

Coast redwood trees are the tallest living things on the planet.

Complete the Redwoods Superhero Challenges and answer all the questions!



Redwoods Superhero Challenge

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

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

3. What is the closest redwood park to where you live?

4. What direction would you need to go to visit the redwoods?



A Walk through California's Redwood History



Indigenous Tribes

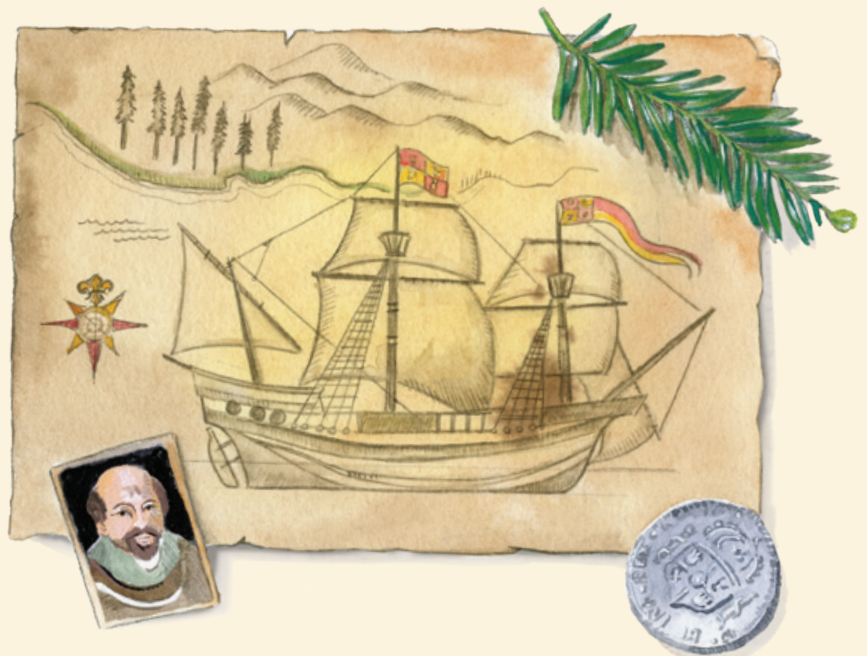
The story of redwoods over the past 200 years is an important part of California's history. Before European settlers came to California, dozens of tribes had been living among the redwoods for thousands of years and still live in and around the redwood forests today. They use wood from fallen logs to build houses and canoes. They also eat traditional plants and animals commonly found in redwood forests, including acorns, berries, and salmon from streams. Indigenous people actively burned the forests to improve food resources; some still use fire as an important tool to keep the forests healthy. Their use of fire significantly shaped the old-growth forest structure we see today.



Explorers and Gold Miners

In the 1700s and 1800s, explorers from Europe saw the mighty coast redwoods for the first time. European settlers started to cut them down to build houses, furniture and boats.

In 1849, gold was discovered in California, and many people came to the area in search of wealth. With the number of people in California growing, more houses needed to be built, so more and more trees were cut down.





Logging

Within 50 years of the Gold Rush 30% of the old redwood trees were gone. Hundreds of mills were cutting trees until the forests were empty.

People began to worry that too many coast redwood trees were being cut and that we would soon lose all of these amazing giants.

Protecting the Redwoods

In 1918, a group called Save the Redwoods League formed. The group began to buy redwood forestland to protect it from logging and to create parks for people to visit.



Today

Now in California there are 48 state parks, two national parks and many local and regional parks that include coast redwood forests. You can visit these parks whenever you want to walk below the huge branches of the coast redwoods and appreciate their beauty and magic.

Even though many redwoods are protected in parks, we still need to help surrounding logged forests stay healthy with clean rivers and trees that can grow large. As our climate changes, big trees help clean our air, provide important habitat for animals and a place for us to have fun.



Redwoods Superhero Challenge

1. Compare how Indigenous Tribes use the redwoods with how European settlers used them.

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

3. What does Save the Redwoods League do to protect redwood forests?



Coast Redwoods Superpowers



Did you know that coast redwoods have superpowers?

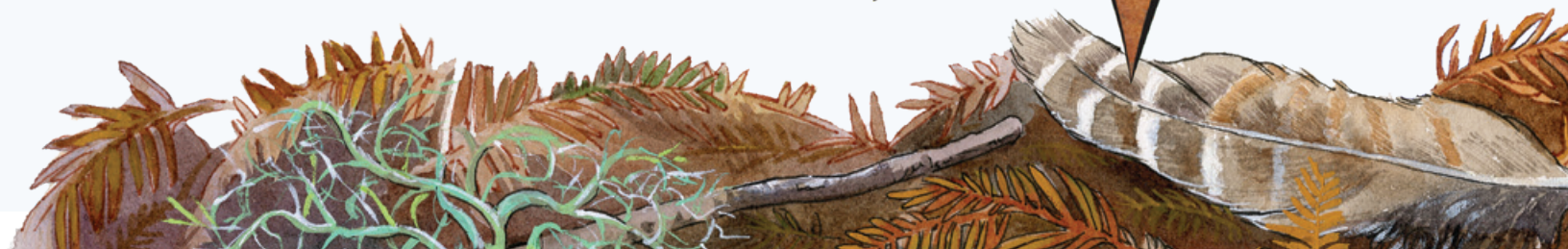


They Survive Fire!

Redwoods get their name from the beautiful, reddish color of their bark and wood. Redwood bark is soft, fibrous and rich in **tannins** (a chemical that helps prevent damage from insects and fungus). Their bark is also very thick (up to 12 inches) allowing them to survive forest fires. Forest fires may scar redwood bark but will not often kill the tree. Instead fires burn plants near the ground and create space for redwood seedlings (and other plants) to grow.

They Live Forever!

Coast redwoods can **reproduce** or make new trees in two different ways. **Seeds** from their cones fall to the forest floor, and with sunlight and nutrients they will grow into new redwood trees. A new redwood also can sprout from a **burl** at the base of the trunk of an established tree. This young tree gets its food from its parent. When enough sunlight is available it will grow tall right alongside its parent or replace it if the parent tree dies.





They Drink from the Sky!

Coast redwood needles are **adapted** to absorb water directly from fog. This allows them to get water during foggy summer months when there is little rain. Also, redwoods' needles are shaped differently depending on where they grow on the tree. At the treetops, where they are exposed to wind and sun, the needles are smaller, like little scales. This helps the tree **conserve** water, because these smaller needles lose less water to **evaporation**. In contrast, leaves in the understory, where it is moister and shadier, are broad and large so they can soak up as much light as possible.

Redwoods Superhero Challenge: Tree Rings

Trees put on a new layer of wood every year of their lives. In cross-section, each layer looks like a ring. The oldest rings are in the center of the tree and the newest rings are near the outside, just under the bark.

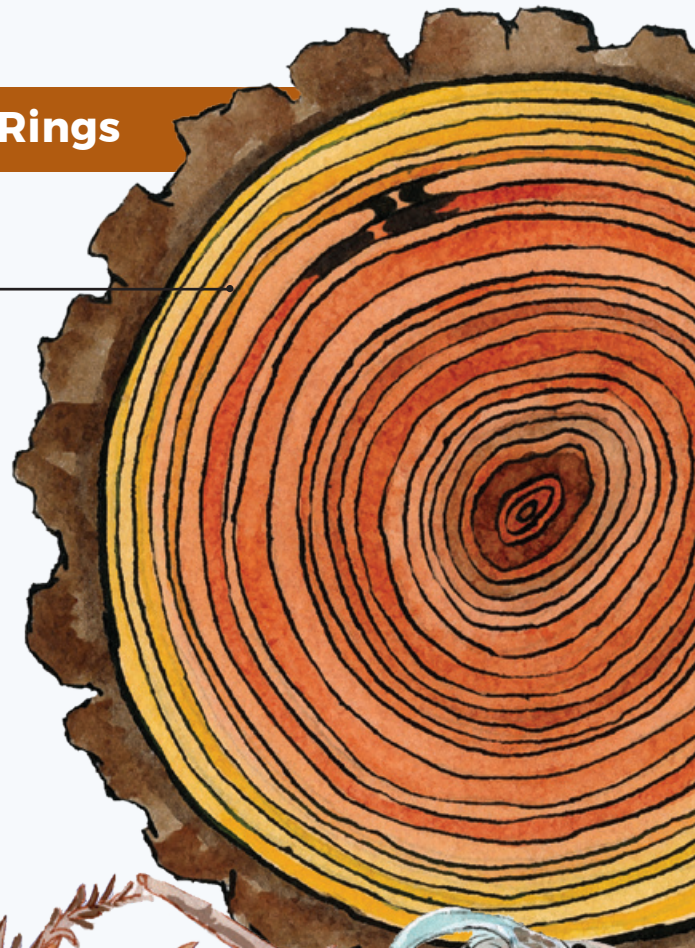
Count the number of rings in this tree and answer the following questions.

1. In what year did the inner ring grow? _____
2. In which years do you see scars in the wood?

3. What do you think might have caused these scars?

4. How many years older or younger is this tree than you are?

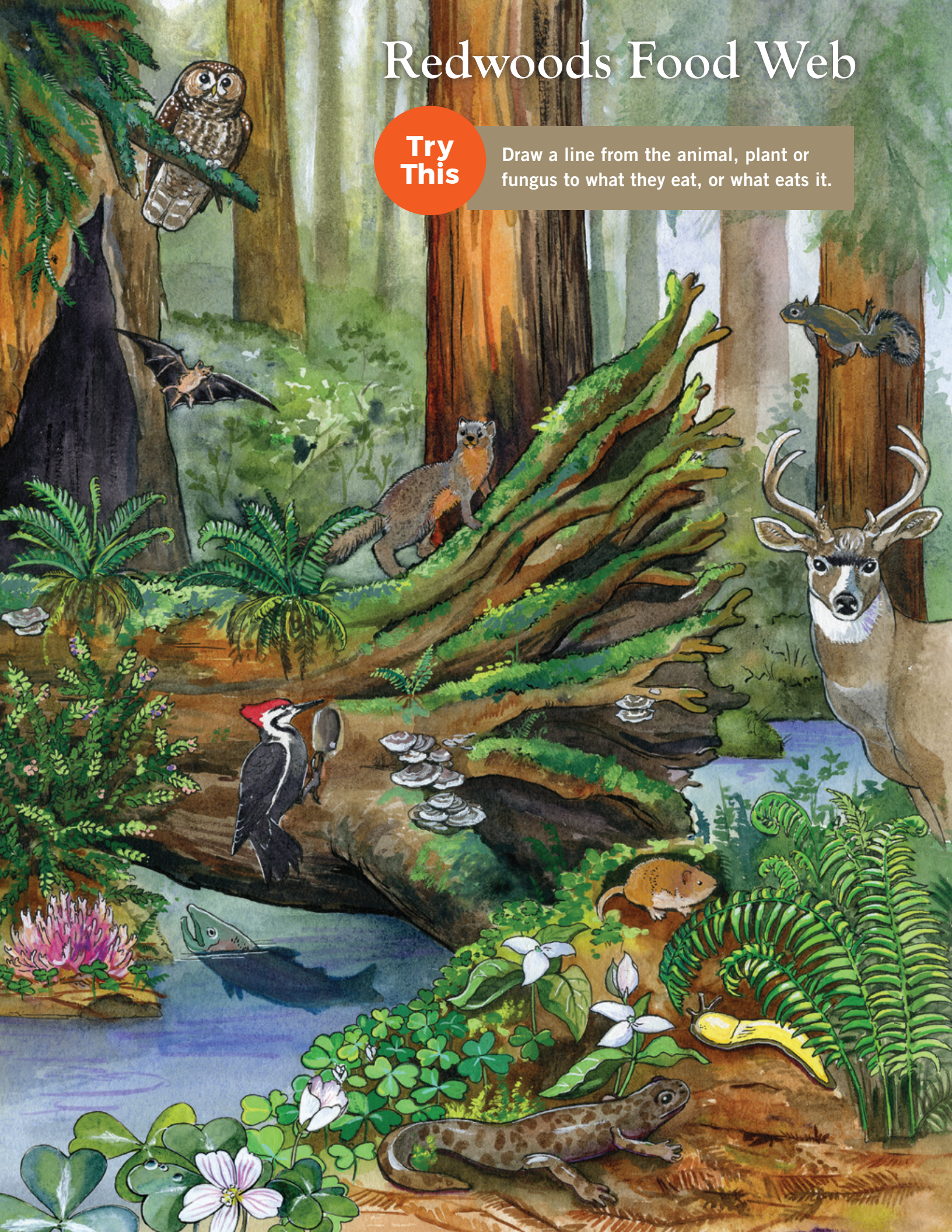
2010



Redwoods Food Web

**Try
This**

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



Redwood Kingdom Game

Play This

Cut out these animal cards and see whose animal trumps as a predator, defense, rarity, and camouflage. To get a full set of instructions on how to play and to download more animals and the advanced Endangered Card and Connect, Restore and Protect Card, visit SaveTheRedwoods.org/redwoodgame.

Yellow-Spotted Millipede

When the yellow-spotted millipede senses danger it curls into a ball and releases a sweet almond scent of hydrogen cyanide. It is a toxic chemical which can harm anything that might want to eat the millipede. Its bright yellow spots should be a warning, Stay Away!

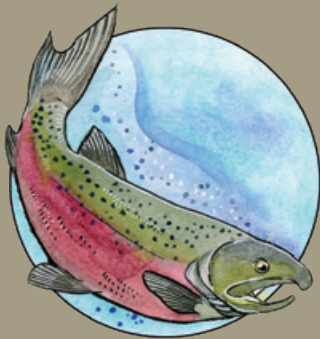


Predator: 2
Defense: 10

Rarity: 3
Camouflage: 1

Coho Salmon

Salmon live in both freshwater streams and the salty sea. They are born and die in the same stream and spend time in the ocean getting fat off tasty fish, eels, squid and shrimp.



Predator: 4
Defense: 3

Rarity: 8
Camouflage: 4

ENDANGERED

Black Bear

Black bears can be found scooping salmon from rivers or clawing at redwood trunks. These bears love to strip away the bark of young trees to get to the sugary wood just underneath. They can weigh 100-200 pounds and can be blond to brownish in color.



Predator: 5
Defense: 9

Rarity: 4
Camouflage: 2

California Red-Legged Frog

The California red-legged frog is California's state amphibian. You can find this frog near ponds and streams. It eats insects and even small fish, mice and other frogs. It captures its food by sticking out its long sticky tongue and pulling it into its mouth.



Predator: 4
Defense: 4

Rarity: 8
Camouflage: 6

ENDANGERED

Wandering Salamander

The wandering salamander lives more than 100 feet up in the branches of redwood trees. They eat ants, mites, beetles and small isopods. These salamanders don't have lungs or gills but breathe through their skin.



Predator: 3
Defense: 2

Rarity: 7
Camouflage: 9

Banana Slug

Banana slugs are the largest slug in North America! They make a slime to help them move and protect them from predators. They breathe from a hole in the side of their head and use teeth on their tongue to eat their food.

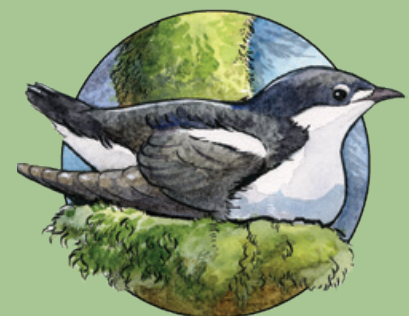


Predator: 1
Defense: 6

Rarity: 2
Camouflage: 0

Marbled Murrelet

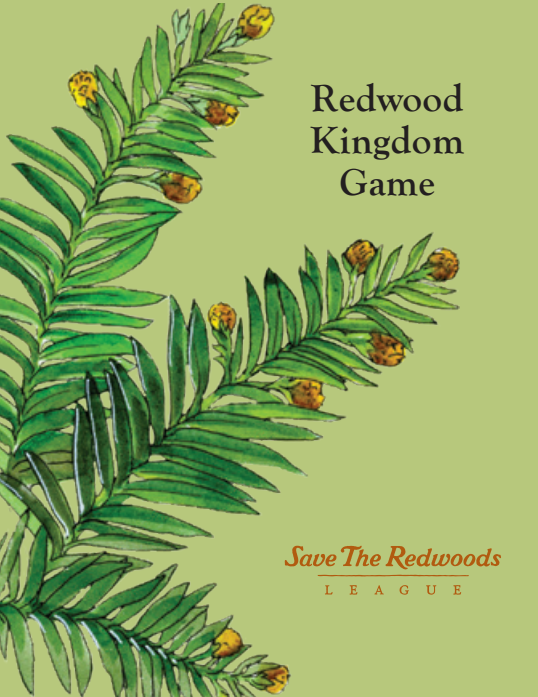
Marbled murrelets live most of their life at sea diving underwater for fish. They fly many miles to make nests in redwood trees that are more than 200 years old. This small, chunky bird has lost a lot of its habitat due to logging of old-growth trees.



Predator: 6
Defense: 1

Rarity: 9
Camouflage: 8

ENDANGERED

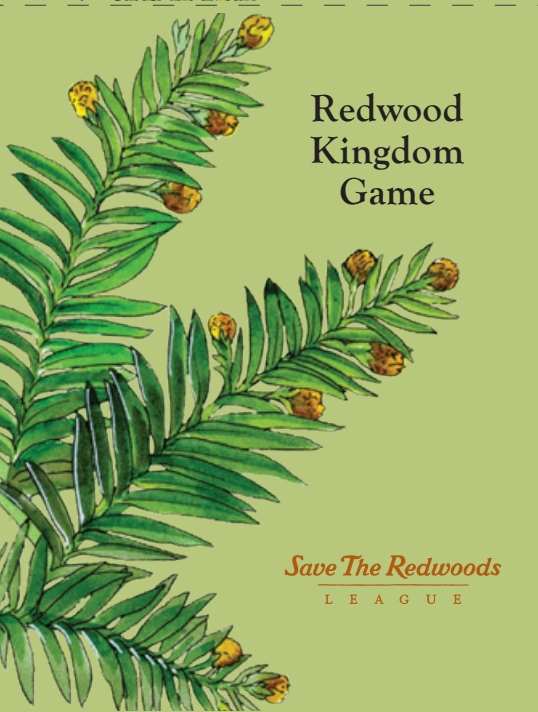


Redwood
Kingdom
Game

Save The Redwoods
LEAGUE

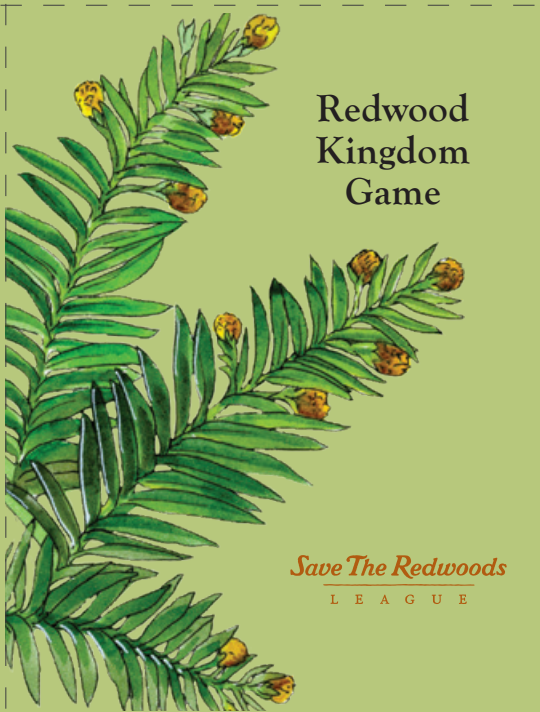


Who trumped who
during the Redwood
Kingdom Game?



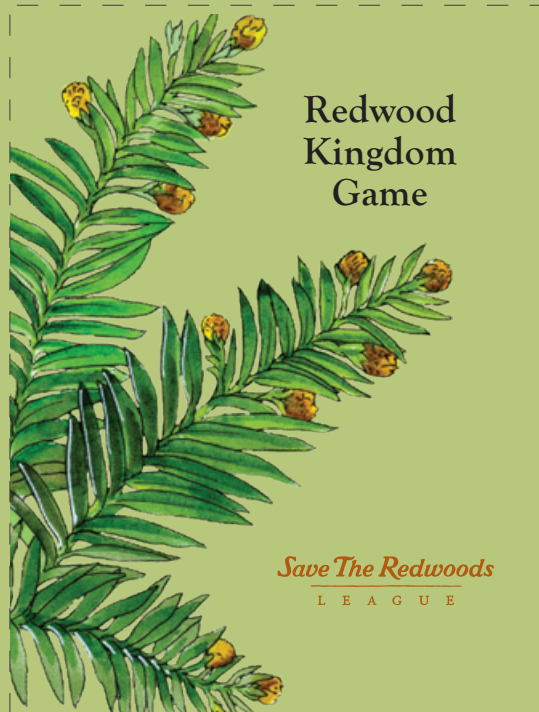
Redwood
Kingdom
Game

Save The Redwoods
LEAGUE



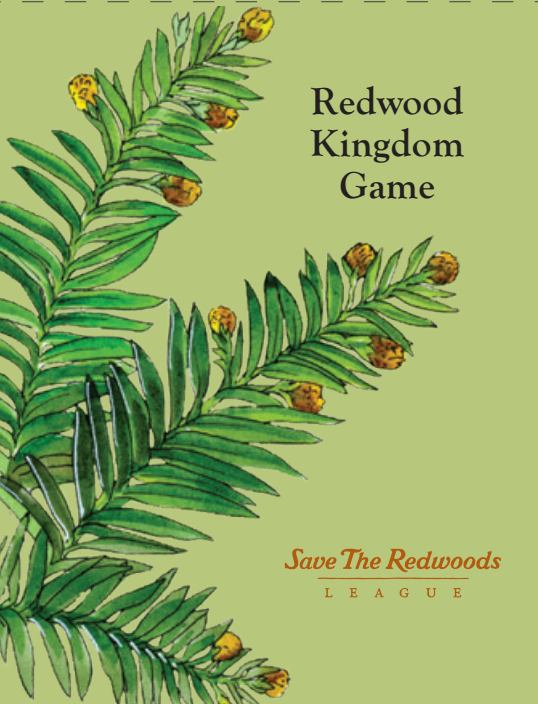
Redwood
Kingdom
Game

Save The Redwoods
LEAGUE



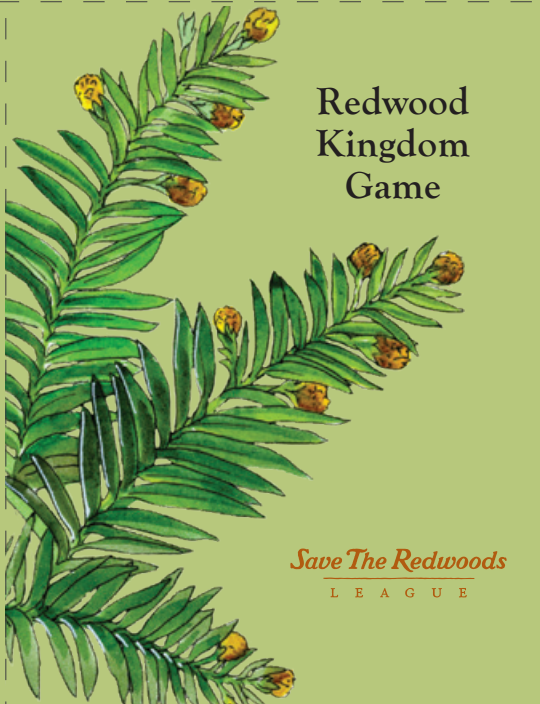
Redwood
Kingdom
Game

Save The Redwoods
LEAGUE



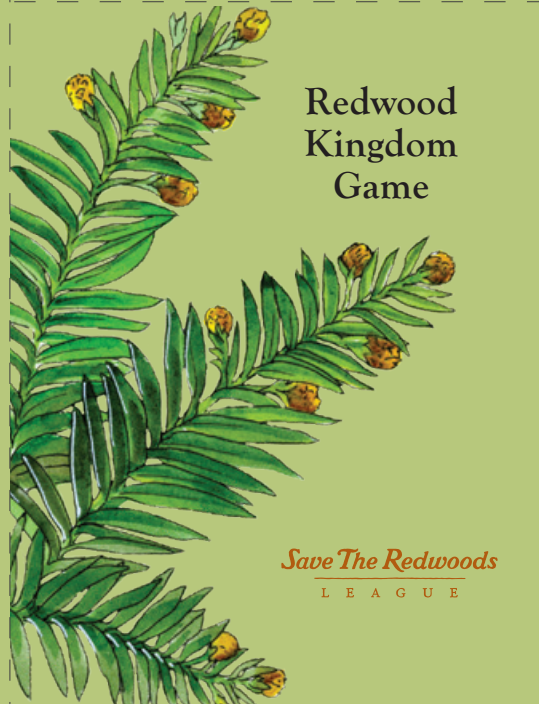
Redwood
Kingdom
Game

Save The Redwoods
LEAGUE



Redwood
Kingdom
Game

Save The Redwoods
LEAGUE



Redwood
Kingdom
Game

Save The Redwoods
LEAGUE

How to become a Redwoods Superhero!

□ Visit a park!

Plan a trip with your family to visit a coast redwood park. Visit our **Redwood Learning Center** (SaveTheRedwoods.org/learning-center) webpage to find activities to do at the park.

□ Inspire others!

Learn more about redwood forest plants and animals and share what you learn with your family and friends. Draw pictures, write stories, take photographs and share your new redwoods knowledge with Save the Redwoods League.

□ Volunteer!

Find an environmental organization in your area, and volunteer during one of their work days. You can plant trees, pull weeds or restore trails, and help our many natural areas.

□ Become a community scientist!

Help Save the Redwoods League look for changes in the forest by taking pictures as you hike around. Collect data on one of our three science projects with your camera or smart phone. Look for fiddleheads on sword ferns, flowers on trilliums or mushrooms in the redwood duff. Find out more at SaveTheRedwoods.org/community-science.

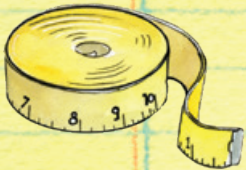
**Try
This**

Try these activities at home with your families.

1. Find a green redwood cone on the ground, then cut it in half and place it in a cup of water. **What color does the water turn?**



2. Using a measuring tape, **measure your height**. If the tallest coast redwood is 380 feet (4,548 inches), how many of you would it take to equal the height of the redwood? Now do the same for an adult in your family. How many of them would it take to equal the height of the tallest redwood?

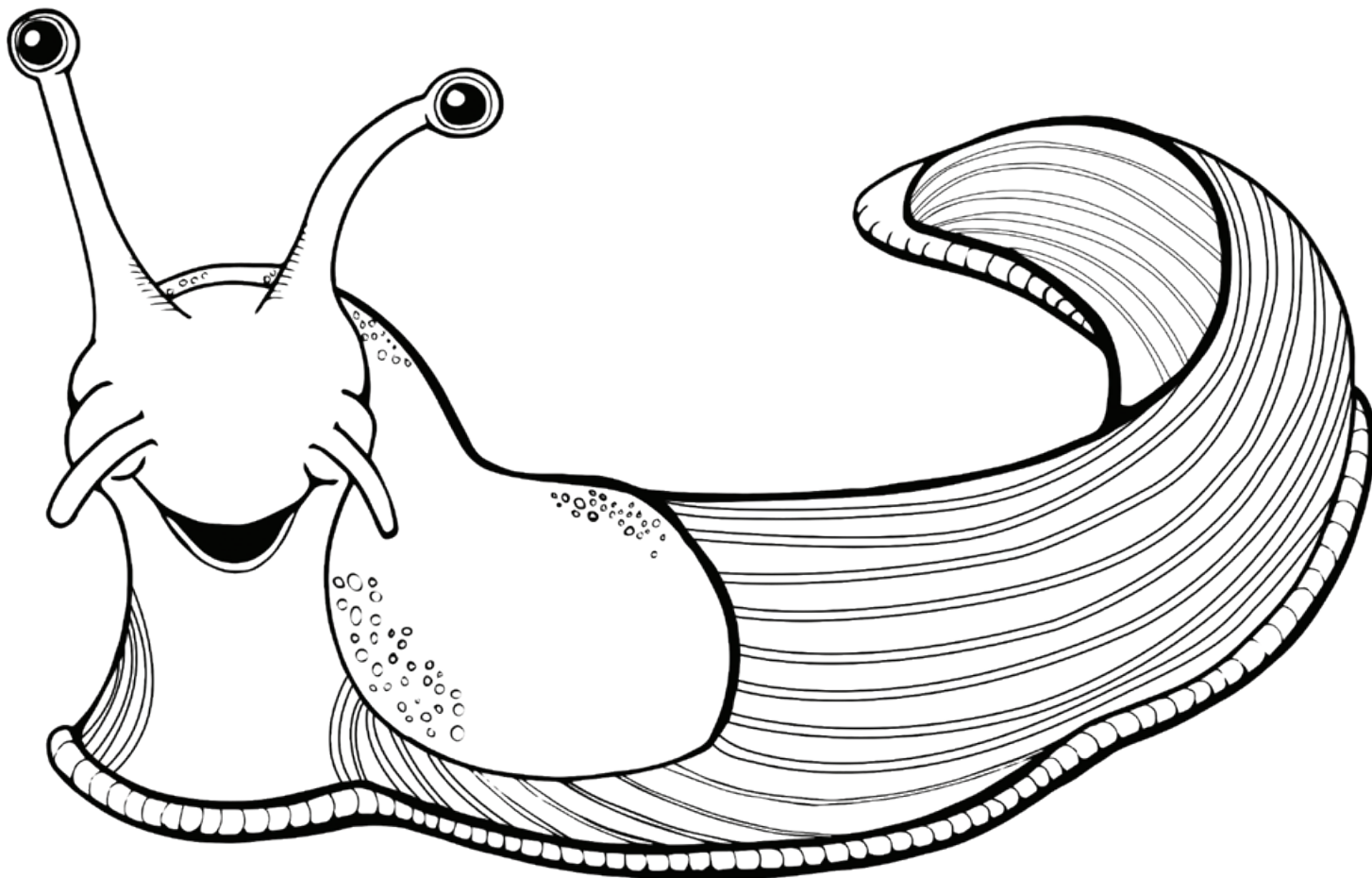


3. **Create a plant guide** of the trees in your neighborhood or local park. First, collect different leaves from the ground from trees near where you live. Take a few pieces of blank paper, crayons and your leaves and sit at a table or hard surface. Place the veiny part of the leaf up, smooth side down, on the table. Place the white paper on top of your leaf. Use the side of a crayon and rub back and forth over the leaf. The image of the leaf will begin to appear. Repeat with all your leaves. Experiment with different colors. When finished staple all the pages together into a Plant ID book!



Take a picture with Sunny the Slug!

Help spread the word about redwood forests with **Sunny the Slug**. Cut out the picture of Sunny, color it in, and take a picture of yourself with Sunny in a coast redwood forest. Email your photo to **education@SaveTheRedwoods.org** and we will put it on our website.



What's in the duff?

Did you find all six of the items in the redwood duff at the bottom of pages 2-7? Use this list to check them off.

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Red-bellied newt | <input type="checkbox"/> Lace lichen |
| <input type="checkbox"/> Pacific trillium | <input type="checkbox"/> Feather |
| <input type="checkbox"/> Pacific giant salamander eating a banana slug | <input type="checkbox"/> Bear scat |
| <input type="checkbox"/> I got them all! I'm a coast redwood expert!! | |



Save The Redwoods
L E A G U E

education@SaveTheRedwoods.org

SaveTheRedwoods.org

