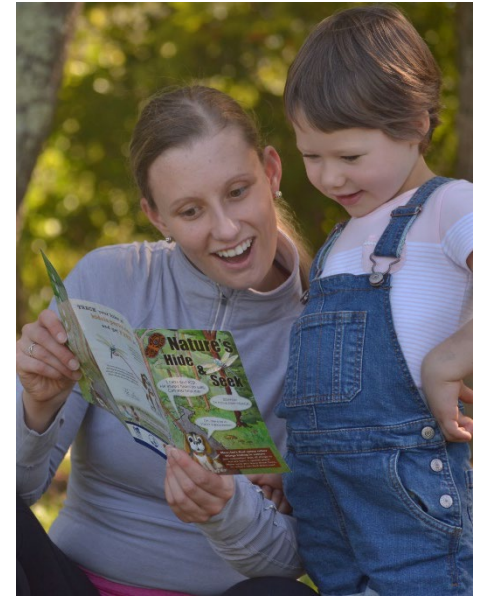




Kids in Parks

TRACK Trail Self-Guided Brochures List



2024

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- “Animal Athletes”
- “Types of Trees”
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Introduction

Working together with partners throughout the community, the mission of Kids in Parks is to promote children's health and the health of our parks by increasing physical activity and engaging families in outdoor adventures that foster a meaningful connection to the natural and cultural world.

Partners in our TRACK Trails program receive a trailhead kiosk and four self-guided nature adventure brochures, as well as integration into our website at

www.kidsinparks.com.



Our nature adventure brochures are 8.5x14" in a tri-fold format. The back middle panel (pictured right) is the same on each brochure, and directs kids to our website to register for prizes and find other TRACK Trails nearby.

Standard Brochures

Our standard brochures are applicable to almost any trail and can be used year-round. These brochures are immersive and engaging for all ages and include educational components as well as fun activities.

A few of the brochures have various versions available so you can choose the version that best fits your trail. These include:

- Nature's Hide & Seek
- Animal Athlete's

We are always developing new standard brochures. Contact us if we don't have a brochure topic that you think could be a good addition to our collection.



Nature's Hide & Seek

Nature's Hide & Seek is a standard brochure issued to every TRACK Trail. It is the most universal and frequently-used brochure.

The Nature's Hide & Seek brochure is designed so that kids of all ages can walk along the trail and discover common things that are often overlooked in nature. Some of them are easy to find, while others may be more difficult.

Age Suggestion: 4+ years old

A bilingual Spanish/English version is available in a slightly different design. See page 67



Cover



Outside Panel

- Hiking stick
- Field guide
- Water bottle
- Binoculars
- Running Shoes
- Hat
- Backpack
- Compass
- Camera
- Bandana

Nature's Hide & Seek

Inside Panels

Many things in nature go unseen. Their size, color, and location can make them hard to find. On your hike today, seek out these things hiding in nature.

sniff
sniff

Remember that all things in nature have a special place. Be sure to leave them here, so others can find them too!

- Bird
- Spider
- Sapling (young tree)
- Lichen
- Wildflower
- Water
- Feather
- Pollinator
- Animal Tracks
- Rough Bark
- Rock with 2 colors
- Something Human-made

Animal Athletes

The “Animal Athletes” adventure challenges kids to exercise along with the animals on the page.

This brochure provides eight different animal exercises that they can do along the trail. From hummingbird hand-swings to lizard pushups, kids are sure to have fun getting in shape with each animal during their outdoor adventures.

Age Suggestion: 4+ years old

A bilingual Spanish/English version is available in a slightly different design. See page 69



Cover



Outside Panel

Animal Athletes

Inside Panels

■ Hummingbird Hand-swings

How many wing-flaps can you do in 30 seconds?

Hummingbirds flap their wings over 50 times per second, or 1500 times every 30 seconds.



■ Deer High Jump

How high can you jump?

In order to move quickly through tall grass and shrubs, deer leap very high, sometimes up to 6 feet!



■ Squirrely Balancing

Walk like you're on a balance beam and see how fast you can go.

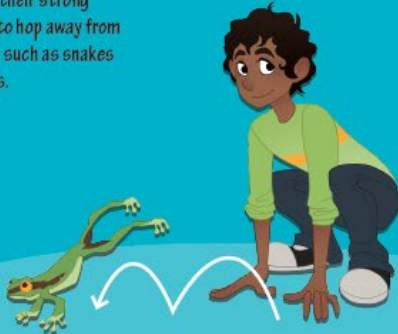
Squirrels have long tails to help them balance and move quickly along branches without falling.



■ Frog Hop

Hop like a frog escaping a predator!

Frogs use their strong back legs to hop away from predators such as snakes and herons.



■ Hawk Stance

How long can you balance on one leg?

To conserve heat and energy, birds of prey sometimes perch on one leg for hours at a time.



■ Rabbit Dash

Run in a zig-zag until you find a tree to hide behind.

When being chased by predators, rabbits sprint in a fast zig-zag pattern until they find cover.

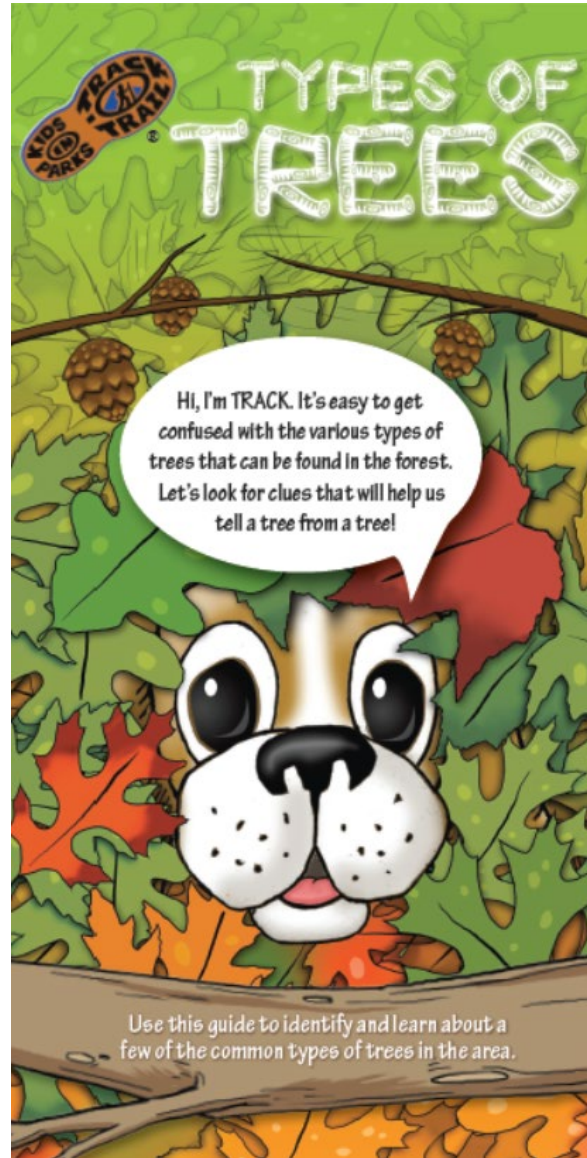


Types of Trees

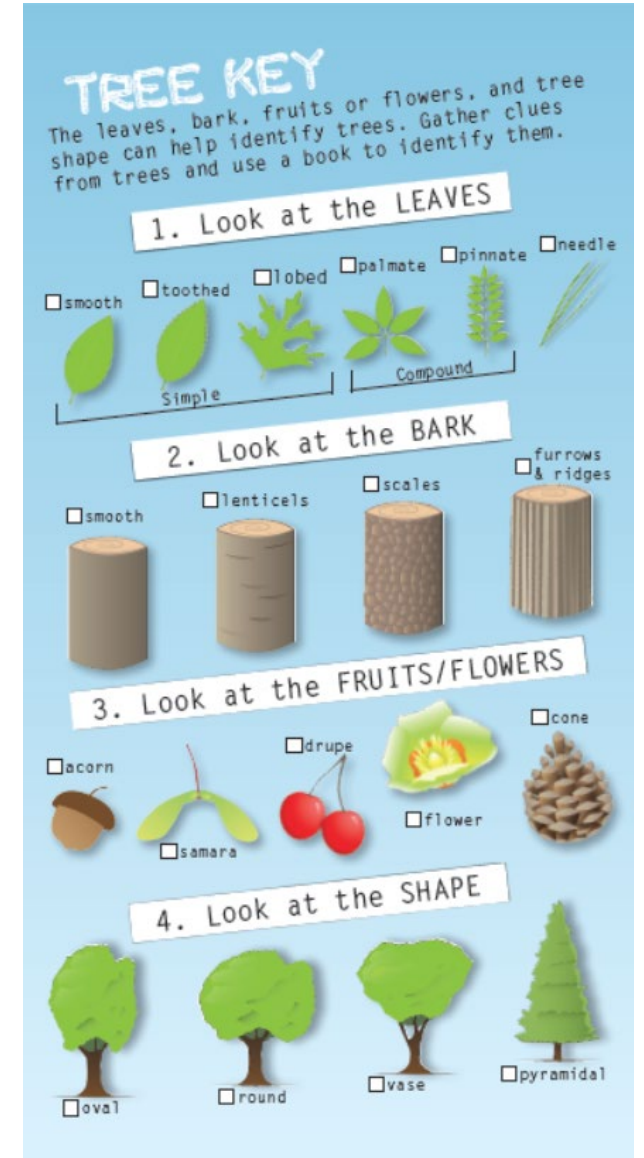
In the “Types of Trees” adventure, kids can learn how to identify a few native trees by studying their different features.

This brochure explores three types of trees commonly found throughout eastern U.S. and what physical characteristics to look for in order to identify a tree.

Age Suggestion: 6+ years old



Cover



Outside Panel

Types of Trees

Inside Panels

OAKS

are usually **deciduous** trees that shed leaves in winter. Their broad leaves can vary widely from rounded lobes to sharply pointed lobes to smooth. Oaks produce nuts called acorns that usually have one seed inside. Their bark is typically gray with deep furrows and scaly ridges.

Can you find these Oaks?

WHITE OAK

- 7-10 rounded lobes
- Oblong acorn with shallow cup
- Ash gray bark that becomes rougher in older trees

RED OAK

- 7-11 bristle-pointed lobes
- Round acorn with flat cup
- Dark reddish bark with wide 'ski track' furrows and ridges

HUMANS USE OAKS FOR:

Boats Acorn Flour Furniture

MAPLES

are **deciduous** trees that are known for brilliant fall colors. They have broad leaves, usually with five lobes and pointed tips. Maples produce winged fruits called samaras that spin to the ground as they fall. Young maples have smooth bark that develops long deep furrows as the tree ages.

Can you find these Maples?

RED MAPLE

- 3-5 lobes with toothed edges
- Red twigs, flowers, and samaras
- Rough gray bark on older trees

SUGAR MAPLE

- 5 lobes with rounded notches
- Samaras with round, green seeds and brown wings
- Brown bark with long, thick ridges

HUMANS USE MAPLES FOR:

Syrup Guitars Bowling Pins

PINES

are **evergreen** trees, meaning they keep their leaves all year. Their bark is usually thick and scaly. Pines produce cones and have needles that grow in bundles (fascicles). Their crowns are tapered, being wider at the bottom and pointy at the top.

Can you find these Pines?

WHITE PINE

- Bundles of five long needles
- Long, thin cones
- Rough gray bark

VIRGINIA PINE

- Bundles of two short twisted needles
- Egg-shaped cones with sharp prickles
- Reddish-brown scaly bark

PITCH PINE

- Bundles of three slightly twisted medium length needles
- Fat egg-shaped cones with prickles
- Thick orange-brown puzzle-piece bark

HUMANS USE PINES FOR:

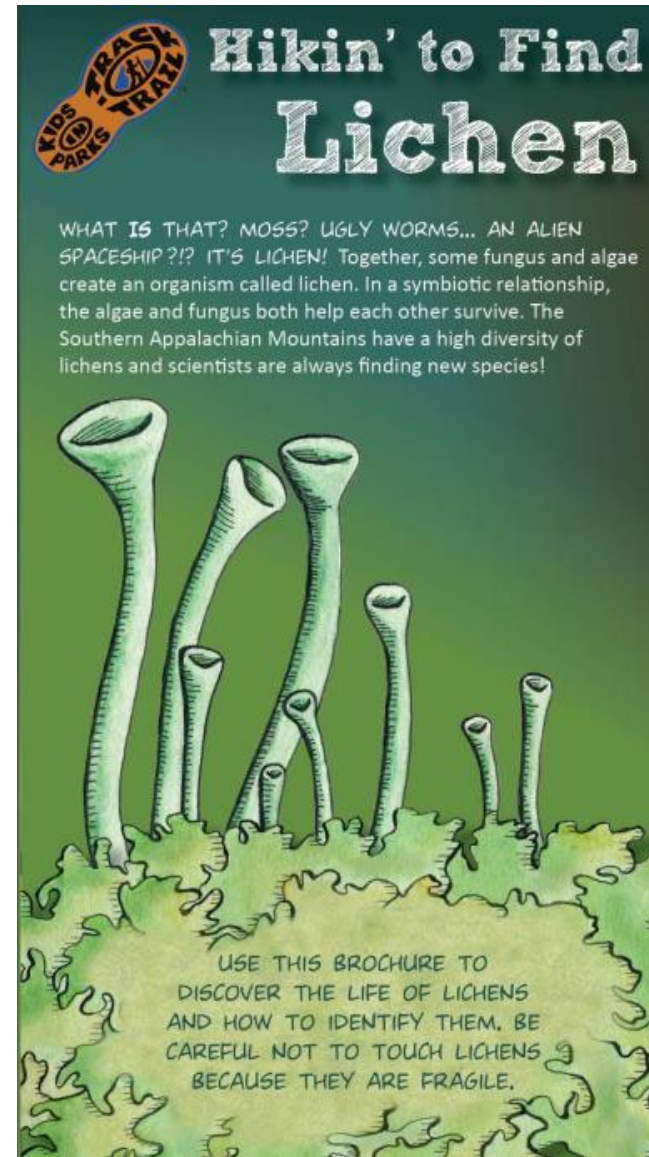
Turpentine Paper Tea

Hikin' to Find Lichen

The “Hikin' to Find Lichen” adventure takes kids deep into the mysterious world of lichen.

Kids will discover the three forms of lichen, how to identify them, and some facts about their unique lifestyle. The graphic story of Alice Algae and Freddy Fungi is also a fun way for readers to remember how lichen is created.

Age Suggestion: 6+ years old



Cover



Outside Panel

Hikin' to Find Lichen

Inside Panels

Lichen, it's a Lifestyle

Although lichens are diverse, lichens can be found in three major forms. Check the box next to each lichen form you find on your hike.

Sensitive Species

Lichens get their food from light, air and rain so they are easily damaged by pollutants in the air. Scientists study lichens to learn about air pollution. The healthier the air, the more species of lichen there will be. 1) On your hike, count how many different lichens you can find. 2) Based on your findings, would you consider the area to have good or bad air quality?

# of Lichens:						
0	1-4	5-9	10-19	20-29	30-39	40+
Air Quality:						

Crustose

Crustose lichens are thin like crust. The lichen's edges stay flat against the object it is growing on. Crustose lichens grow slowly and some are among the oldest living organisms on Earth!

Many lichens don't have a common name. What would you name this lichen?



Script Lichen
Graphis scripta

Gold Dust Lichen
Chrysothrix xanthina



Porpidia
Porpidia cf. albocauli

Foliose

Foliose lichens look like dry, wavy foliage (leaves). The edges curl off the surface the lichen is growing on.



Powdered Ruffle Lichen
Parmotrema hypotropum
Look for little black 'hairs' called cilia!

Lungwort Lichen
Labaria pulmonaria



Punctelia
Punctelia rudecta



Fruticose

Fruticose lichens are the most three-dimensional lichens. Some look like mini fruit trees without leaves while others hang down from branches like hair.

What would you name this lichen?



Pixie Cup Lichen
Cladonia chlorophaea

Old Man's Beard
Usnea dasaea



Ramalina
Ramalina culbertsoniarum



Tiny Pioneers

Crustose lichens are nature's pioneers because they can grow in places that are too extreme for most other organisms. Severe heat, cold and drought are no match for lichens because lichens are able to go dormant, or "turn off," during harsh conditions. What kind of surfaces can you find lichens growing on that plants are not growing on?



Leading the Way

Without lichens, plants may not grow in some places. Lichens are often the first to grow in a disturbed area. Over time, lichens are able to break down rock and produce thin layers of soil. More complex lichens, mosses and flowering plants are then able to take root. Find a community of lichens and describe the layers of lichens you see.



Lichens, The Next Frontier

Most questions about basic lichen biology remain unknown. The real mystery begins when lichens are studied under a microscope. Will you be the next scientist to make a lichen discovery?

Flower Power

The “Flower Power” adventure helps kids learn about the various colors, shapes, and sizes of flowers, how they turn into fruit, and the different pollinators that are attracted to them.

Inside the brochure, readers will find a diagram of the flower parts and their functions and learn about the importance of pollinators.

Age Suggestion: 4+ years old

A bilingual Spanish/English version is available in a slightly different design.



Cover



Outside Panel

Flower Power

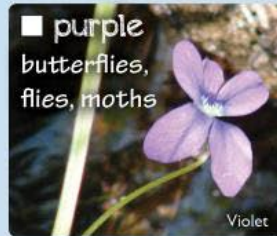
Inside Panels

Flowers Attract Pollinators

Use the clues in this brochure to see how a flower's size, shape, color and smell have the power to attract unique pollinators.

Nature's Color Palette

Certain colors attract certain kinds of pollinators. How many colors of flowers can you find?



What flower color are you attracted to? _____

Petal Persuasion

Like a billboard that can catch a person's attention, petals are used to attract pollinators to a flower. The petals' smell and shape depends on its pollinators' feeding and landing preferences. Look for pinwheel, cup, and trumpet shapes.

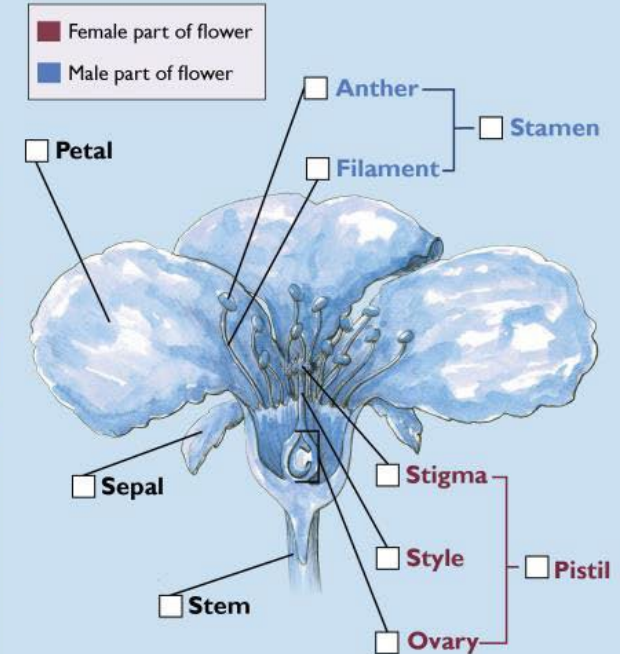


Draw a flower you find.



Parts of a Flower

Flowers come in many different shapes and sizes, but they all have the same basic parts. Look closely at a flower and see how many of its parts you can find.



The Need for Pollinators

Pollinators and the flowering plants that need them are both important to humans. More than 180,000 different plant species need pollinators, including many that produce fruits, vegetables, and nuts. Did you know that one out of every three bites of food you eat is there because of pollinators?

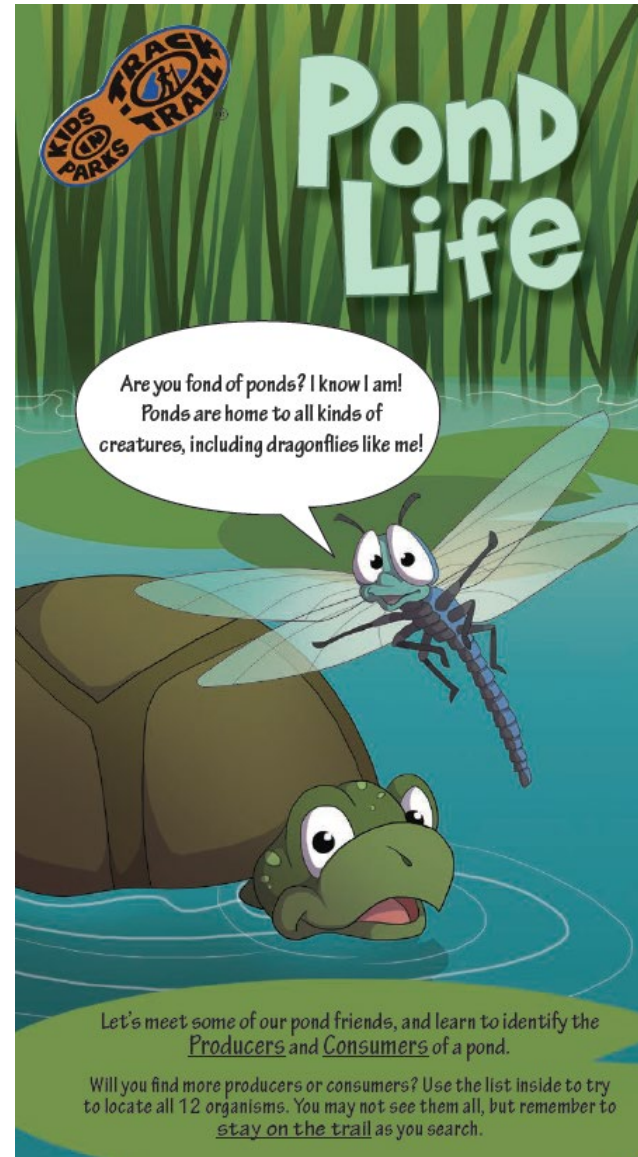


Pond Life

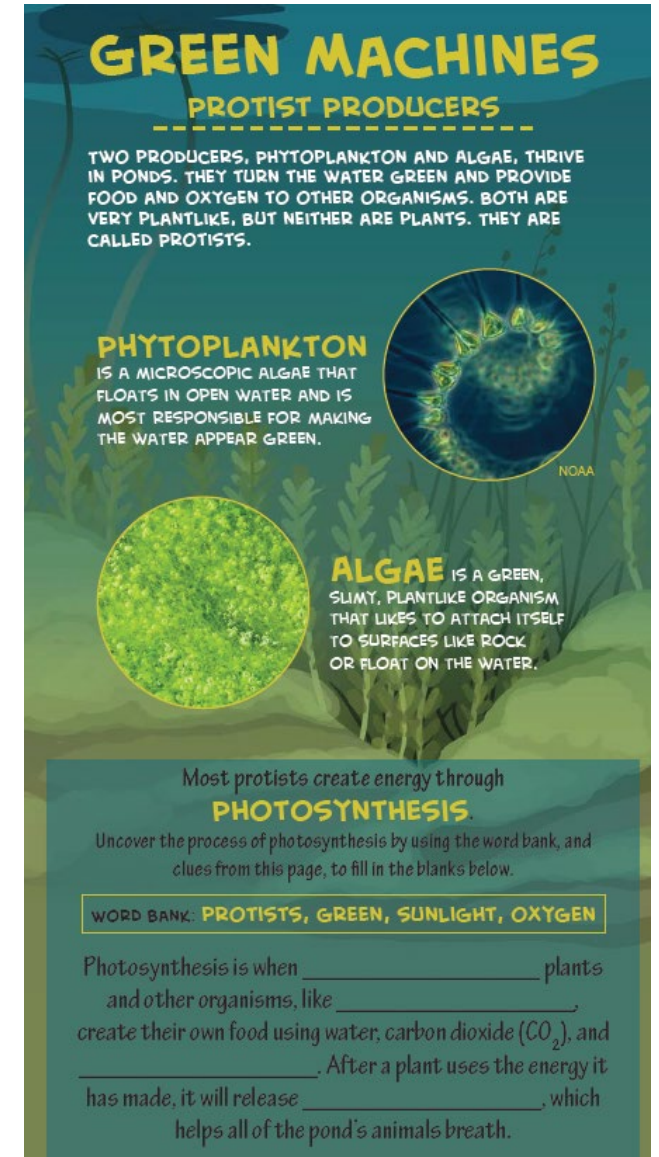
Through the “Pond Life” adventure, kids will learn the difference between producer and consumer organisms and where to find different species within a pond’s ecosystem.

This brochure’s activities will have kids searching for 12 common pond residents, as well as teach them how these plants and animals rely on the pond.

Age Suggestion: 5+ years old



Cover



Outside Panel

Pond Life

Inside Panels

Producers and Consumers

check off any Producers or Consumers you may find at the Pond.

Producers make their own food using the sun for energy. They include plants, algae, and phytoplankton. Look around to see if you can find these six producers.



Algae



Duckweed



Lily pad



Cattail



Sedge



Arrowhead

Consumers depend on other organisms for their food. They include animals and insects. Some consumers will eat the producers, while some will eat other consumers. Look around the pond and see if you can find these six consumers.



Dragonfly



Water Strider



Turtle



Fish



Frog



Bird

Who's at the Pond?

THE ECOSYSTEM OF A POND PROVIDES FOOD AND SHELTER FOR THE CONSUMERS THAT DEPEND ON THE POND TO SURVIVE.

MANY MAMMALS

Mammals like raccoons, opossums, and beavers frequently visit ponds. Ponds make good homes for mammals that can swim, or like to hunt and forage in wet areas. Look for animal tracks around the pond.

INTERESTING INSECTS

Ponds are teeming with insects of all kinds. Mosquitoes, dragonflies, and water striders can be found living near ponds. They provide food for fish, frogs, and other small carnivores. Can you spot three different insects? Write down which ones you find.



BUOYANT BIRDS

Bird life is very abundant at ponds. Ducks can be spotted floating on the surface, while herons wade close to the shore to hunt for small fish or reptiles. As you explore, listen for different bird calls.

FLASHY FISH

A variety of fish call the pond home. Freshwater fish such as minnows, catfish, sunfish, and bass can be found in ponds. What types of food do you think fish eat?

ACTIVE AMPHIBIANS AND REPTILES

Keep an eye out for frogs, salamanders, turtles, and snakes. You can find them swimming through the water or basking in the sun. Reptiles and amphibians use the pond as a place to hunt, hide, and lay eggs. Keep count of how many you can find and fill in number.

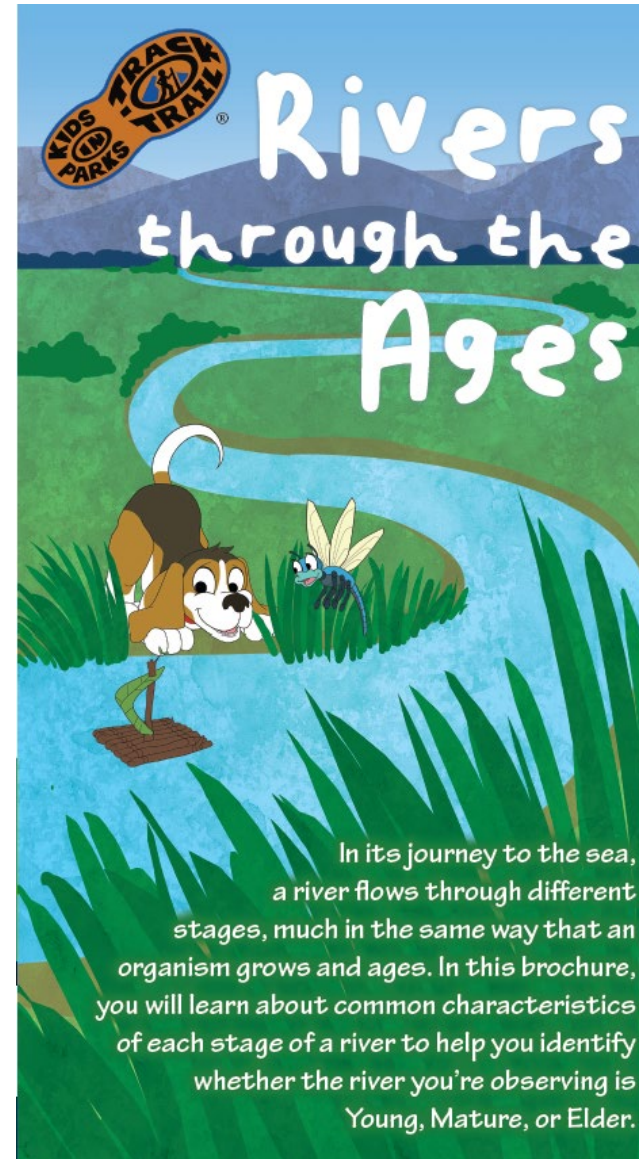


Rivers through the Ages

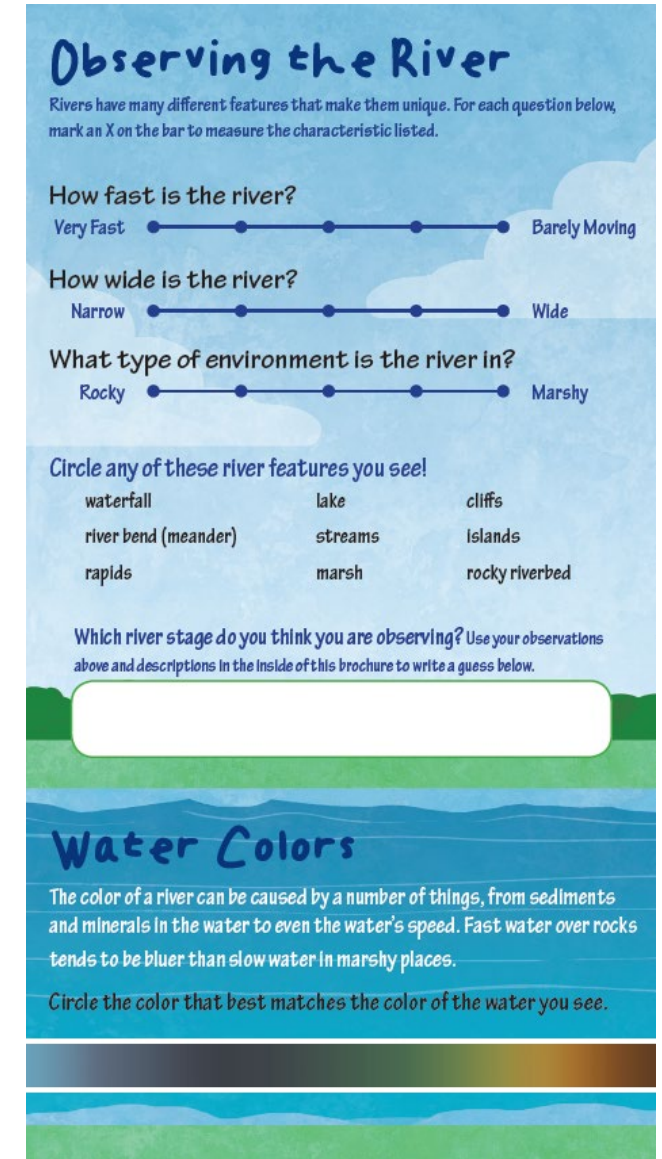
The “Rivers through the Ages” adventure shows the different stages (or ages) of a river, teaching kids how to recognize the differences between a “young,” “mature,” and “elder” river.

Kids can also complete a search-and-find activity to discover common flora, fauna, and natural features one might see around a river.

Age Suggestion: 6+ years old



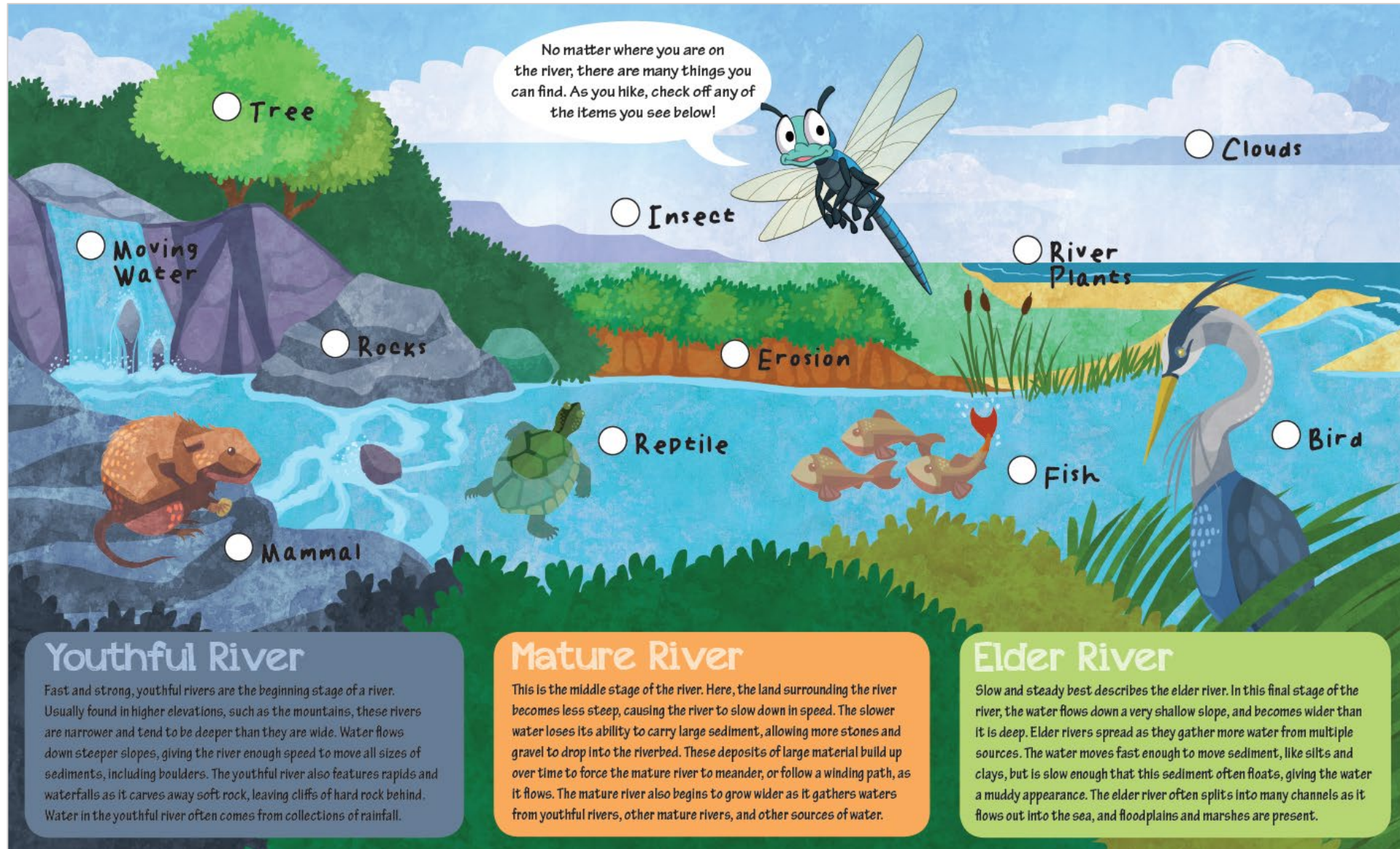
Cover



Outside Panel

Rivers through the Ages

Inside Panels



Youthful River

Fast and strong, youthful rivers are the beginning stage of a river. Usually found in higher elevations, such as the mountains, these rivers are narrower and tend to be deeper than they are wide. Water flows down steeper slopes, giving the river enough speed to move all sizes of sediments, including boulders. The youthful river also features rapids and waterfalls as it carves away soft rock, leaving cliffs of hard rock behind. Water in the youthful river often comes from collections of rainfall.

Mature River

This is the middle stage of the river. Here, the land surrounding the river becomes less steep, causing the river to slow down in speed. The slower water loses its ability to carry large sediment, allowing more stones and gravel to drop into the riverbed. These deposits of large material build up over time to force the mature river to meander, or follow a winding path, as it flows. The mature river also begins to grow wider as it gathers waters from youthful rivers, other mature rivers, and other sources of water.

Elder River

Slow and steady best describes the elder river. In this final stage of the river, the water flows down a very shallow slope, and becomes wider than it is deep. Elder rivers spread as they gather more water from multiple sources. The water moves fast enough to move sediment, like silts and clays, but is slow enough that this sediment often floats, giving the water a muddy appearance. The elder river often splits into many channels as it flows out into the sea, and floodplains and marshes are present.

Waterfall Wonders

The “Waterfall Wonders” adventure will teach kids about the wonders of waterfalls. Readers will learn about the types of waterfalls as well as how waterfalls form.

This brochure encourages observational skills through sight and sound activities and provides a checklist of common wildlife that live around waterfalls.

Age Suggestion: 6+ years old



Cover

Mix, Match... Splash!

Different names are used to describe the different types of waterfalls. First, match each description with its photo. Second, see if you can find examples of each waterfall type.

Note: not all waterfall types may be found in one park

Cascade
Water tumbles down along steep rocky steps.



Plunge
Water flows over a cliff and falls through the air.



Slide
Water flows quickly along a very steep and flat rock.



Other words that describe waterfalls are horsetail, fan and punchbowl. Can you find any interesting shapes in the falls? Draw one shape you find and give it a name.

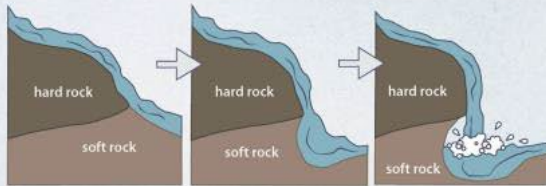
Outside Panel

Waterfall Wonders

Inside Panels

Why Water Falls

Many waterfalls have formed in the Blue Ridge Mountains because it rains a lot and the ground is steep. The moving water in streams cuts down through the earth. Waterfalls can be found where water flows from hard ground upstream onto softer ground downstream.



Erosion is when the ground breaks away by the force of water or wind. It may take thousands of years for erosion to make a waterfall!

“Rock” Music



At the Waterfall

Listen to the waterfall. Does it burble, hiss, whisper, or... roar? Look all around to see if you can figure out which features are making the different waterfall sounds. Write a few words that describe the sounds that you hear.

Give yourself Fox Ears! Cup your hands around your ears. How do your fox ears change the sound of the waterfall?



Hot or Cool

The water in lakes and rivers is usually a different temperature than the air. Do you think the air temperature will feel different near the waterfall?

Away from the Waterfall

What you are wearing (t-shirt, sweater, pants, etc.)?

Are you hot, cold, or comfortable? _____

At the Waterfall

Has the temperature changed? _____

Did it get warmer or cooler? _____

If the temperature changed, why do you think it did?

After the Waterfall

Once you begin to leave the waterfall, count your steps and listen carefully.

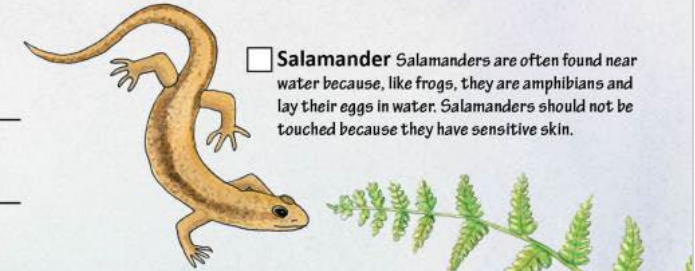


How does the waterfall sound...

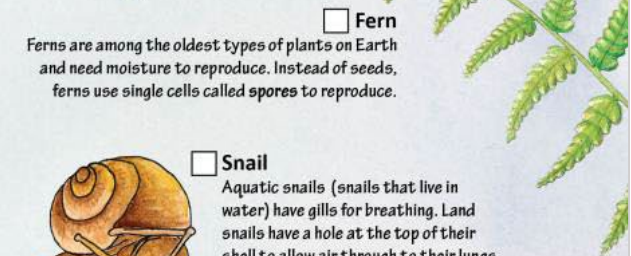
	with fox ears	without fox ears
... 20 steps away?		
... 40 steps away?		
How many steps did you take before you could no longer hear the waterfall?		

Life in the Spray Zone

Many plants and animals live in misty air and on the wet rocks surrounding waterfalls. Watch carefully from the trail and see how many you can find.

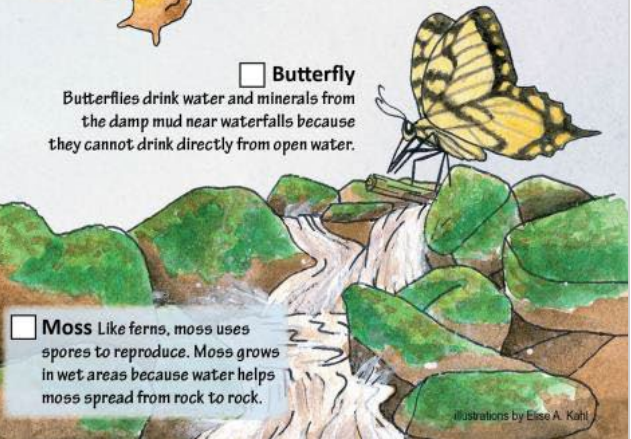


Salamander Salamanders are often found near water because, like frogs, they are amphibians and lay their eggs in water. Salamanders should not be touched because they have sensitive skin.



Fern Ferns are among the oldest types of plants on Earth and need moisture to reproduce. Instead of seeds, ferns use single cells called spores to reproduce.

Snail Aquatic snails (snails that live in water) have gills for breathing. Land snails have a hole at the top of their shell to allow air through to their lungs.



Butterfly Butterflies drink water and minerals from the damp mud near waterfalls because they cannot drink directly from open water.

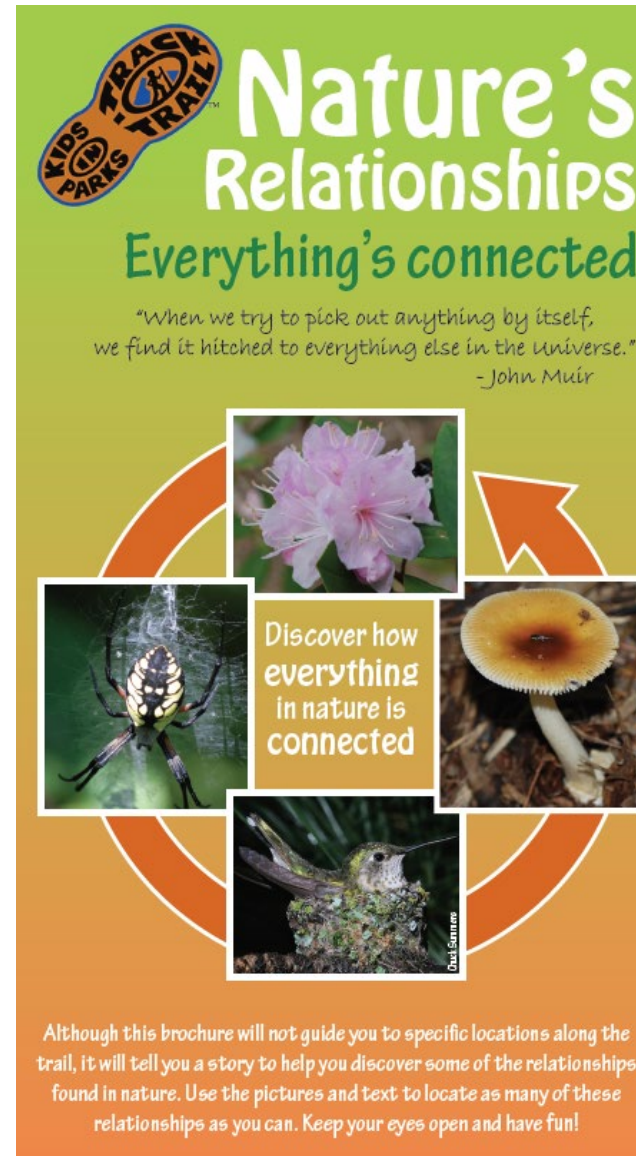
Moss Like ferns, moss uses spores to reproduce. Moss grows in wet areas because water helps moss spread from rock to rock.

Nature's Relationships

The "Nature's Relationships" adventure will show how everything in nature is connected.

The brochure illustrates examples of relationships within the natural world and how all components of an ecosystem, both living and non-living, influence one another.

Age Suggestion: 6+ years old



Cover



Outside Panel

Nature's Relationships

Inside Panels

Guiding Pollinators

Many flowers depend on relationships with pollinators to reproduce. A flower's size, shape, color and smell attracts unique pollinators. Some flowers, such as the flowers of rhododendrons, have nectar guides that are visible to insects through ultraviolet light. These guides act as road signs, directing pollinators to the flower's sweet nectar.



How many pollinators can you find?



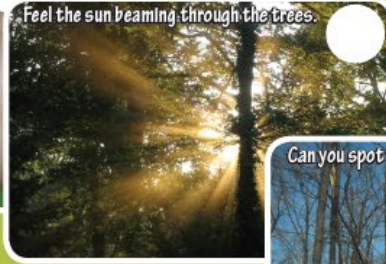
How many types of flowers can you find?



Smell a wildflower.

Making Connections

We are an intricate part of nature's relationships. Our actions affect everything, from the bees that pollinate our flowers and food crops to the soil we walk on as we hike through the forest. During your hike today, take your time, stop to smell a flower and...



Feel the sun beaming through the trees.

Open... Canopy!

During strong wind storms or cold winter ice storms treetops often crash down to the forest floor. The damaged trees and plants crushed by fallen limbs are affected negatively, but other plants are helped by the holes in the canopy. These holes allow more sunlight to reach understory plants such as wildflowers.



Can you spot trees with storm damage?



Can you find a spider on its web?

Caught in the Web of Life

On their daily journeys to find nectar and food, many flying insects get caught in the web of life - the spider's web that is. Different spiders build different types of webs - spiral orb webs, sheet webs, tangle webs, and funnel webs are a few examples.



Can you spot a bird's nest in a tree?

Chris Summers

Connecting Nature's Building Materials

Not only do many bird species eat spiders, some depend on spider webs to build their nests. Many species of hummingbird construct their nests by connecting spider webs and lichens. They use the sticky spider webs to weave materials together and to anchor their nests to the tree's branch. Spotting a hummingbird's nest in a tree is tricky since they're about the size of a golf ball.



Find a lichen growing on a stick or rock.

Get Connected

I Lichen You!

A lichen is an organism formed by a relationship between algae and fungus. The fungus protects the algae from adverse conditions, and in exchange the algae provides the fungus with food. This is an example of mutual symbiosis (when two different organisms help each other survive).



How many types of mushrooms can you find? (don't touch!)

A Healthy Home

Mountain forests are home to a variety of plants that require different amounts of nutrients, water and sunlight. Each plant finds its preferred home among the slopes, valleys, peaks and streamsides. Sometimes though, weather events can change the perfect forest home into a mess of stumps and logs.



Can you find a vista of the forest?



Can you find any mycelium?



Can you find a "Turkey Tail" fungi?

Fungal Feed Forests

Fungi help break down and decompose everything in the forest, from dead trees and fallen logs to leaf litter. Fungi have large, underground networks of "roots" called mycelium that attach themselves to the roots of plants and trees. The plants provide water for the fungi, and the fungi help the plants gather nutrients. Fungi "fruits," or mushrooms, provide food for many insects and animals.

Decomposers of the Dead

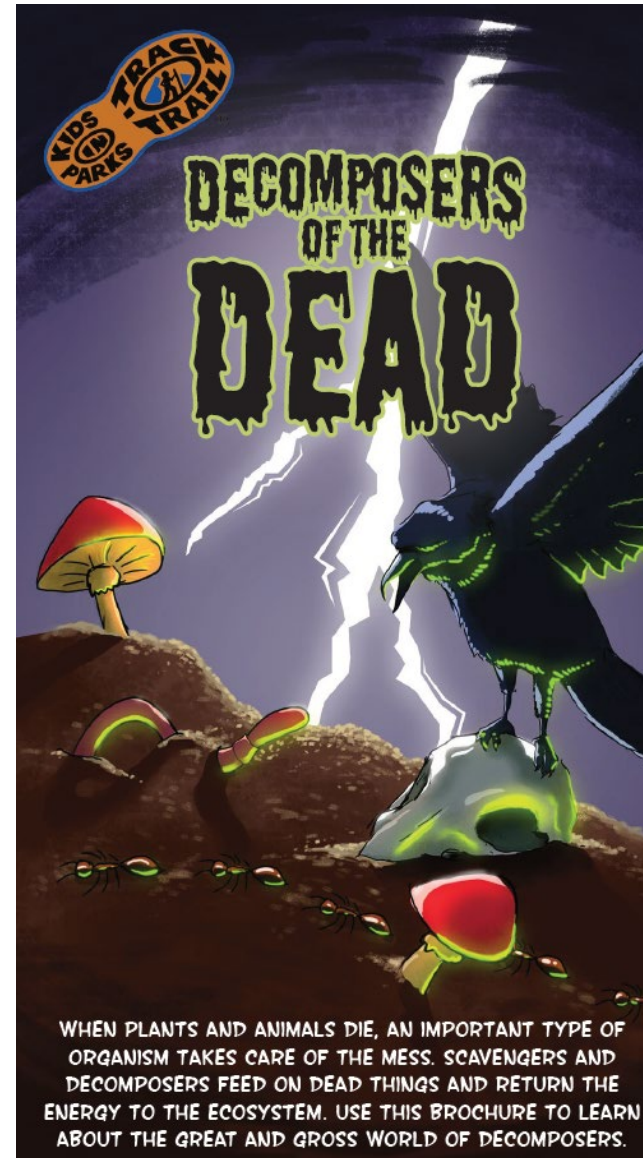
The “Decomposer of the Dead” adventure teaches kids the importance of decomposers and scavengers in an environment.

This brochure will share with readers a list of common decomposers and scavengers, the importance of these critters in maintaining a healthy ecosystem, and what sort of natural elements they help breakdown.

Age Suggestion: 5+ years old

A Spanish version is available in a slightly different design.

See page 65



Cover



Outside Panel

Decomposers of the Dead

Inside Panels

GROSS-OUT GUARDIANS

Decomposers and Scavengers are the cleanup crews of nature. They break down debris like logs, dead animals, and animal poop to keep the world clean. It's gross work, but somebody has to do it. Let's explore the world of decomposers and scavengers!

WORLD WITHOUT DECOMPOSERS

Without decomposers, every hike would be a difficult climb across piles of fallen trees, dead animals, and poop.

TRACK is buried in a pile of plant and animal debris. Think like a decomposer and find things along the trail that need decomposed to free him. ✕ the items as you find them.

DEAD FOR DINNER

Scavengers are the first on the scene when an animal dies. Attracted by the smell of rotting meat, they search for the body. You might see vultures circling in the sky or flies buzzing as they look for food.

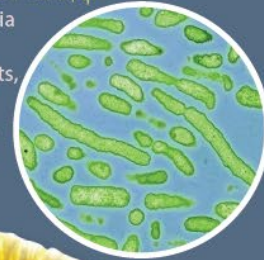
That's right. They eat dead things. It may sound gross, but they eat the meat, called carrion, and return the nutrients to the soil when they poop.

Ready for a Scavenger 'Scavenger Hunt'?

Find as many scavengers on your hike as you can.

MICROSCOPIC MUNCHERS

Decomposers like fungi and bacteria use chemicals to break down and feed on dead matter. They eat plants, animals, poop, leaves, and other things. Many decomposers are too small to see, but mushrooms are a great way to see them in action.



LOGS FOR LUNCH

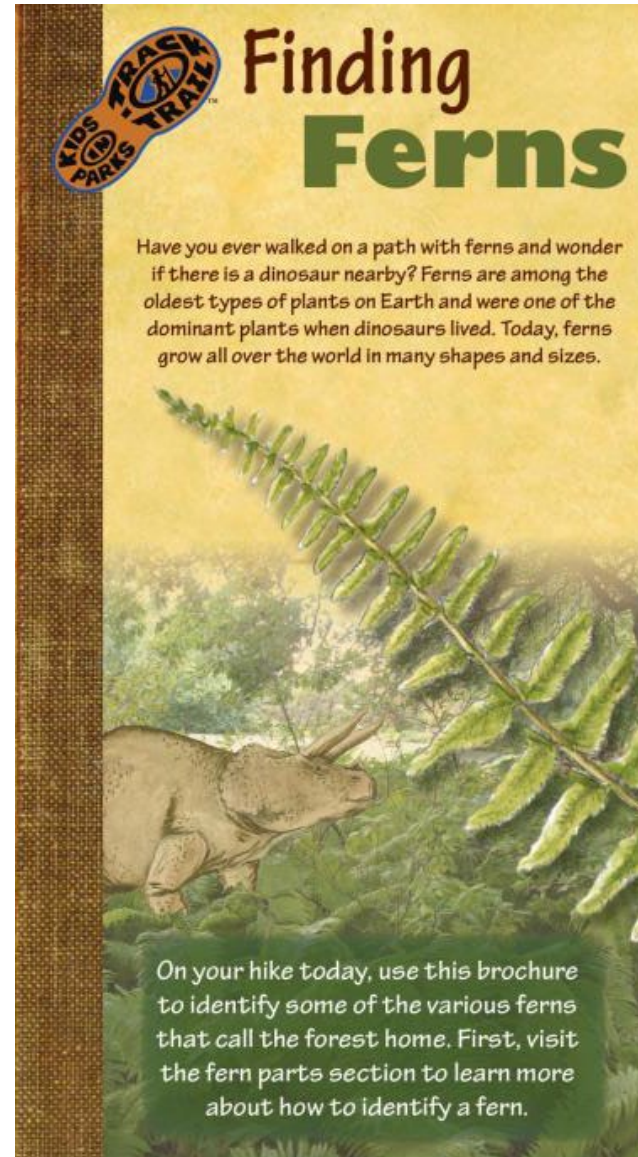
It can take over 100 years for fungi and bacteria to completely "eat" a fallen tree. As you hike the trail, count logs you find in different stages of decomposition.

Finding Ferns

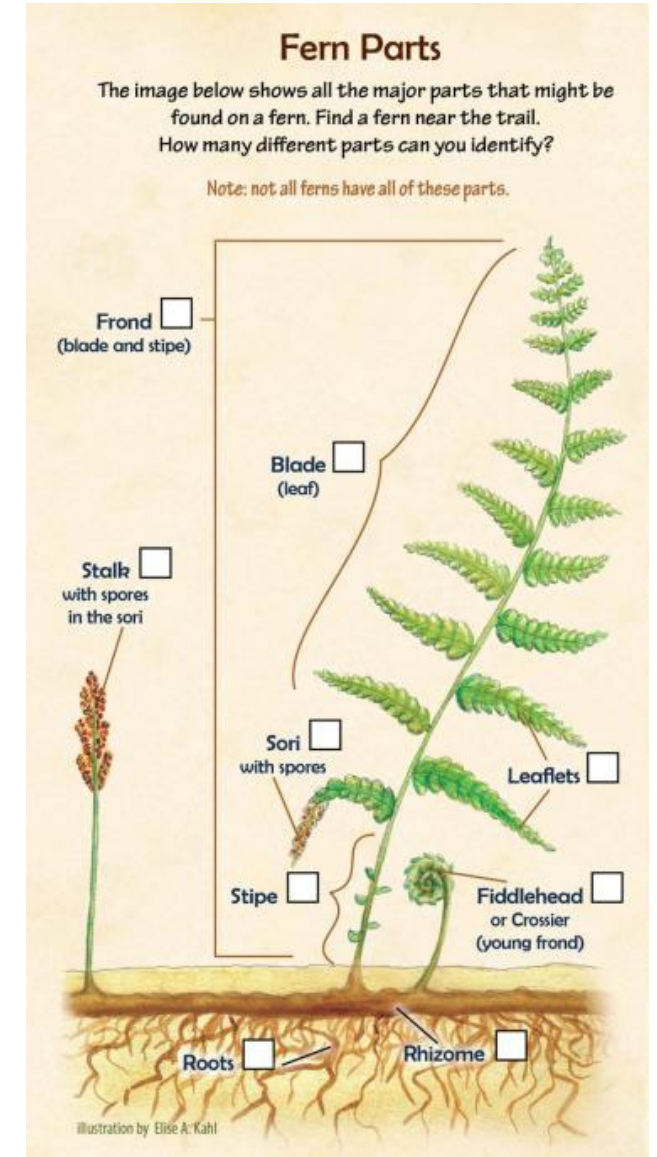
The “Finding Ferns” adventure helps kids notice some of the common ferns along the trail.

The brochure helps readers learn about different species, the various shapes and sizes they can come in, and the parts of a fern plant.

Age Suggestion: 6+ years old



Cover



Outside Panel

Finding Ferns

Inside Panels

Fern Tracker

At first glance, many ferns look alike. But if you take a second look, these beautiful plants provide clues to help you identify them. Use the illustrations to the right to see how many you can find!

Fern Forms

The blade, or leaf, of a fern can be found in five major forms. Look at how the blade splits into leaflets. How many blade forms can you find?

Entire Pinnatifid Pinnate Bipinnate Tripinnate

Spores Not Seeds

Most plants use seeds to reproduce, but ferns use single cells called spores. Depending on the fern species, spore-producing objects called sori are found on either fronds or stalks. Some spores that are released and find moist ground will germinate. Can you find sori on a fern? _____

Leaflet with sori



Christmas Fern
(*Polystichum acrostichoides*)

Is the leaflet shaped like a stocking? Are there sori on the underside of some of the leaflets? Is the fern in a pinnate form?

Ht. 2-3' tall

Bracken Fern
(*Pteridium aquilinum*)

Do the fronds feel leathery? Are there spores along the curled edges of some of the leaflets?

sori with spores

Ht. 6-18" tall

Cinnamon Fern
(*Osmunda cinnamomea*)

Is there a cinnamon-colored stalk growing from the center of the plant? Are the leaflets divided into subleaflets?

subleaflets

Ht. 1-3' tall

Northern Maidenhair
(*Adiantum pedatum*)

Are the stems thin and black? Do the delicate fronds spread in a circular pattern? Are the leaflets round on the tips and square near the stem?

Ht. 18-36" tall

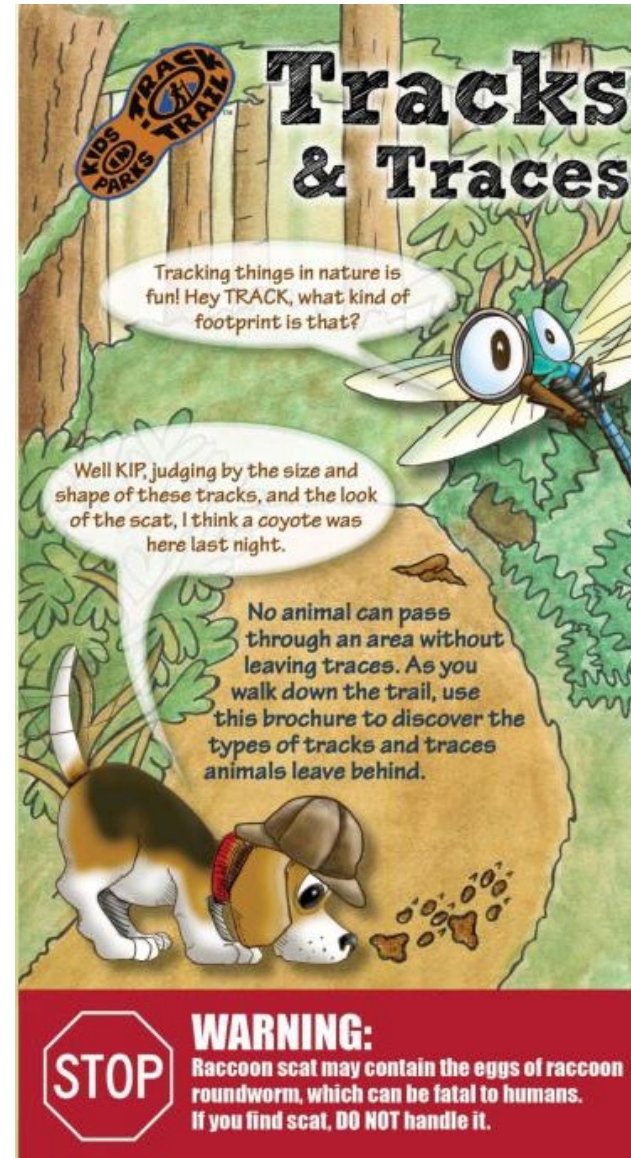
Illustrations by David Williams, Wingin'Works

Tracks & Traces

The “Tracks & Traces” adventure will help kids identify the various tracks and traces animals leave behind while hiking on the trail.

Every animal leaves “tracks and traces” of its presence when they pass through an area. Through footprints, scat, and even food scraps, kids can use this brochure to find animal clues wherever they go.

Age Suggestion: 4+ years old



Cover



Outside Panel

Tracks & Traces

Inside Panels

Raccoon

Raccoon tracks have five toes on their front and rear paws and resemble miniature human-baby hand prints.



Because raccoons are omnivores (they eat both plants and animals), their scat can vary in size, shape and color. As a rule of thumb, if you can't identify the scat, treat it as raccoon scat and **DO NOT** disturb it.

Wild Turkey

Can you coast to three? Wild turkeys can. As male turkeys strut around, they often drag their wing tips on the ground leaving scrapes. Scrapes are also found where turkeys search for food.



Wild turkey scat is usually large and tubular with a slight curve on one end. Because their diets vary throughout the year depending on what foods are available, their scats vary in appearance and sometimes look like formless blobs.

Bobcat

Cat tracks have four toes on both the front and rear feet. Because cats have retractable claws (claws that draw back to their paws), claw marks are usually not present in bobcat tracks.



Containing the hair and bones from their prey, bobcat scat is segmented and round on the ends. Although bobcats have retractable claws which helps keep them sharp, they sometimes sharpen their claws by scratching the trunk of a tree.

White-Tailed Deer

Deer tracks are usually the easiest to find because their hard hooves leave better impressions than the soft paws of other animals.



Found in clusters, a deer scat pellet has a dimple on one end and a point on the opposite end. A **deer bed** is a place where a deer likes to rest; look for an oval depression in the ground where leaves or grass are matted down.

Black Bear

Bears tracks have large palm prints with five toes. Their tracks are sometimes capped with claw marks, and their hind-leg tracks leave hool impressions.



Like raccoons, bears are omnivores. Their scat varies in appearance depending on the time of year and what they have eaten - grasses in the spring, berries in the summer and insects from rotten logs in the fall.

Coyote

Coyote tracks are approximately 2.5 inches long, capped with claw marks and are found in pairs. Their toes are closer together and not as wide as the toes of dog tracks.



Coyotes are opportunistic eaters, meaning they'll eat almost anything, so their scat can take many forms. In general coyote scat is long, with a rope-like twist and pointed ends.

Bug Out

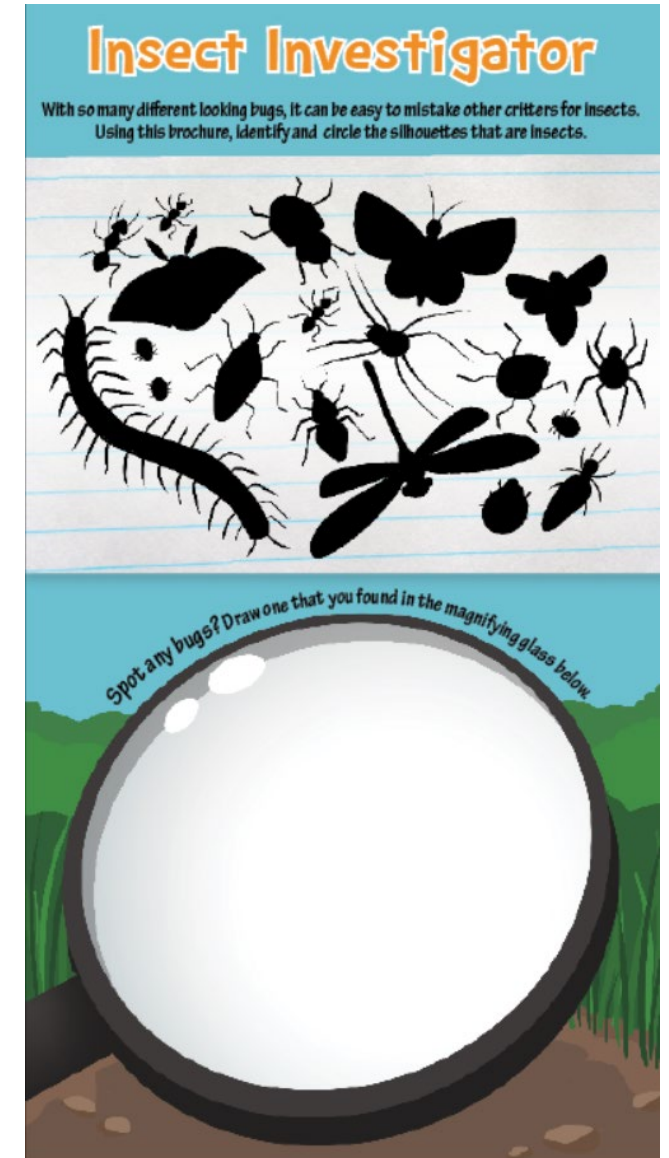
The “Bug Out” adventure is an investigation into the creepy crawlies of the forest.

This brochure will help kids learn how to tell the difference between insects, spiders and other arthropods, as well as identify some of the more common species along the trail.

Age Suggestion: 4+ years old



Cover



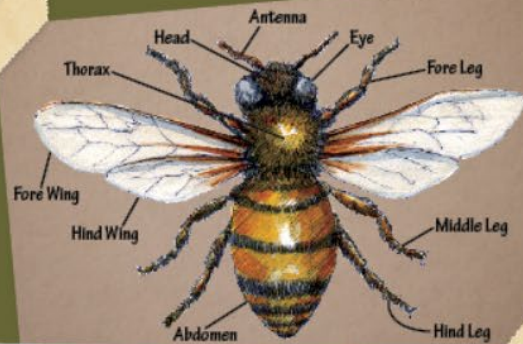
Outside Panel

Bug Out

Inside Panels

Insects

Insects are an extremely diverse group of animals, with over a million different species. All insects, no matter how different their size or shape, have a three-part body with six legs.



The body of a honeybee is like that of most insects.

All insects have...

... a **head** with two antennae, compound eyes and mouth parts

... a **thorax** with six jointed legs and, if present, 2 or 4 wings

... an **abdomen** with respiratory, reproductive and digestive organs

... a hard, external skeleton called an **exoskeleton**



Exoskeleton



What is an Exoskeleton?

Instead of having a skeleton on the inside of their bodies, insects have their skeleton on the outside. A hard exoskeleton protects an insect like a knight's suit of armor.

How many of these different insects can you find today?



Butterfly



Dragonfly



Ant



Grasshopper

Spiders

look similar to insects, but they are actually different.



Spiders have a hard exoskeleton, but instead of a three-part body, they have a two-part body made up of the cephalothorax and the abdomen. Spiders also have eight legs, pedipalps, venom injecting fangs, and web-making spinnerets.

Other Arthropods

Insects, spiders and crustaceans are all arthropods. Arthropods are a group of creatures that make up about 85% of all living things on Earth. They can be identified by their exoskeleton, segmented bodies, and jointed legs.

Millipedes, centipedes, pillbugs (roly-polies), and harvestmen are commonly considered bugs. However, unlike their insect and spider cousins, they can have more body segments, legs, or even extra features like claws. Some are harmless critters like the millipede, pillbug and harvestman, while others can cause harm, like the venomous centipede and the scorpion.



Millipede



Centipede



Pillbug



Harvestman

Can you spot any of these bug homes?

Bugs have different ways of sheltering themselves from predators or weather. Or they can even use their homes as traps for food. CAUTION: Many bugs will defend their homes by biting and stinging. Look from a distance and DO NOT disturb them.



Spider web



Bee hive



Ant hill



Cocoons

Fun with Fungi

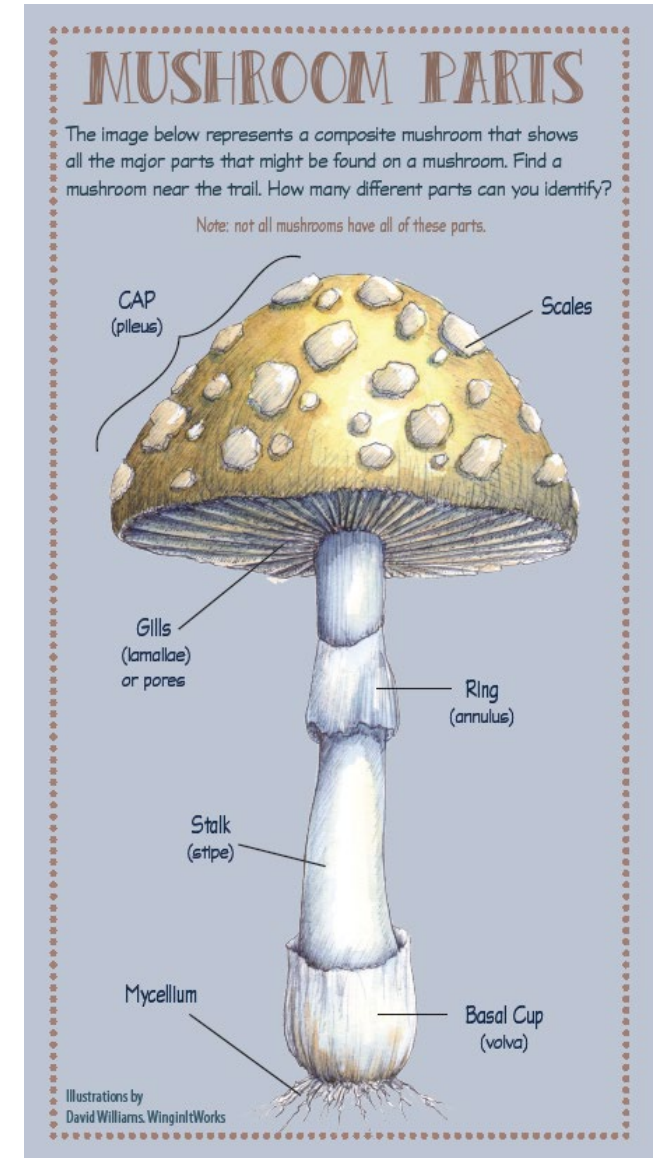
Our “Fun with Fungi” adventure introduces kids to the life of fungi and shows them how to identify some of the more common mushrooms in the woods.

This brochure teaches readers about the different fungi parts and the important roles fungi play in the forest.

Age Suggestion: 6+ years old



Cover



Outside Panel

Fun with Fungi

Inside Panels

FUNGUS FRUIT

When you find a mushroom in the woods, you are seeing only a small part of the fungus. The mushroom is the "fruit" of the fungus, where spores ("seeds") are produced. Different types of mushrooms have different ways of releasing their spores.

MUSHROOMS AND FUNGI

Check the circle next to each type of fungi you find on your hike.

YOU ARE *WHERE* YOU EAT

Unlike plants, fungi do not make food from sunlight, but rather absorb nutrients from other living and dead organisms around them. Fungi are usually found growing in or on their food. Find a fungus near the trail.

Can you find its food source?

AGARICS Gilled Mushrooms

Most agarics are shaped like umbrellas; they have an open cap and a stalk. These gilled mushrooms have tiny ridges (gills) on the underside of the cap where the spores are released.

- The Destroying Angel
Amanita bisporagera

- Honey Fungus
Genus: *Armillaria*

- The Sickener
Russula emetica

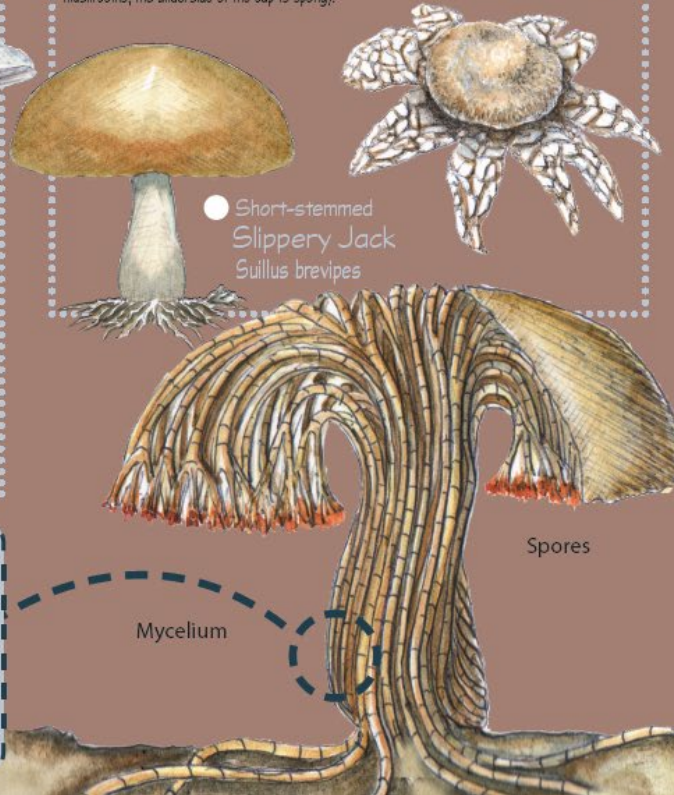


BOLETES

Boletes have a stalk and a round cap but unlike gilled mushrooms, the underside of the cap is spongy.

- False Earthstar
Astraeus hygrometricus

- Short-stemmed Slippery Jack
Suillus brevipes



- Yellow Morel
Morchella virginiana

- Yellowfoot (funnel chanterelle)
Craterellus tubaeformis



BRACKET FUNGI

Often growing on tree trunks, shelf fungi look like, well, shelves. Many shelf fungi can be found throughout the year because they are woody. Look for tiny ridges on the underside of the shelf where the spores are released.

- Chicken of the Woods
Laetiporus sulfureus

- Turkey Tail
Trametes Versicolor



OH, MYCELIUM!

The mycelium, or "body" of the fungus, is usually hidden underground. The mycelium is made up of thread-like cells called hyphae which release enzymes and absorb nutrients.

Turn over a decomposing stick. Or look under a rock or log.

Can you find the threads of a mycelium?

FUNGUS FUNCTIONS

Fungi play an important role as decomposers, helping to break down and recycle organic matter back into the soil. Without fungi, the forest floor would be littered with leaves, logs, and animal waste.

Can you find log that is being decomposed by mushrooms?

A Quest for Dragons

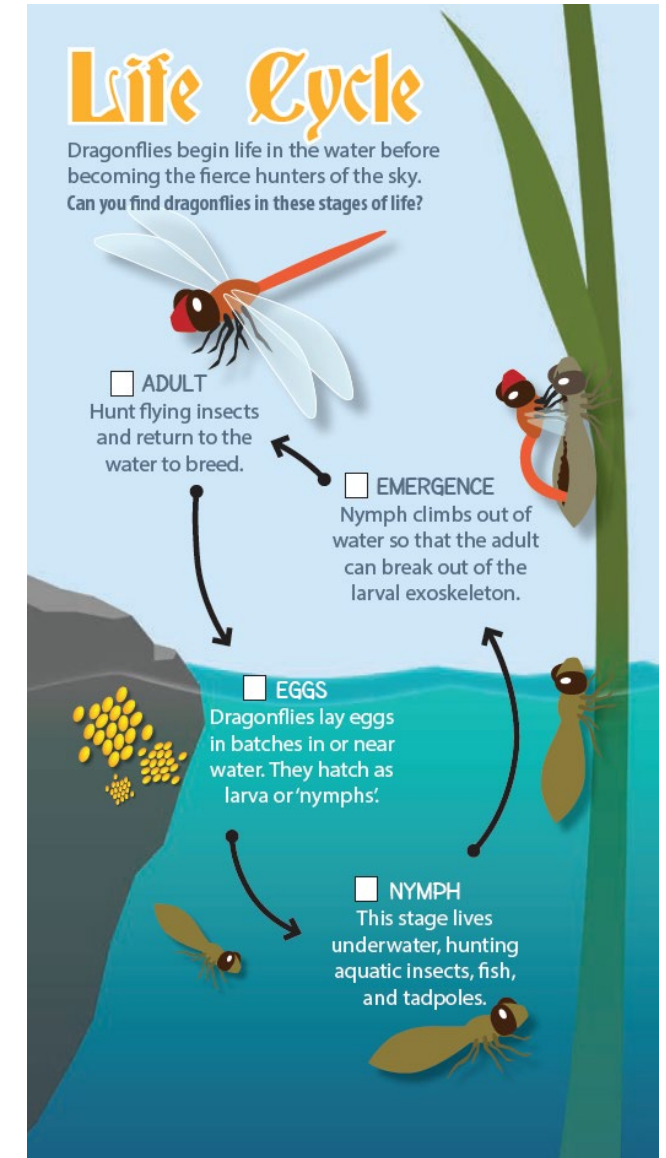
The “A Quest for Dragons” adventure provides an up-close look into the world of dragonflies.

This brochure illustrates the unique adaptations of dragonflies, like their life cycle, anatomy, and diet. Kids will also learn about a few species found throughout the United States and how they come in every color.

Age Suggestion: 6+ years old



Cover



Outside Panel

A Quest for Dragons

Inside Panels

Dazzling Dragonflies

There are over 300 species of dragonflies in the United States. They can be found soaring and swooping over ponds, rivers, and swamps across the country.

A Closer Look

Eyes
Can quickly scan 360 degrees for prey.

Antennae
Work like anemometers, measuring wind speed and direction.

Jaws
Strong jaws and sharp teeth secure and cut through prey.

Cool Fact!
Dragonflies belong to the order *Odonata*, from the Greek word for 'tooth'.

Flight Path

Unique wings allow dragonflies to fly in any direction at any time. Focus on one dragonfly and draw its flight path below.



Prehistoric Pilots

Dragonflies have existed for about 300 million years. That's before the dinosaurs! Fossils show dragonflies with wingspans of over two feet. What is the biggest dragonfly you can find? Use this ruler to estimate the size.

size in inches



Many Shapes and Colors

Dragonflies come in many shapes, sizes, and colors. Color is one of the best ways to identify a dragonfly. Can you find these colored dragonflies?

yellow
Ruby meadowhawk

green
Eastern pondhawk

orange
Halloween pennant

blue
Blue dasher

red
Red saddlebags

purple
Roseate skimmer

Perfect Predators

A dragonfly's eyes, wings, and brain work together to make it one of the best hunters in the animal world. Dragonflies catch 95% of the prey they chase. A lion only catches about 15% of the prey they chase. Can you find some of the dragonfly's favorite snacks?

mosquito

butterfly

moth

fly

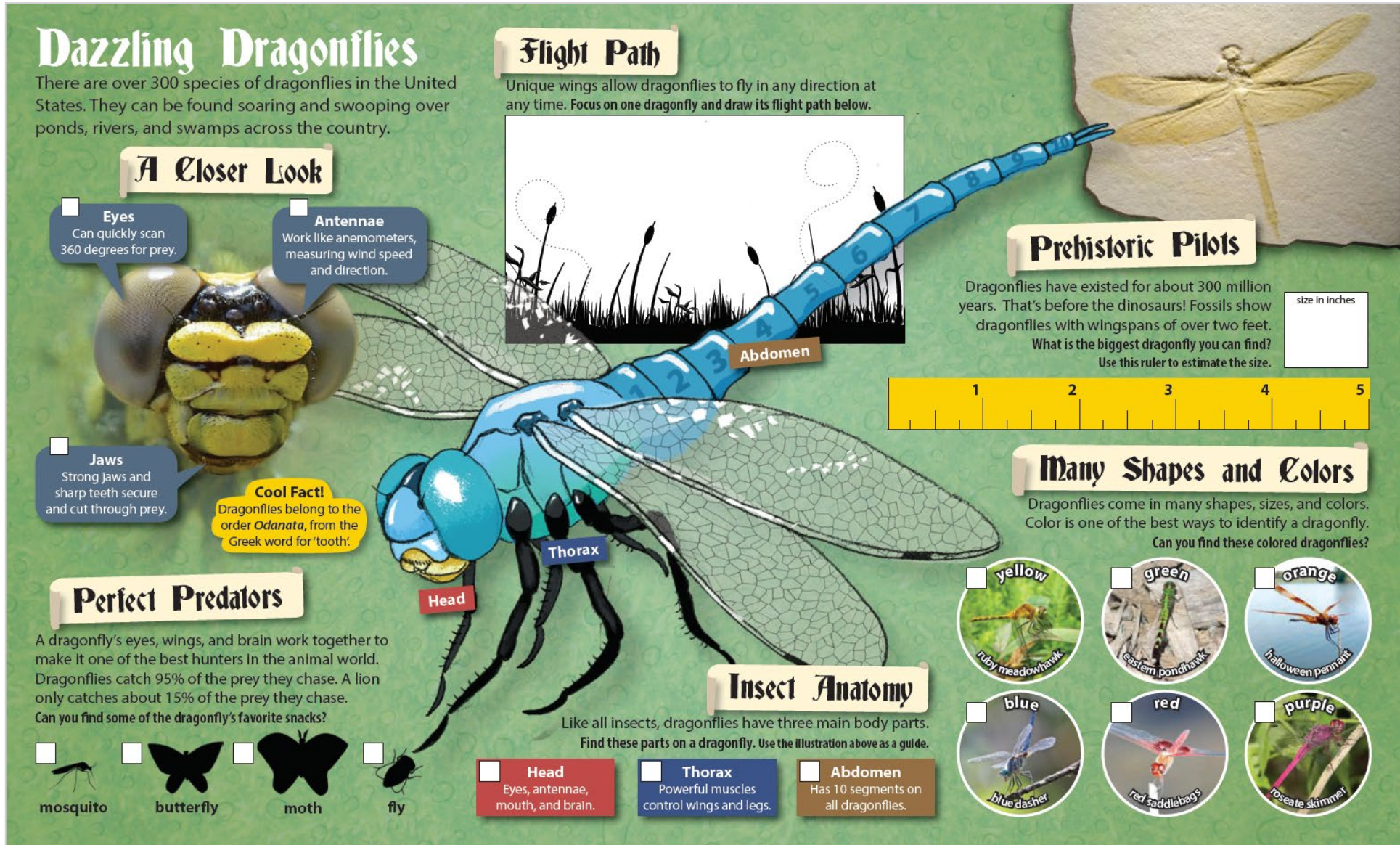
Insect Anatomy

Like all insects, dragonflies have three main body parts. Find these parts on a dragonfly. Use the illustration above as a guide.

Head
Eyes, antennae, mouth, and brain.

Thorax
Powerful muscles control wings and legs.

Abdomen
Has 10 segments on all dragonflies.

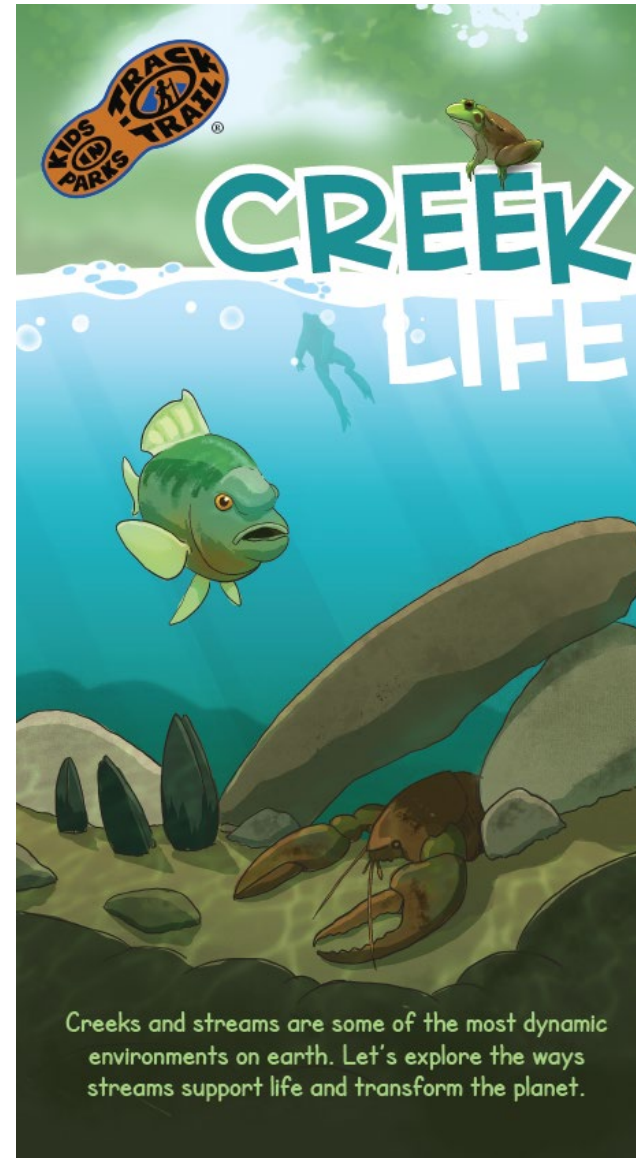


Creek Life

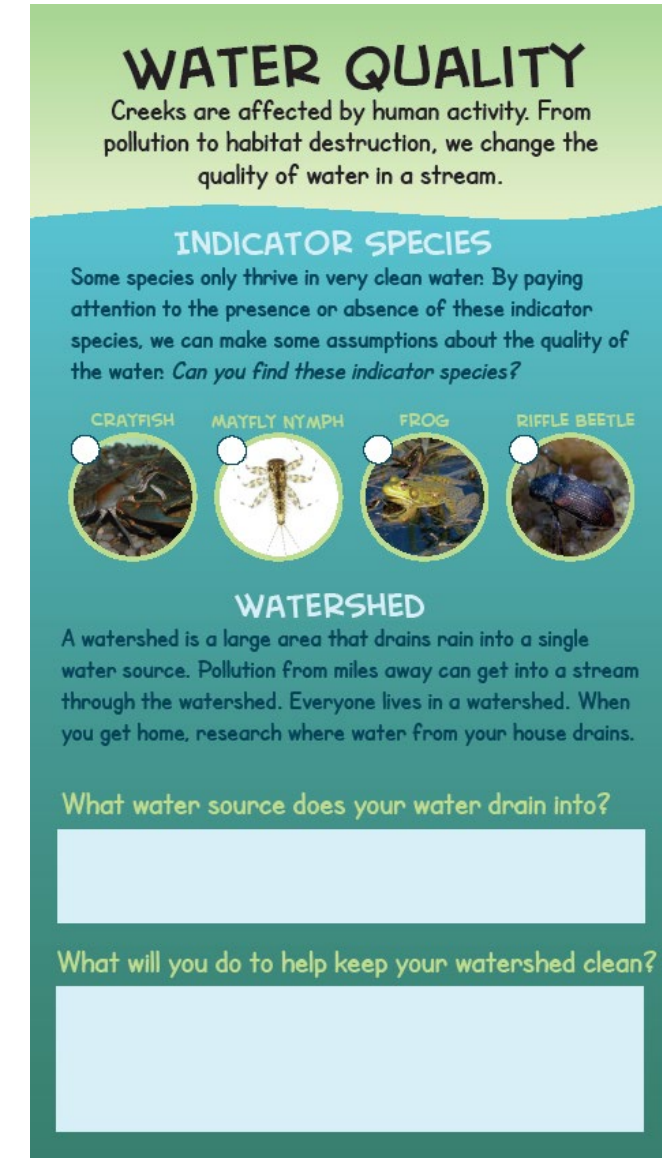
The “Creek Life” adventure explores the inhabitants of streams, creeks, and rivers.

Kids will learn about the wide range of animals that can be found in and along a creek in this brochure. The brochure will challenge readers to think about their influence on waterways and how water can impact us and our surroundings.

Age Suggestion: 5+ years old



Cover



Outside Panel

Creek Life

Inside Panels

A WORLD OF WATER

Creeks shape the world and create habitats as they move across the land. A healthy stream supports organisms that live in and around the water.

AQUATIC

The aquatic zone is the area of the creek that is on, in, or under water. Plants and animals that live in the aquatic zone may prefer some parts of the stream to others. The speed, depth, and temperature of the water can all attract different organisms.



FISH are animals like bass, sunfish, minnows, and trout. They swim with fins and extract oxygen from the water with gills.



MOLLUSKS are animals like mussels, clams, and snails. They often attach themselves to rocks. A hard shell protects their soft body.



CRUSTACEANS are animals like crayfish and shrimps. As invertebrates, they have a hard exoskeleton that protects them.

RIPARIAN

The riparian zone is the area that surrounds the creek. It can include the banks as well as areas that occasionally flood. With its constantly changing moisture levels, sediment deposits, and abundant food sources, the riparian zone attracts a great diversity of life.



REPTILES are animals like turtles, snakes, and lizards. They are cold-blooded so you can often see them warming up in a sunny spot.



AMPHIBIANS are animals like frogs, toads, salamanders, and newts. They absorb oxygen through their skin and must stay moist to breathe.



INSECTS are 6-legged arthropods and can be found on the surface or banks of the stream or flying through the air above the water.



MAMMALS are animals like raccoons, deer, beavers, and bears. Look for their tracks in the wet banks of the stream.



BIRDS can be found perched in trees, swooping after insects, or wading in the stream. Listen for their calls and try to spot them.

EARTH MOVERS

Creeks might seem gentle, but they are actually powerful forces that shape the landscape. With the force of rushing water, they carve into the earth and move tons of sediment miles away.

Look for clues that water is shaping the landscape.
Write down any evidence you find.

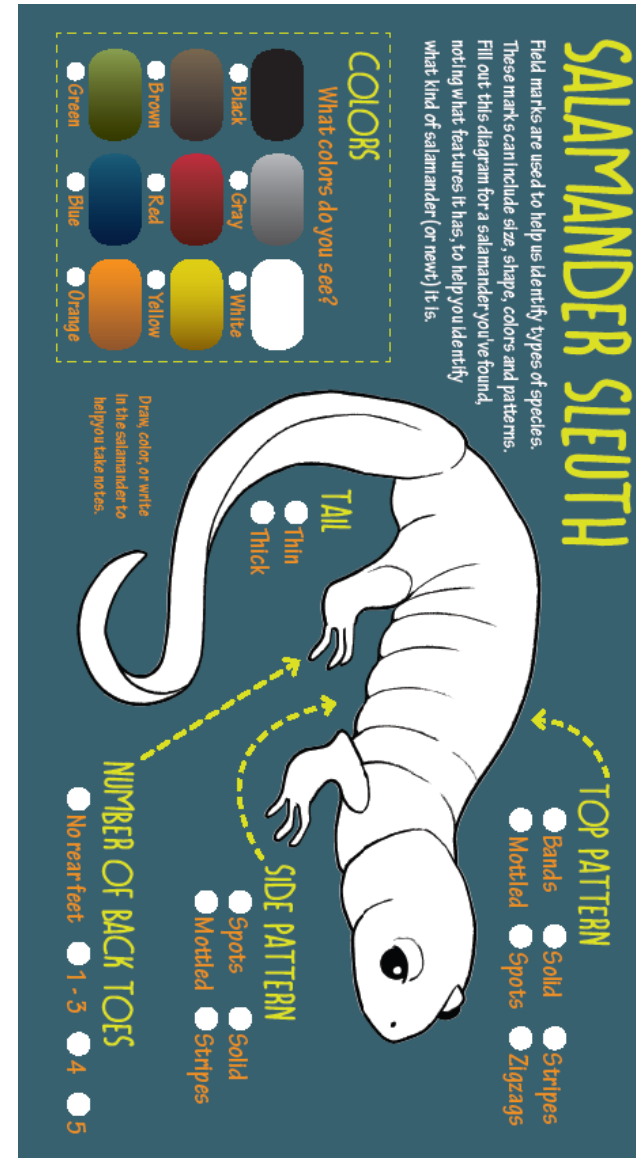


Salamander Safari

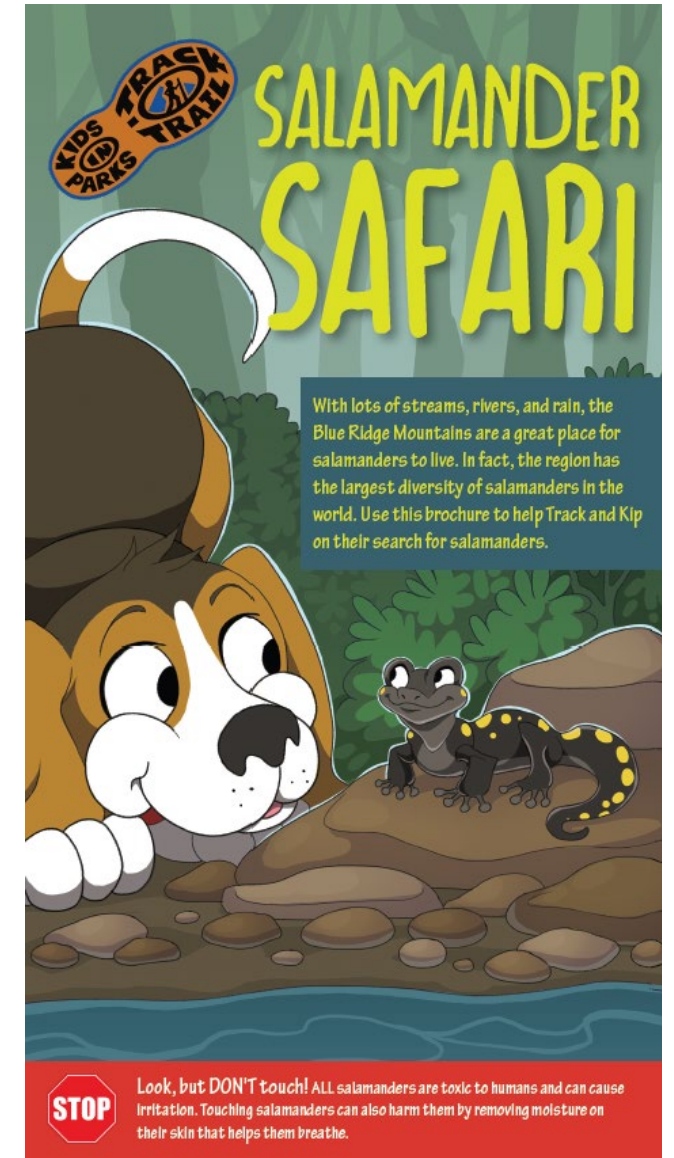
The “Salamander Safari” adventure teaches young minds about the world of salamanders.

This brochure is filled with photos of salamander species and their favorite foods. Kids will discover the unique life cycle and traits of a salamander, and even learn how to crawl like them!

Age Suggestion: 5+ years old



Cover



Outside Panel

Salamander Safari

Inside Panels

SALAMANDER SEARCH

Search for salamanders under leaves, rocks, or logs on the forest floor. You can also look on or under rocks in a creek. Most of the salamanders that you see on the trail are called lungless salamanders. They don't have gills or lungs, and breathe through their skin!

Remember to be extra careful when moving rocks and logs to avoid harming any animals that may live under them. Please help the habitat by putting things back the way you found them.



Northern dusky salamander
Desmognathus fuscus



White-spotted slimy salamander
Plethodon cylindraceus



Southern two-lined salamander
Eurycea cirrigera



Northern red salamander
Pseudotriton ruber ruber

DID YOU KNOW

the world's third largest salamander lives in the Blue Ridge Mountains?

The eastern hellbender can grow to be more than 2 feet long! Hellbenders, also called "mud puppies" or "snot otters," like to hide under rocks in swift-moving water. Hellbenders can help tell us if a stream habitat is healthy, as they need clean water to breathe through their skin.

SALAMANDER LIFE CYCLE

Like all amphibians, salamanders spend their lives near water where they lay their eggs. When the eggs hatch, the newborn salamanders, or larvae, breathe with gills and swim. As they grow up, the larvae develop lungs, or other organs, for breathing air when they go on land.



What's another animal that has a similar life cycle to a salamander?

SALAMANDER OR NEWT?

Similar to how a toad is a type of frog, a newt is a type of salamander! Unlike most salamanders, newts have rough, bumpy skin. They also have an extra stage in their life cycle. As juveniles, they live on land before returning to live in water as adults.



Juvenile red-spotted newt
known as a red eft



Adult red-spotted newt
Notophthalmus viridescens

SALAMANDER SNACKS

Most salamanders hide and sleep during the day, and then come out at night to hunt. Salamanders are carnivores and eat mostly insects. Can you find some of their favorite foods on your hike today?



CENTIPEDES



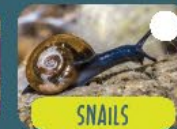
FLIES



MAGGOTS



TERMITES



SNAILS



WORMS



SPIDERS



SLUGS



CRICKETS

SALAMANDER SQUIRM

Salamanders have short legs, making their bellies drag the ground as they walk! Drop low like you're doing a push-up and try crawling. Pretend a predator is chasing you. How fast can you do the Salamander Squirm?



“We Can Take It!”

Life in the CCC

The “We Can Take It’ Life in the CCC” adventure shares the various roles and responsibilities of a Civilian Conservation Corps (CCC) enrollee.

This brochure spotlights the impact of the CCC on U.S. infrastructure and the various natural resources that were used to build roads, trails, and other structures. Kids will be challenged to think like an enrollee and are even encouraged to try out some of thee physical training.

Age Suggestion: 5+ years old



Cover



Outside Panel

“We Can Take It!” Life in the CCC

Inside Panels

“WE CAN TAKE IT!”

“We can take it!” was more than just a slogan for enrollees of the CCC, it was a way of life. The program built the young men up through exercise, education, skills training, and a long list of projects to complete. The day began every day at 6 AM and ended with a strict lights-out call at 9PM. *Let’s get to work!*

CALISTHENICS

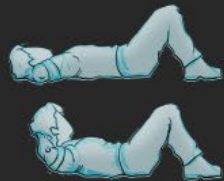
Camp life included a strong focus on the health of enrollees. The men had access to medical care as well as opportunities for healthy activity. Every morning began with a routine of calisthenic exercises.

Find an open space to warm up with some calisthenics. Take 30 seconds with each exercise. Check off the exercises you complete.

JUMPING JACKS



CRUNCHES



PUSHUPS



WOODSMANSHIP

For many enrollees, their CCC assignment was their first immersive experience in the wilderness. Building a collection of wilderness skills and knowledge was essential to completing projects.

OBSERVATION

Observation was the most important skill for enrollees. It kept enrollees aware of dangers, valuable resources, and prevented them from getting lost in the woods.

★ WAYFINDING CHALLENGE

Record 3 recognizable features along the trail. On your way back, look for those same features and check them off to verify you are still on the right trail.

Feature 1	_____	found again? <input type="checkbox"/>
	feature	
Feature 2	_____	found again? <input type="checkbox"/>
	feature	
Feature 3	_____	found again? <input type="checkbox"/>
	feature	

TOOLS OF THE TRADE

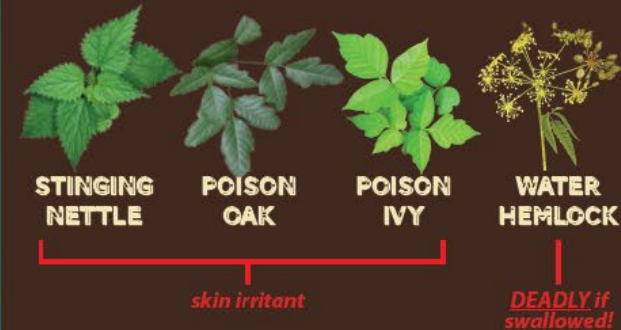


What do you think these tools are for? Match each tool with its purpose below.

1. _____	2. _____
3. _____	4. _____
DIGGING	BREAKING SOIL / ROCK
FELLING TREES	CHOPPING

1. shovel 2. mattock 3. crosscut saw 4. double-bit axe

WILDERNESS HAZARDS



HERPS

Amphibians & Reptiles

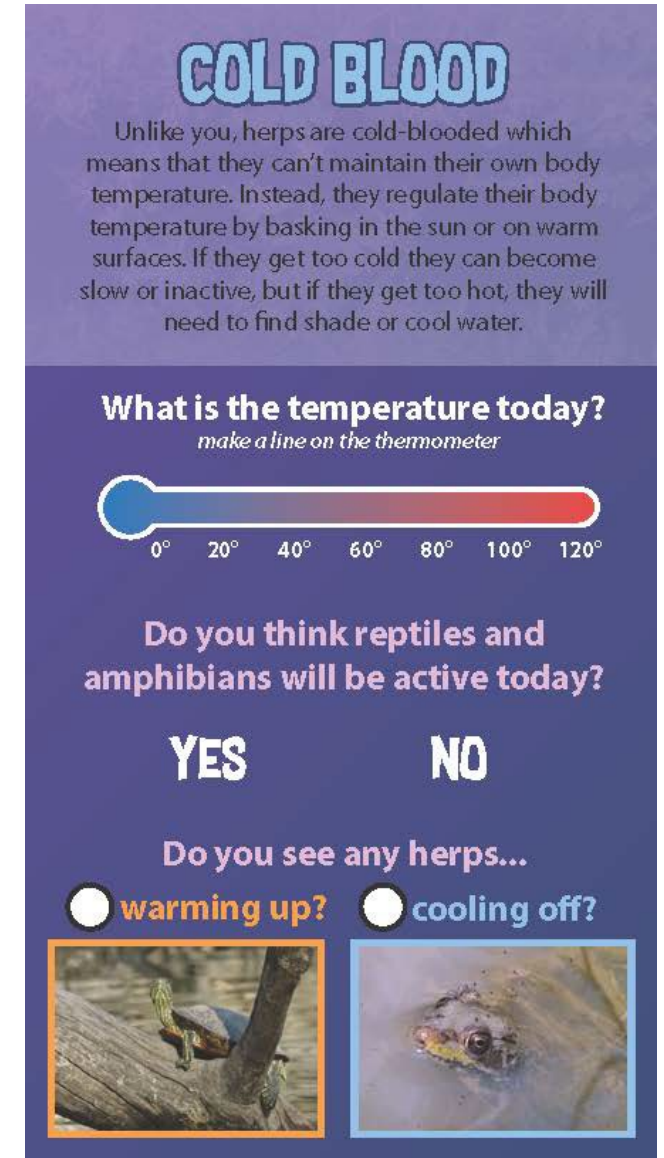
The “HERPS: Amphibians & Reptiles” adventure explores the unique world and adaptations of amphibians and reptiles.

This brochure gives readers an inside look into the diversity of herptiles, or amphibians and reptiles, and how they thrive in their various habitats. Kids will be able to I.D. any of the critters they see using the images, prompts, and dichotomous key on the inside.

Age Suggestion: 5+ years old



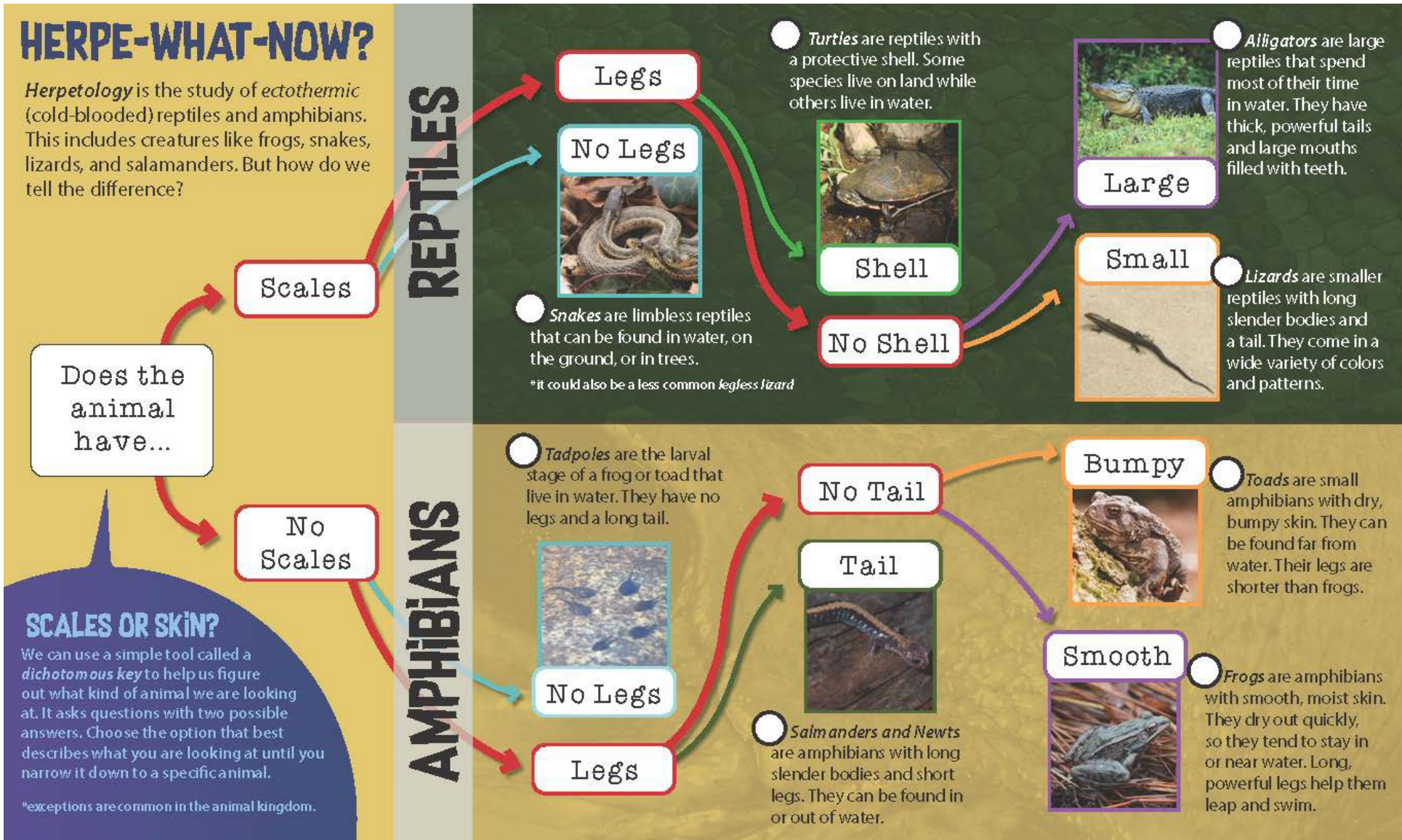
Cover



Outside Panel

HERPS Amphibians & Reptiles

Inside Panels



Customizable Brochures

These brochures have a standard template but can be customized for you site or region:

- Need for Trees
- Birds of the [Region/Location]

We are always developing new customizable brochures. Contact us if we don't have a brochure topic that you think would be a good additional to our collection.



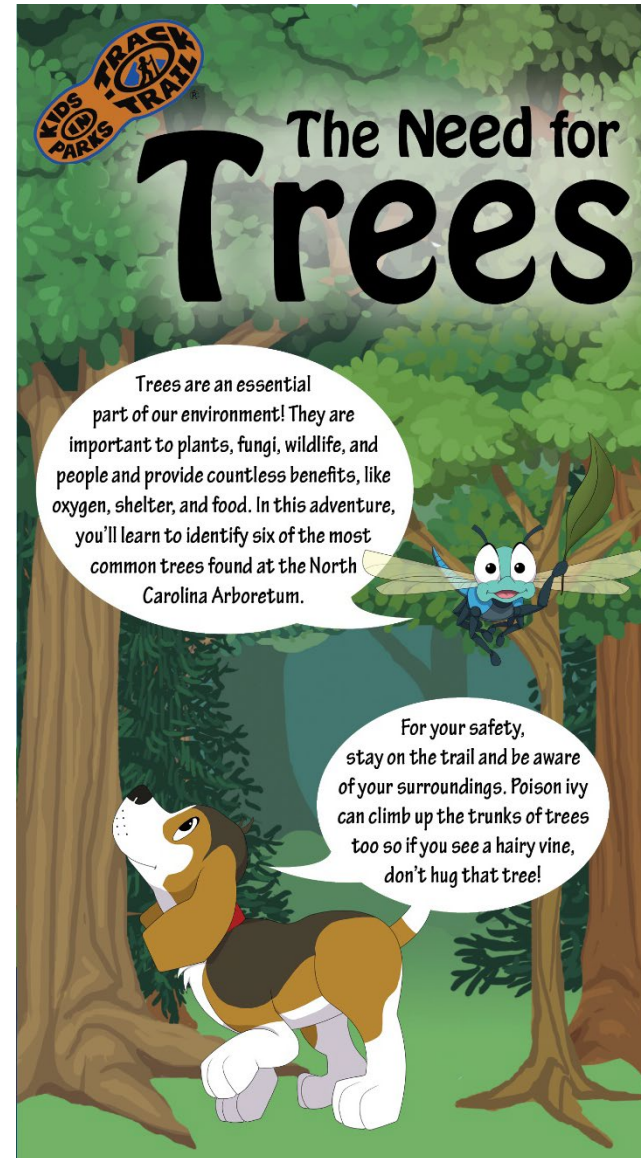
The Need for Trees

The "The Need for Trees" adventure will share six common trees found near the trail.

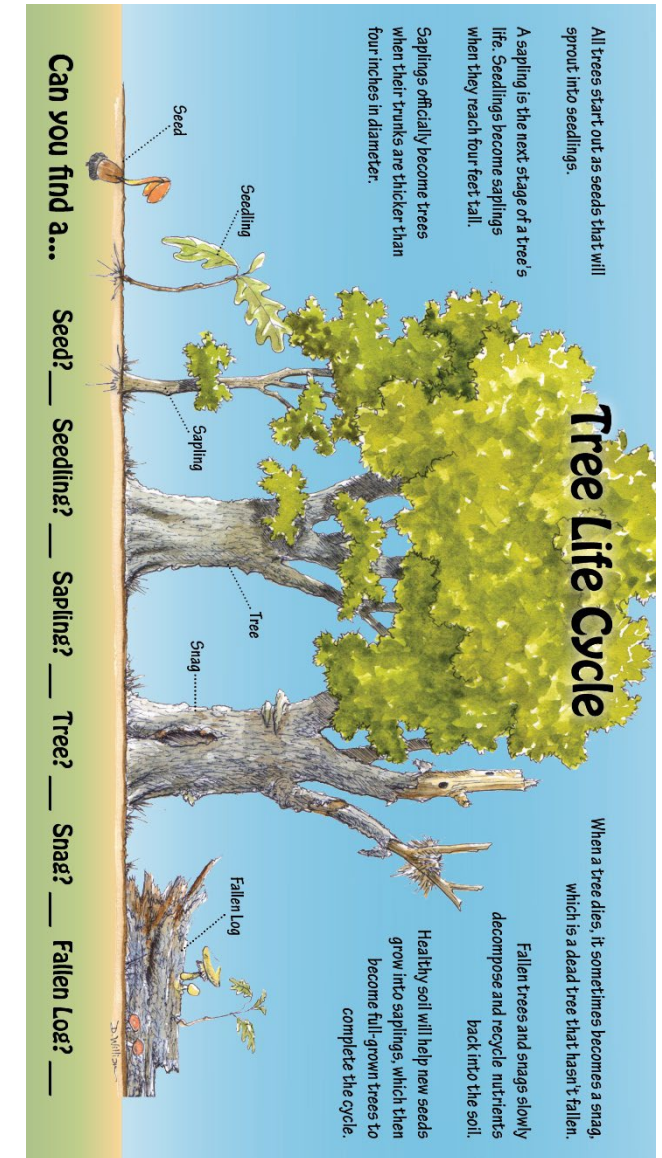
By using this brochure, kids will learn a few facts about these species, how to visually identify them, and the uses they provide for humans and other wildlife. Readers will also find illustrations of a tree's life cycle and how it gains energy from the environment.

Age Suggestion: 7+ years old

Customizable: Provide a list of six species your location would like included in your brochure



Cover



Outside Panel

The Need for Trees

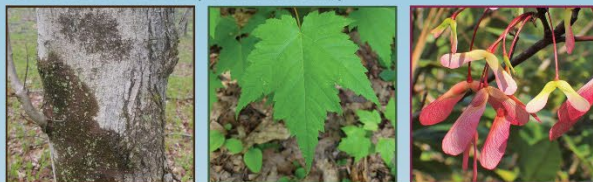
Inside Panels

● Tulip Tree (*Liriodendron tulipifera*)



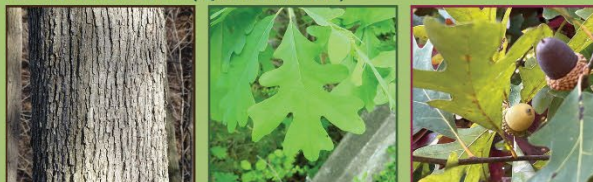
The tulip tree is easy to find in the woods given its straight, gray trunk that can span over 100 feet and its large, broad leaf that resembles a cat's face. Due to its large size and straight growth, this tree provides a variety of useful lumber. The tulip tree is very important for pollinators, and in the spring, bees collect nectar from the large and plentiful yellow-orange flowers to make a rich, dark honey.

● Red Maple (*Acer rubrum*)



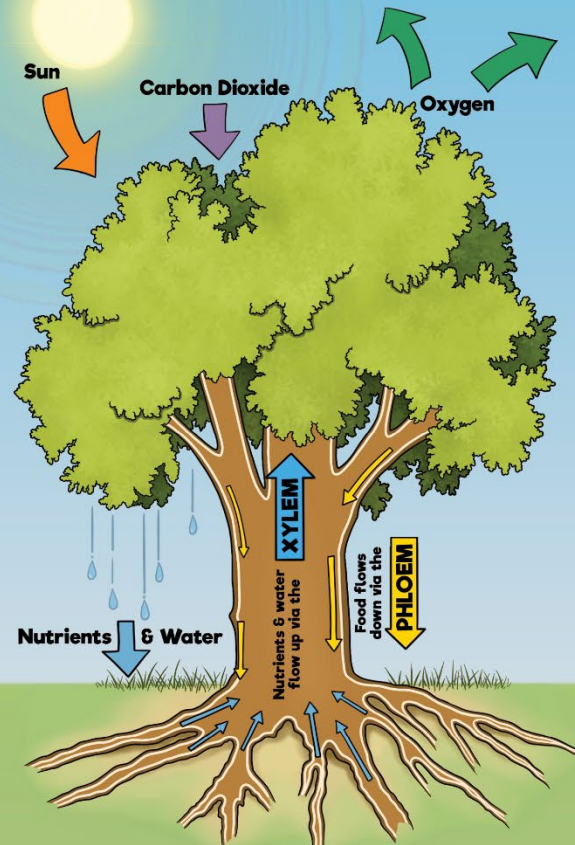
Able to grow in almost any soil condition, the red maple is one of the most abundant and widespread trees in eastern North America. With red twigs, buds, flowers, and seeds, it's easy to see how the red maple got its name. Red maple is favored for its flexible, sturdy, and beautiful wood, and it is often used to make musical instruments, such as guitars, banjos, and drums.

● White Oak (*Quercus alba*)



The white oak has leaves with rounded lobes and bark that is light gray and scaly as it ages. The acorns are long with a shallow cup and loved by squirrels, deer, wild turkeys, bears, and other wildlife. Because of its tight, water resistant wood, white oak was valued for shipbuilding and is still used today to make barrels!

The Need to Know How Trees Grow



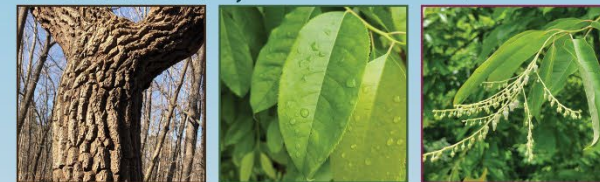
Most plants make their own food through a process known as photosynthesis. This occurs when nutrients and water flow up from the roots via the xylem and combine with carbon dioxide and sunlight absorbed in the leaves. This chemical reaction produces oxygen, which is released into the air, and glucose, a type of sugar, that is dispersed throughout the rest of the tree via the phloem.

● Sassafras (*Sassafras albidum*)



Sassafras is a small tree distinguished by three different leaf shapes (entire, mitten, and three-lobed). Although the soft, brittle wood is of little value commercially, its resistance to rot makes it good for outdoor furniture and fence posts. For generations, people have used the sap and roots to make candies, tea, and root beer! Though not edible to us, the fruits are enjoyed by many birds.

● Sourwood (*Oxydendrum arboreum*)



Given its deeply furrowed, chunky bark and the way it grows crooked toward the sun, the sourwood can be easily spotted in the woods! In the spring, small, white flowers hang in clusters from the branch tips, and in the fall, the leaves turn crimson red. Sourwood is an importance source for pollinators, and bees create a tasty, light-colored honey that is prized in the mountains.

● Eastern White Pine (*Pinus strobus*)



The eastern white pine has an extremely straight trunk, needles in fascicles (bundles) of five, and long skinny cones. White pine is a valuable lumber tree, but the needles are also rich in vitamin C and used to make tisane - a type of herbal tea. Wildlife, like deer, rabbits, and mice, graze on the foliage and seeds.

Birds of the [Region / Location]

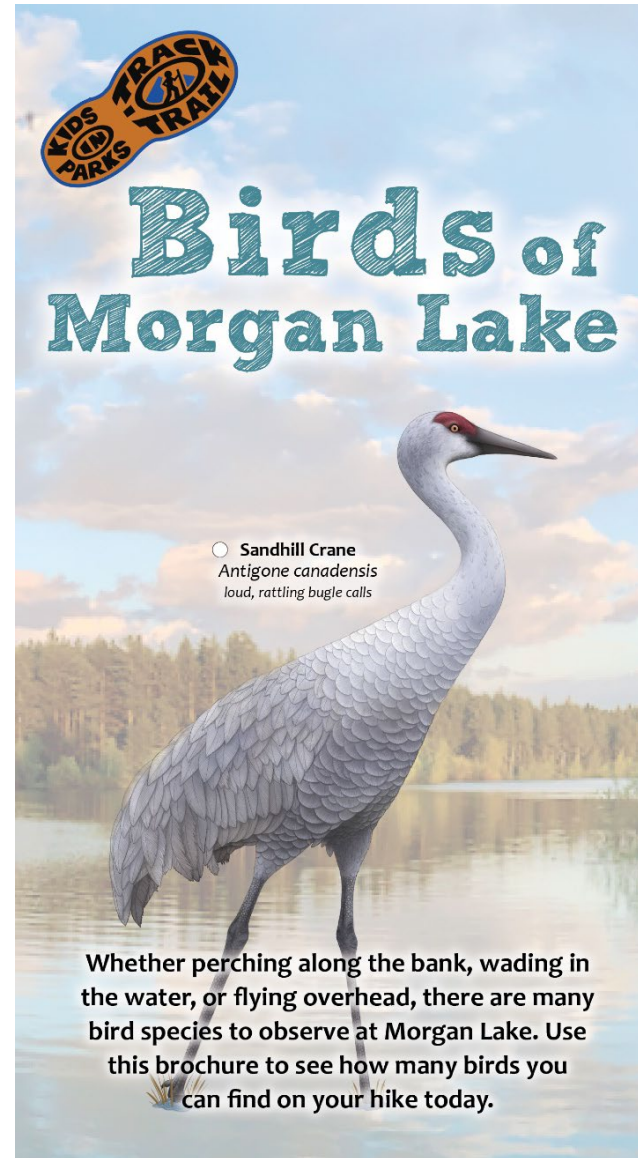
The "Birds of [Location]" adventure provides common birds that may be spotted on the trail.

This brochure contains biological illustrations of up to 15 birds and includes information on how to identify them through calls and visual markings. The inside flap includes an extensive list of useful field markings that will help kids identify the bird they're observing.

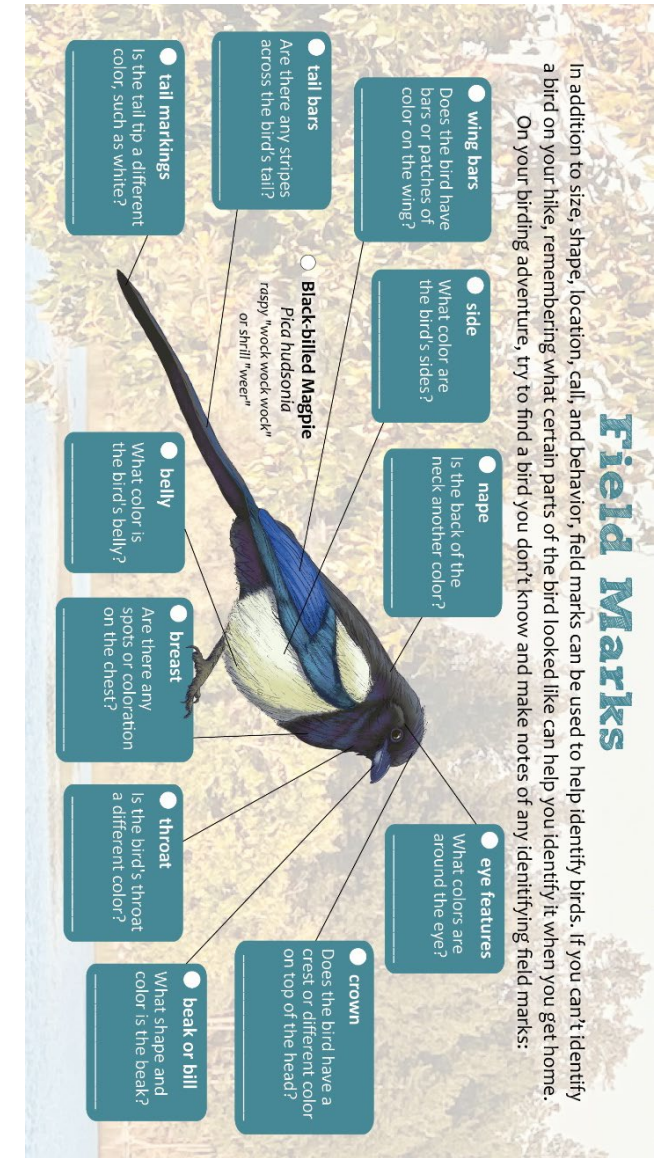
Age Suggestion: 6+ years old

Customizable: Using the provided list, select 15 species your location would like in the brochure.

- *Regional brochures are already available for: Blue Ridge Mountains, Piedmont, and Coastal birds*



Cover



Outside Panel

Birds of the [Region or Location]

Inside Panels

What kind of bird is that?

When identifying birds, start by observing their location and behavior. Is the bird up high making noise? Is it on the ground digging in leaves? Or is it in the water swimming?

Next, observe its appearance. Is it big like a raven or small like a chickadee? Does it have pointy wings or a long tail? What color is it, and what types of markings does it have?

The answers to these questions can help you identify the birds you observe at Morgan Lake!

Check off the birds you find on your hike today!



Birds List

NOTE: This list of available birds is constantly growing. Let us know if you have a bird(s) in mind not listed below.

- American Avocet
- American Cliff Swallow
- American Coot
- American Crow
- American Goldfinch
- American Kestrel
- American Robin
- American Tree Sparrow
- American White Pelican
- American Woodpecker
- Anna's Hummingbird
- Bald Eagle
- Baltimore Oriole
- Barn Swallow
- Barred Owl
- Belted Kingfisher
- Black & White Warbler
- Black Phoebe
- Black Vulture
- Black-billed Magpie
- Black-capped Chickadee
- Black-crowned Night Heron
- Black-headed Grosbeak
- Blue Jay
- Blue-winged Teal
- Brown Thrasher
- Brown Pelican
- Brown-headed Cowbird
- Brown-headed Nuthatch
- California Gnatcatcher
- California Quail
- Canada Goose
- Canada Jay
- Canyon Wren
- Carolina Chickadee
- Carolina Wren
- Cattle Egret
- Cedar Waxwing
- Chipping Sparrow
- Cliff Swallow
- Common Loon
- Cooper's Hawk
- Dark-eyed Junco
- Double-crested Cormorant
- Downy Woodpecker
- Eared Grebe
- Eastern Bluebird
- Eastern Kingbird
- Eastern Phoebe
- Eastern Towhee
- Gadwall
- Gray Catbird
- Great Blue Heron
- Great Horned Owl
- Great-tailed Grackle
- Green Heron
- Hairy Woodpecker
- House Finch
- House Sparrow
- Killdeer
- Laughing Gull
- Light-footed Clapper Rail
- Long-billed Curlew
- Mallard
- Marsh Wren
- Mountain Bluebird
- Mourning Dove
- Nashville Warbler
- Northern Cardinal
- Northern Flicker
- Northern Mockingbird
- Northern Parula
- Orchard Oriole
- Osprey
- Ovenbird
- Pied-billed Grebe
- Pileated Woodpecker
- Pine Warbler
- Prothonotary Warbler
- Purple Martin
- Red-bellied Woodpecker
- Red-cockaded Woodpecker
- Red-headed Woodpecker
- Red-naped Sapsucker
- Red-shouldered Hawk
- Red-tailed Hawk
- Red-winged Blackbird
- Ring-necked Pheasant
- Roadrunner
- Rock Dove
- Rose-breasted Grosbeak
- Ruby-throated Hummingbird
- Rufous Hummingbird
- Sandhill Crane
- Scarlet Tanager
- Sharp-shinned Hawk
- Snowy Egret
- Spotted Sandpiper
- Spotted Towhee
- Steller's Jay
- Summer Tanager
- Tree Swallow
- Tufted Titmouse
- Turkey Vulture
- Western Bluebird
- Western Kingbird
- Western Meadowlark
- Western Scrub Jay
- Western Tanager
- White-breasted Nuthatch
- White-tailed Kite
- Wild Turkey
- Wood Duck
- Wood Thrush
- Yellow Warbler
- Yellow-rumped Warbler

Site-specific Brochures

The following brochures are examples of custom brochures that were designed for specific sites or regions. We have designed numerous site-specific brochures over the years covering topics from natural science to history.

Please contact us if you are interested in designing a brochure that is specific to your site, or if you want a brochure that can be used across a specific region.



Who's at Willow Pond?

The "Who's at Willow Pond" adventure will help visitors learn about the Willow Pond habitat at the North Carolina Arboretum.

This brochure will have kids mesmerized by the life found at Willow Pond as they discover all of the species that depend on this water source for protection and nutrients.

Age Suggestion: 7+ years old

Designed for the North Carolina Arboretum
In Asheville, North Carolina



Cover

What Makes A Habitat?

A habitat is a place where an organism makes its home. Habitats are composed of water, food, shelter, and space. Availability of these things determines what can survive in the habitat. Use the activities below to observe the water, food, shelter, and space at Willow Pond.

water

Water is essential to all living things. The amount of water in a habitat determines what kinds of plants and animals can live there. Aside from the pond, write down another source of water for this habitat.

food

Food is also important to a healthy habitat and determines how much wildlife it can support. Find an animal and draw it in the first box to start a food chain. Next, draw what they eat in the second box and so on. If your animal eats plants, think about where plants get their energy from (hint: it's up in the sky).

shelter

Shelters are places that organisms need for protection from weather or predators. A healthy habitat will have a variety of shelter types to fit the needs of the animals that live there. Look and see if you can spot these shelters below.

- | | | | |
|--------------------------------|-------------------------------------|-------------------------------|--------------------------------------|
| <input type="checkbox"/> Rock | <input type="checkbox"/> Tree | <input type="checkbox"/> Nest | <input type="checkbox"/> Tree Hollow |
| <input type="checkbox"/> Log | <input type="checkbox"/> Shrub | <input type="checkbox"/> Hive | <input type="checkbox"/> Ant Hill |
| <input type="checkbox"/> Grass | <input type="checkbox"/> Brush Pile | <input type="checkbox"/> Web | <input type="checkbox"/> Burrow |

space

The amount of space an organism needs depends on the species. Observe the animals and plants you see at the pond. Are they larger or smaller than a loaf of bread? Does this habitat support more small creatures than big creatures?

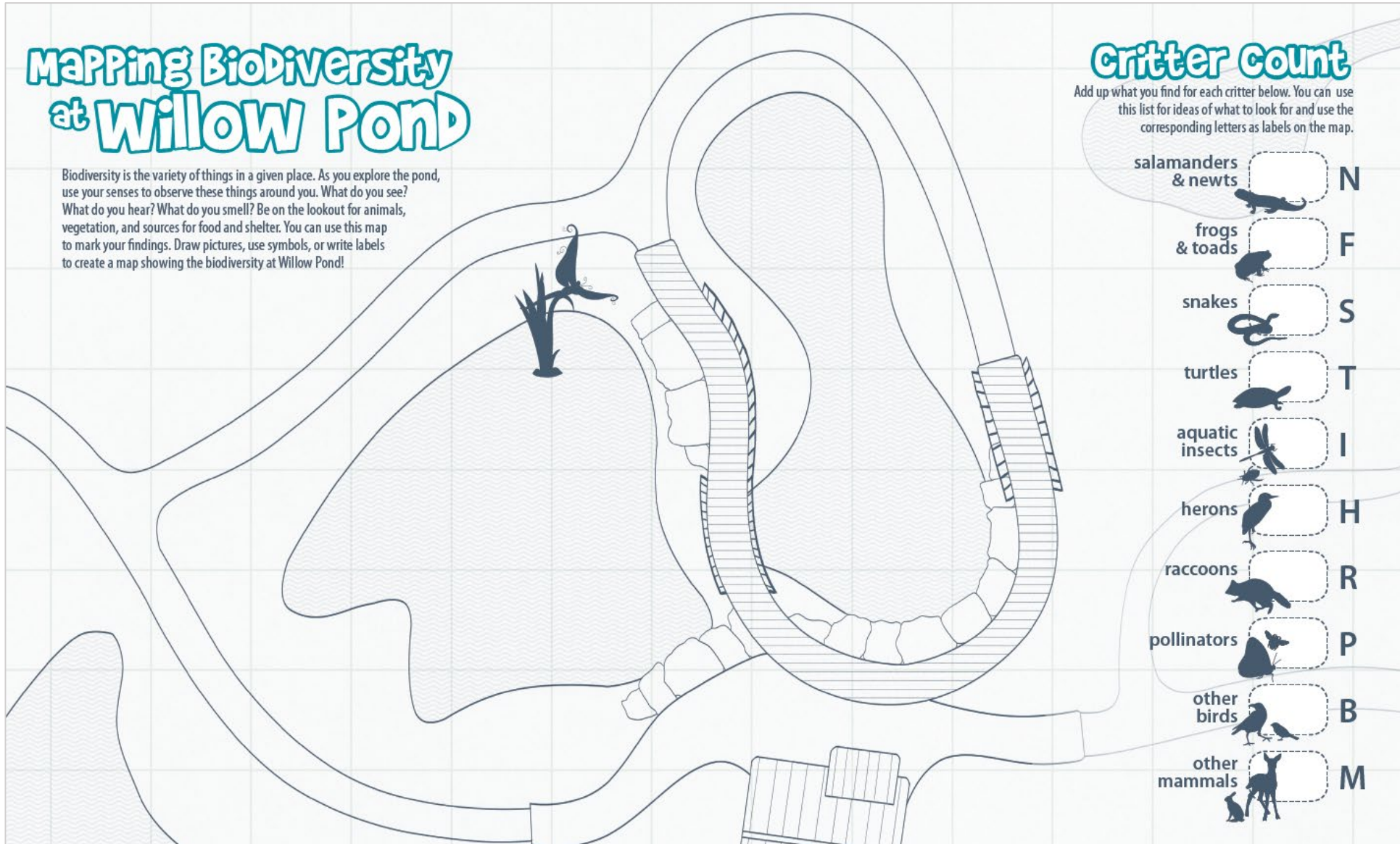
Outside Panel

Who's at Willow Pond?

Inside Panels

Mapping Biodiversity at Willow Pond

Biodiversity is the variety of things in a given place. As you explore the pond, use your senses to observe these things around you. What do you see? What do you hear? What do you smell? Be on the lookout for animals, vegetation, and sources for food and shelter. You can use this map to mark your findings. Draw pictures, use symbols, or write labels to create a map showing the biodiversity at Willow Pond!



Critter Count

Add up what you find for each critter below. You can use this list for ideas of what to look for and use the corresponding letters as labels on the map.

salamanders & newts N



frogs & toads F



snakes S



turtles T



aquatic insects I



herons H



raccoons R



pollinators P



other birds B



other mammals M



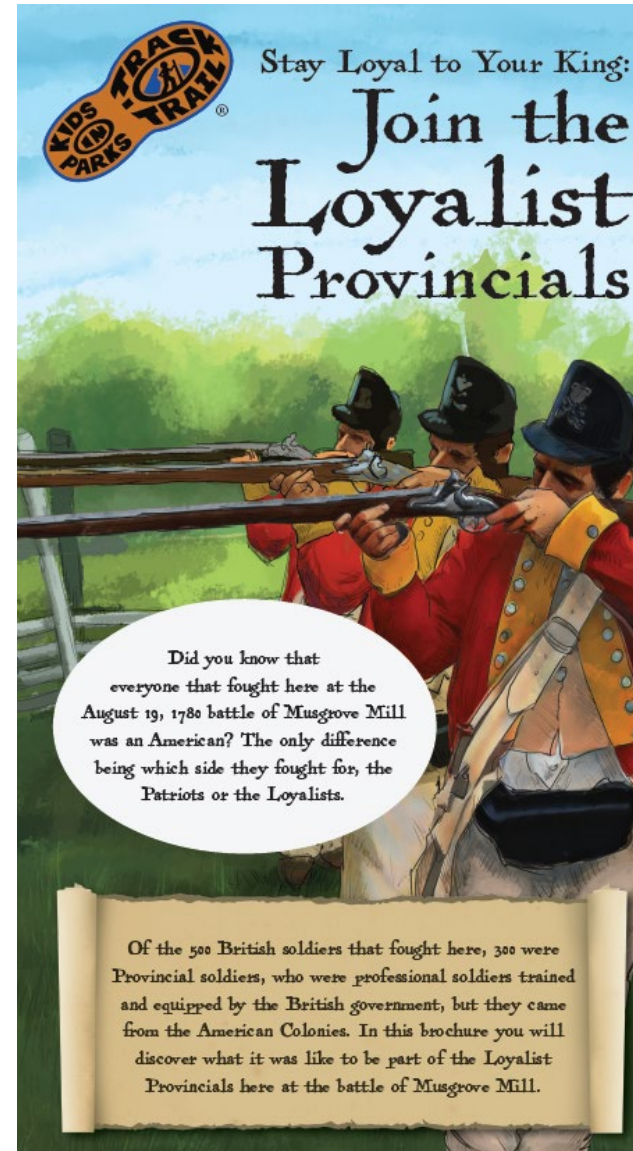
Battle of Musgrove Mill

There are two adventures to choose from for the Battle of Musgrove Mill that walk visitors through this Revolutionary War site.

Two brochures are available to choose from, between the Loyalist or Patriot militia, and readers will learn the ins and outs of what it took to be a soldier. Visitors can walk the battlefield grounds while enjoying the wildlife and scenery that have reclaimed the land.

Age Suggestion: 7+ years old

Designed for Musgrove Mill State Historic Site in Clinton, South Carolina



Cover



Outside Panel

Battle of Musgrove Mill

Inside Panels

Dressing for Battle

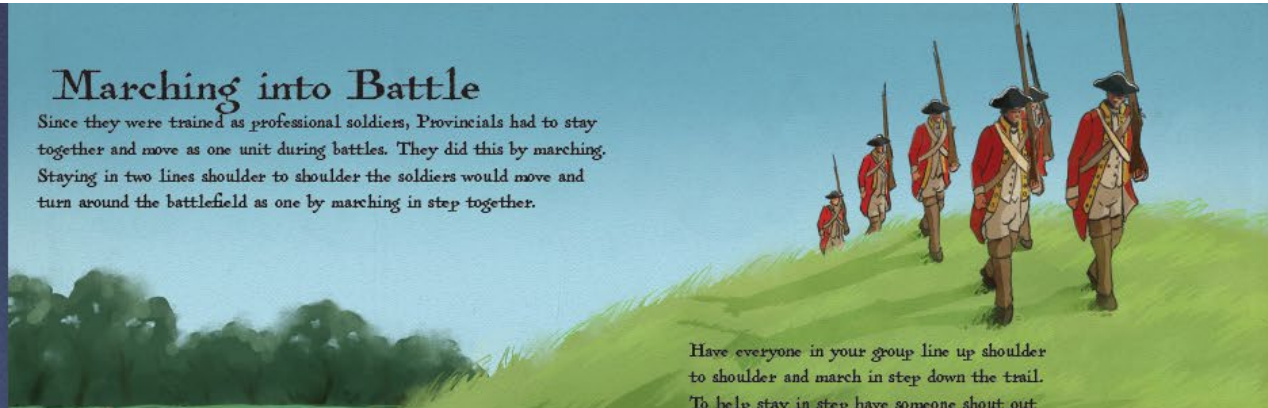
Since they were professionals, Provincial soldiers were given the same uniforms, weapons, and gear by the King that British Regular soldiers got. This included their famous red coats, and 'Brown Bess' muskets.



How does your clothing compare to what the Provincial soldier is wearing in this image? How would you like to wear and carry all this while hiking this trail? (Remember this battle was fought during the summer in August)

Marching into Battle

Since they were trained as professional soldiers, Provincials had to stay together and move as one unit during battles. They did this by marching. Staying in two lines shoulder to shoulder the soldiers would move and turn around the battlefield as one by marching in step together.

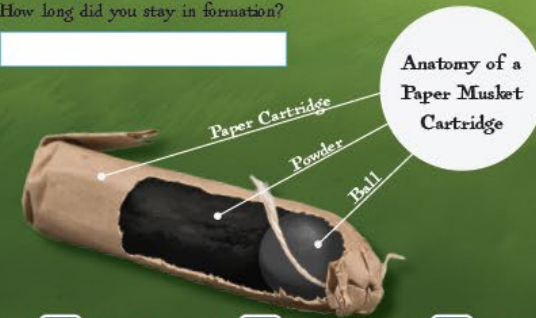


Have everyone in your group line up shoulder to shoulder and march in step down the trail. To help stay in step have someone shout out **LEFT, RIGHT, LEFT, RIGHT.** How long did you stay in formation?

Training Like a Provincial

Provincial Soldiers were trained just like British Regular soldiers and they carried military muskets. These muskets had barrels that were smooth so you could load them very quickly. Provincial soldiers were expected to load and fire their muskets 3-4 times every minute.

Imagine you are holding a musket and follow the picture instructions. See if you can load and fire your musket 3 times in a minute.



1

Hold musket on your right side.



2

Take out your paper cartridge and tear one end with your teeth



3

Put musket on your left side and pour the cartridge down the barrel



4

Push the cartridge down the barrel with the ramrod



5

Pull the cock back and put musket up to your shoulder



6

Fire the musket by pulling the trigger and yelling BANG!



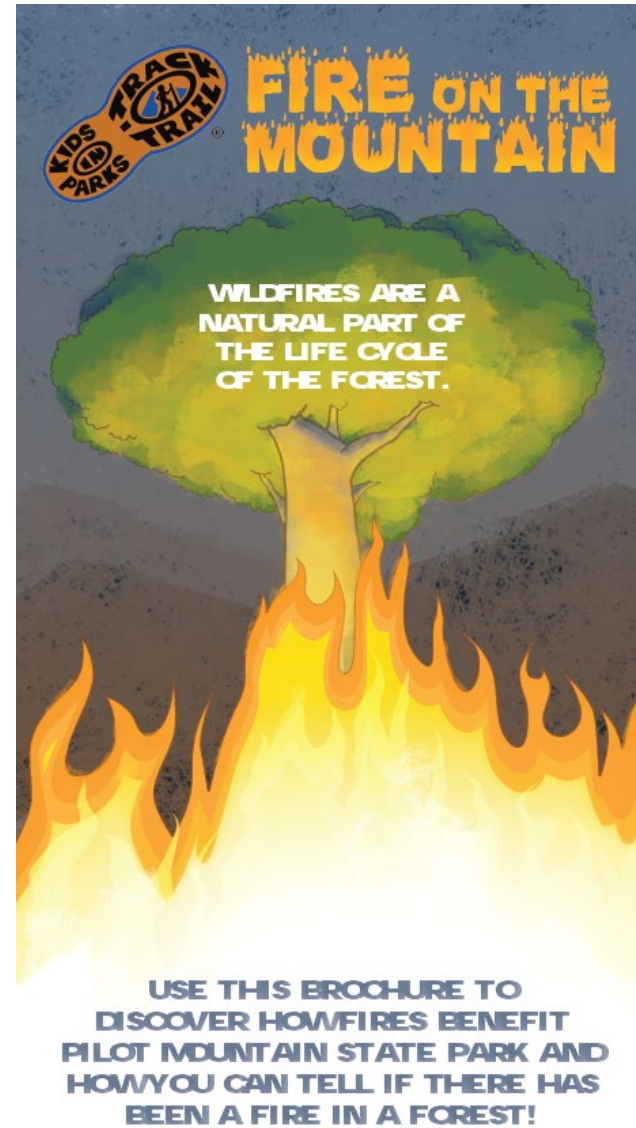
Fire on the Mountain

The “Fire on the Mountain” adventure teaches visitors about the benefits and importance of prescribed burns to mountaintop ecosystems.

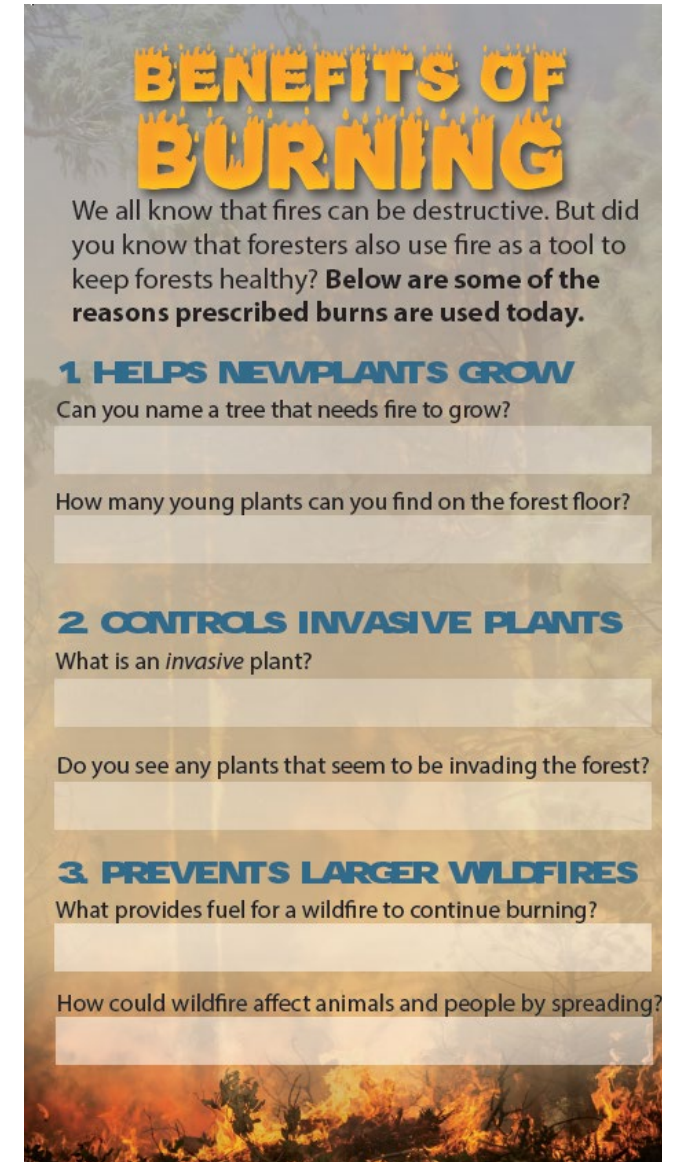
This brochure will have readers searching for common plants found after a fire and learning new terminology used to describe those dependent on high temperatures for new life.

Age Suggestion: 7+ years old

Designed for Pilot Mountain State Park (NC) and Table Rock State Park (SC)



Cover



Outside Panel

Fire on the Mountain

Inside Panels

SMOKE SIGNALS

How can you tell if a fire has occurred in a forest? Organisms that survive the fire display evidence while new, opportunistic life emerges. Look for these signs of fire along the trail.

SURVIVORS

Plants that survive a wildfire often bear the scars of their battle with the flames. Can you find these fire clues?

FIRE SCARS

Fire scars can be seen in a tree's rings, creating a record of the fires it has lived through. On a standing tree, fire scars can look like an upside-down "V", called a "catface", cut into the base of the trunk.

Circle which side of the tree you find scars:

Uphill

Downhill

EPICORMIC BRANCHING

Epicormic branches are shoots that grow directly from the trunk of a tree. These can sprout to life out of injuries from fire.



A 'catface' fire scar

OPPORTUNISTS

While a wild fire is the end for a lot of organisms, it also creates opportunities for new plants to grow by restoring soil nutrients, clearing undergrowth, and removing canopy that blocks sunlight. Do you see any of these signs of new life?

PINE SPROUTS

Fire exposes mineral soil and clears out competing plants, allowing pine seedlings to sprout. Without fire, trees such as pitch, shortleaf, and table mountain pines would vanish from the landscape.



FIRE FLOWERS

There are certain wildflowers that are adapted to grow in soils that are cleared and renewed by fire. Below are a few examples. Can you find any of these blooms along the trail in spring or summer?



Jack in the Pulpit



Bloodroot



Pink Lady's Slipper

SEROTINOUS CONES

These cones are found only on trees adapted to fire. They do not open until fire melts the "glue" that holds the scales closed. This way, seeds are only released when the forest floor is burned clear.



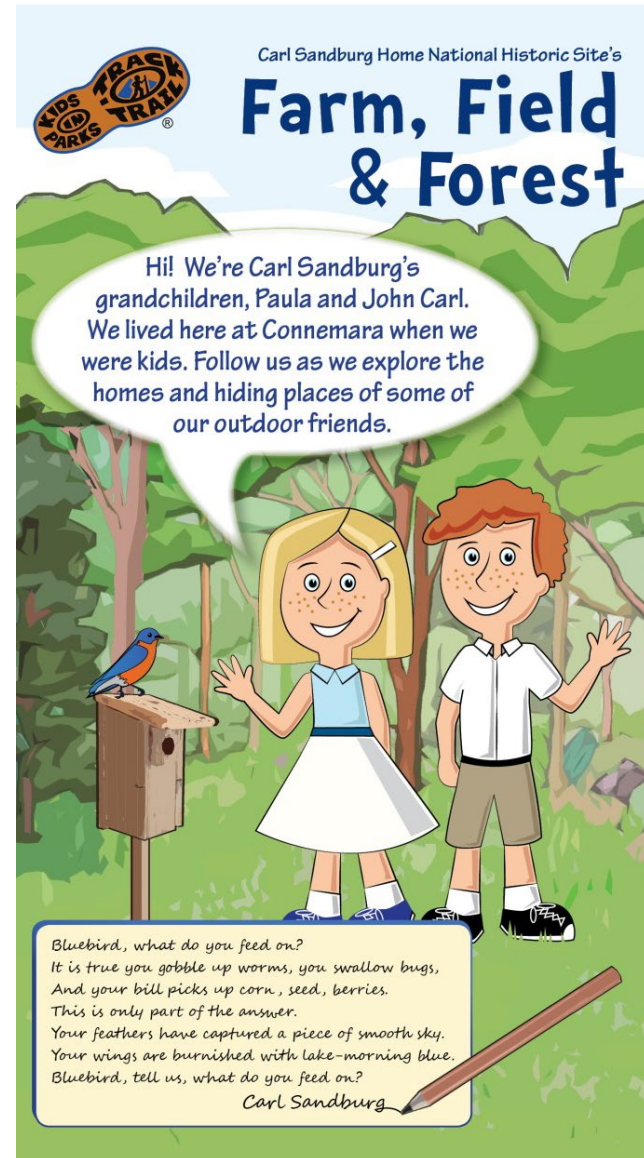
Farm, Field & Forest

The “Farm, Field & Forest” adventure explores the many natural attractions of ‘Connemara’ – the home of Pulitzer Prize-winning poet and writer: Carl Sandburg.

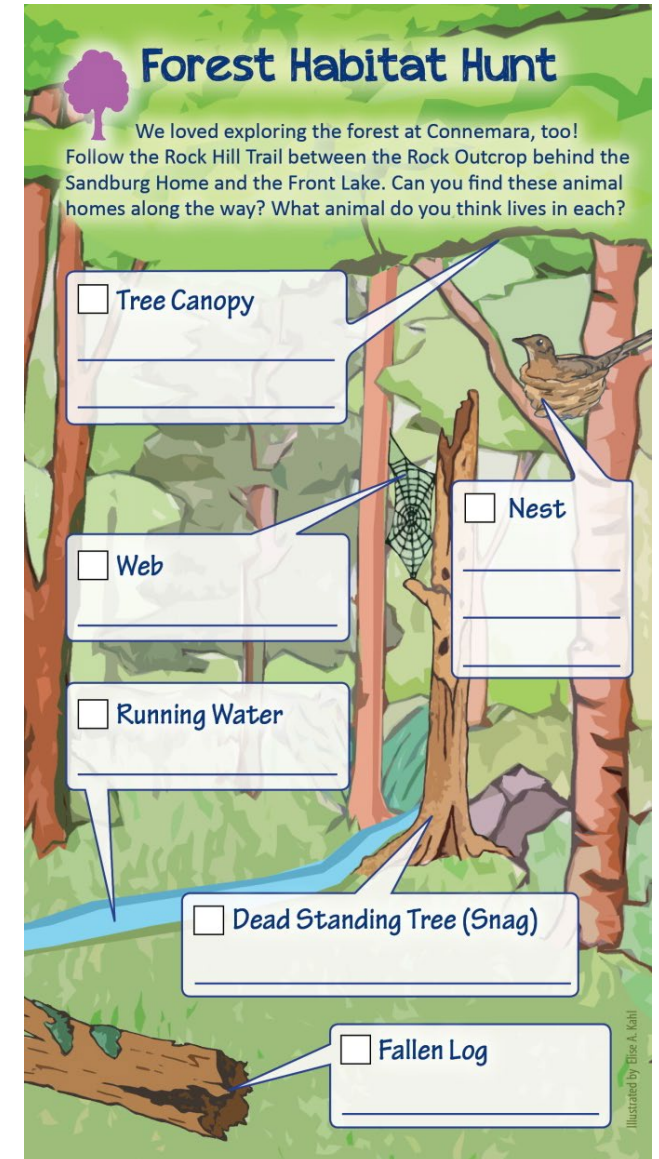
This brochure follows Carl Sandburg’s grandchildren, Paula and John Carl, on a search for plants and animals that also call this land home. Visitors will discover various habitats that the Sandburg family helped preserve and/or create on the property.

Age Suggestion: 5+ years old

Designed for the Carl Sandburg Home National Historic Site in Flat Rock, North Carolina



Cover



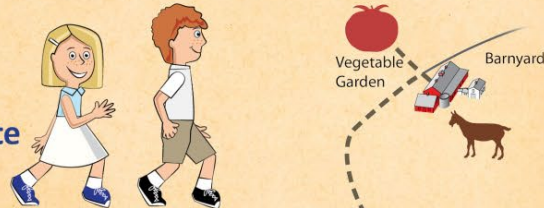
Outside Panel

Farm, Field, & Forest

Inside Panels

Follow our footsteps through Farm, Field & Forest at Carl Sandburg Home National Historic Site

Let's discover together the variety of plants and animals that call this place home. We'll show you how our family used the land to create new habitats to support plant and animal life.



Margaret's Garden

Aunt Margaret planted this flower garden to grow beautiful flowers. But flowers aren't just pretty, their nectar and pollen attract birds and bugs that we call pollinators. Pollinators carry pollen from flower to flower which is essential for helping flowers grow into fruit. Can you see some of these pollinators at work?

Butterfly Bird

Bee Beetle

Monarch
Ruby-Throated Hummingbird

Vegetable Garden

We used this patch of land to provide food for our family. We planted a large garden full of tomatoes, corn, beans, pumpkins and more. Can you find a few things that help a garden habitat grow?

Soil Water Sunlight

Barnyard

Our Grandmother, Paula, raised her award-winning dairy goat herd along with other animals in these pastures and barnyard. Can you find these three different breeds of goats?

Toggenburg Saanens Nubian

Rock Outcrop

We often found our Grandfather Carl Sandburg sitting on the rock reading or writing poetry and stories. This flat rock, or granite outcrop, is home to a rare community of plants. Can you find the small plants that live here?

Moss Lichen

Saxifrage

Michaux's Saxifrage *Reindeer Lichen*

Front Lake Bridge

We would often visit the Front Lake to watch the fish swimming. See if you can find these animals that call the Front Lake their home.

Fish Snake Turtle

Bluegill *Northern Watersnake* *Common Snapping Turtle*

Pasture

When we were growing up at Connemara this pasture was home to our horses Storm and Remember. Today the pasture is a home for different grasses, flowers and insects. Can you spot the different plants that share this grassy home?

Grasses Milkweed

Common Milkweed

Milkweed is a home for monarch butterflies, providing food and shelter to help monarchs grow from eggs to caterpillars to butterflies.

Mabry Mill

The “Mabry Mill” adventure will take visitors back in time to experience the highs and lows of living in an isolated mountain community.

In this brochure, readers will learn about the mechanisms of a waterwheel and how this one was used to grind cornmeal and saw lumber. Those visiting the site will also see Ed’s other ventures in the community, i.e. a blacksmith and woodworking shop still standing.

This brochure is most appropriate for children **eight to 12 years old**.

Designed for Mabry Mill at Milepost 176.2 on the Blue Ridge Parkway



Cover



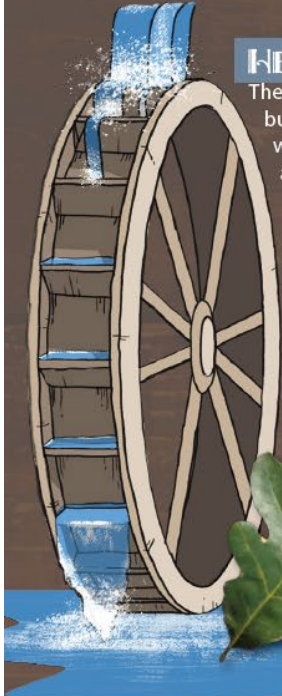
Outside Panel

Mabry Mill

Inside Panels

THE COMMUNITY MILL

Mabry Mill was used for grinding corn as well as sawing lumber. Let's discover some of the ways the mill provided for the community.



HELP FROM NEIGHBORS

The Mabrys built a lot by themselves, but needed help constructing the waterwheel. It powers the entire mill and had to be perfect. Luckily one of their skilled neighbors offered help.

The wheel is made of white oak, a local hardwood tree known for its water resistance.

Can you find a white oak?

check the box



MILLSTONES MILES AWAY

The waterwheel drives the mill but millstones do the grinding work. These millstones came from about 45 miles away and Ed chiseled the grinding faces himself.



STRIKE WHILE THE IRON'S HOT

With the success of the mill, Ed thought of other ways to provide services for the community. He set up a blacksmith shop to make metal products.

Can you find these tools?

Anvil



Hammer



Other: _____

"NOSE TO THE GRINDSTONE"

Too much water on the waterwheel spins the millstones too quickly. This builds heat and can burn the corn. To check for scorching, millers put their nose down close to the grinding and sniffed for the smell of burning.

Press your hands together and rub them slowly. Now rub them as fast as you can. Which speed makes your hands hotter?

SLOW or **FAST**

Mabry Mill ground slowly, never scorching the corn. The Mabrys were known for the best tasting cornmeal in the area.

How fast is the waterwheel turning? Pick one spoke and count how many full turns it does in one minute.

turns per minute

SAWMILL & WOODWORKING SHOP

The waterwheel also powered the sawmill. When the Mabrys lived here there were no electric tools. All the tools needed for community lumber products were powered by the turning wheel. Can you find these tools around the mill?

Circular Saw

Cuts logs into board lumber.



Lathe

Turns wood for making table legs or wagon wheel spokes.



Other tools: _____

A GROWING COMMUNITY

Mabry Mill brings together millions of people from around the world. You may hear different accents or languages and see different styles of clothing. Look at license plates in the parking lot. Which states and countries can you find?

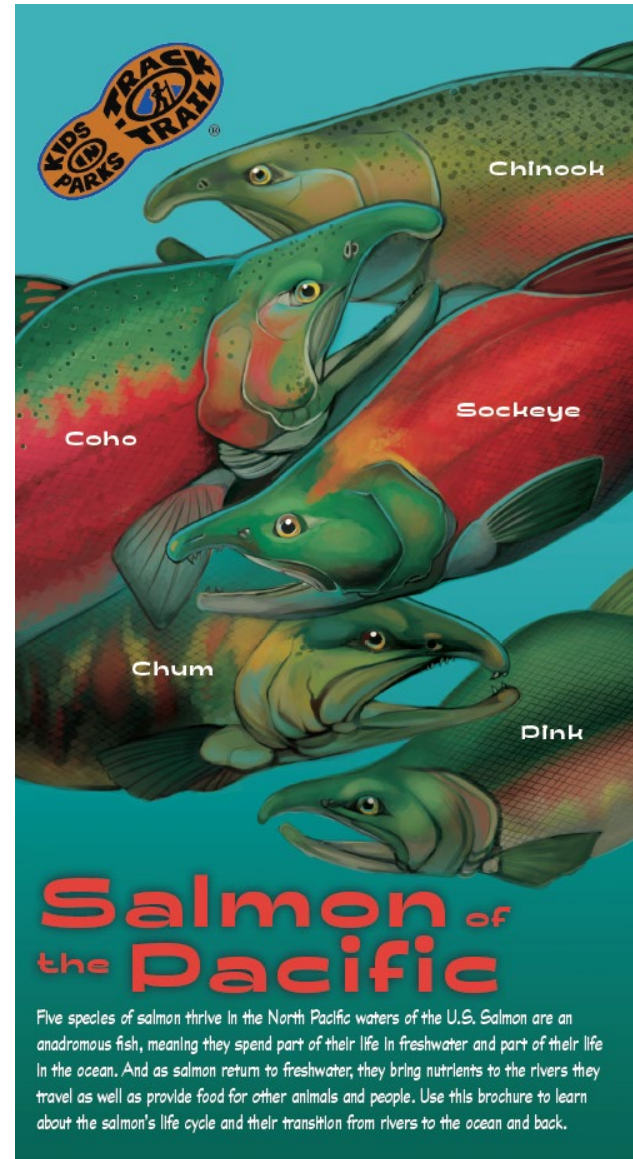
Salmon of the Pacific

The “Salmon of the Pacific” adventure is dedicated to the five salmon species found in the North Pacific waters of the U.S.

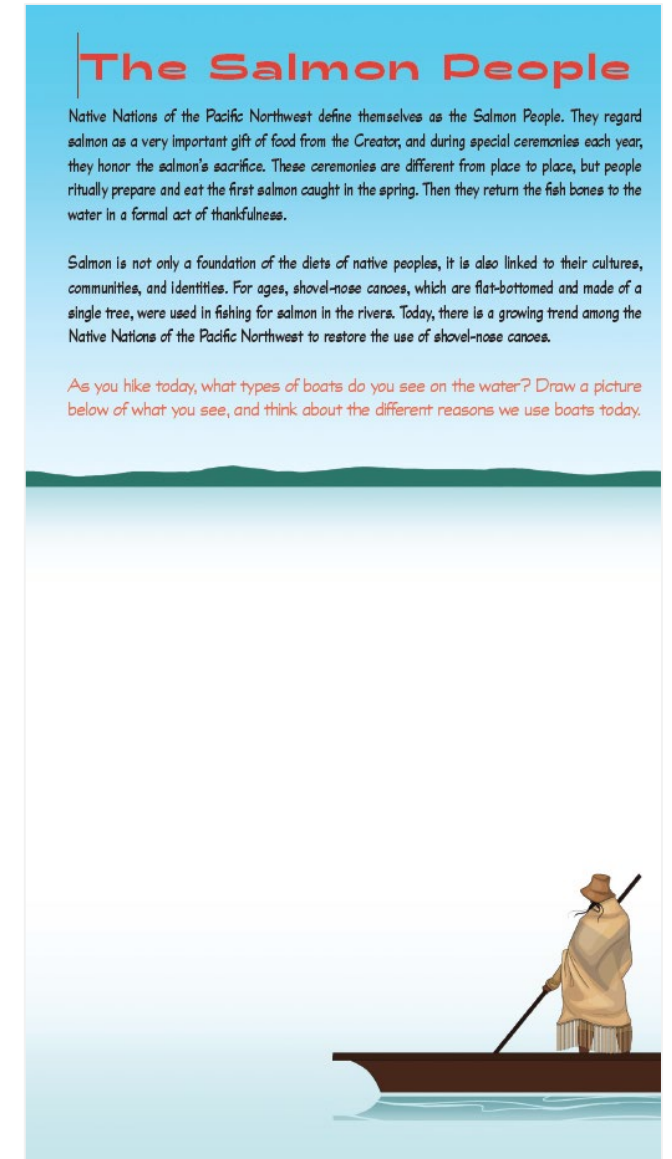
This species-specific brochure walks readers through the unique life cycle of salmon and highlights their significance to the people and ecosystem of the Pacific Northwest.

Age Suggestion: 6+ years old

Designed for Renton, Washington



Cover



Outside Panel

Salmon of the Pacific

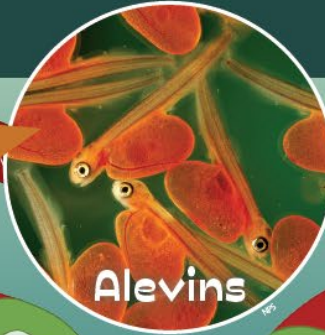
Inside Panels

Life of a Salmon

Eggs are laid in a nest by a spawning female and are fertilized by a spawning male. Females can lay 3-5 nests in just a few. Shortly afterward, both the adult female and adult male salmon will die.



Alevins are newly-hatched salmon. They stay in the nest and live off a food sac that is attached to their bodies.



Like newborn salmon have food to carry around with them, did you bring a snack with you today? What's your favorite food to take hiking?

Parrs are salmon fry that have grown large enough to leave the nest and find food on their own. They swim to a body of freshwater where they feed and mature for the next one or two years.



Spawning salmon are in their final stage of life. This is when many salmon develop bright colors and they return to the streams where they were born.



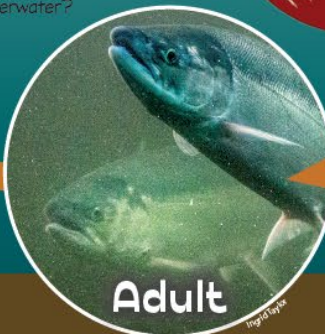
Can you spot any spawning salmon swimming underwater?

Smolt are young salmon that are ready to make their transition to the sea. They become silvery to match open water, and their gills and kidneys change to process saltwater.



Salmon Run

Salmon face many predators. Orcas, seals, and sharks will hunt adult salmon in the ocean. Find a spot on the trail to run to and then run back. As you run back, have a partner play a "predator" and try to tag you. Make it back without being caught



Adult salmon will stay in the open ocean until maturity. Most salmon remain silver in color and it can take 1-7 years for the fish to become spawning adults.

Salmon Swim

Swimming upstream requires a lot of muscle power for young salmon. You can build strength too by laying on your belly and lifting your legs and arms away from the ground. How long can you hold that pose? Pretend you're swimming for an added challenge.



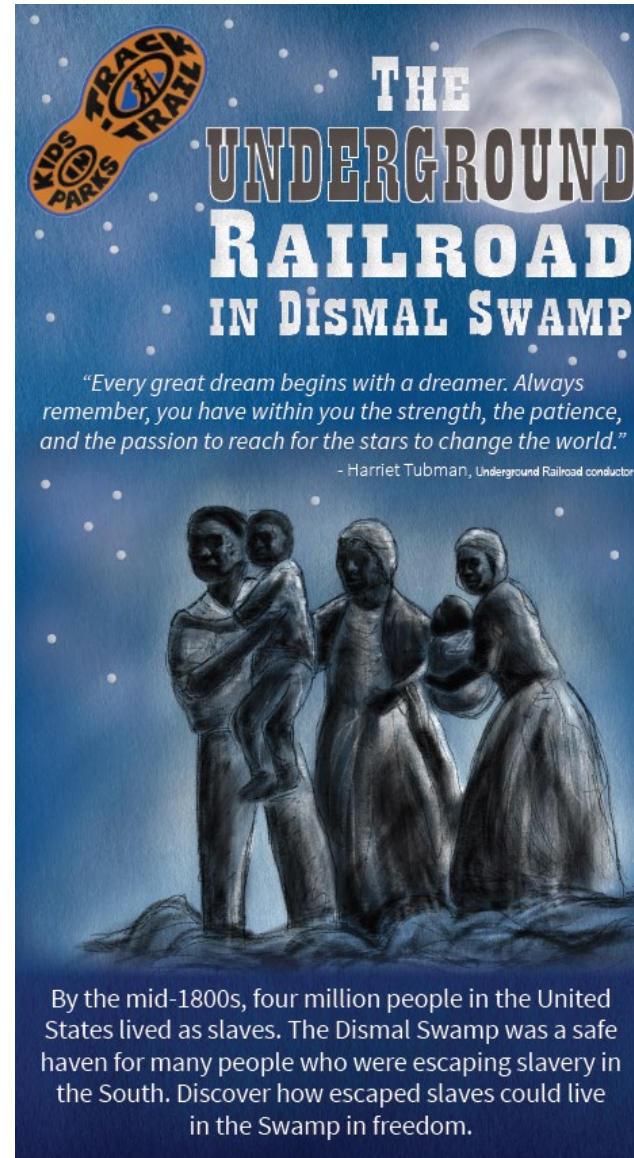
The Underground Railroad in Dismal Swamp

“The Underground Railroad” adventure sheds light on the Dismal Swamp as a safe haven and passageway for enslaved people in the 1800’s.

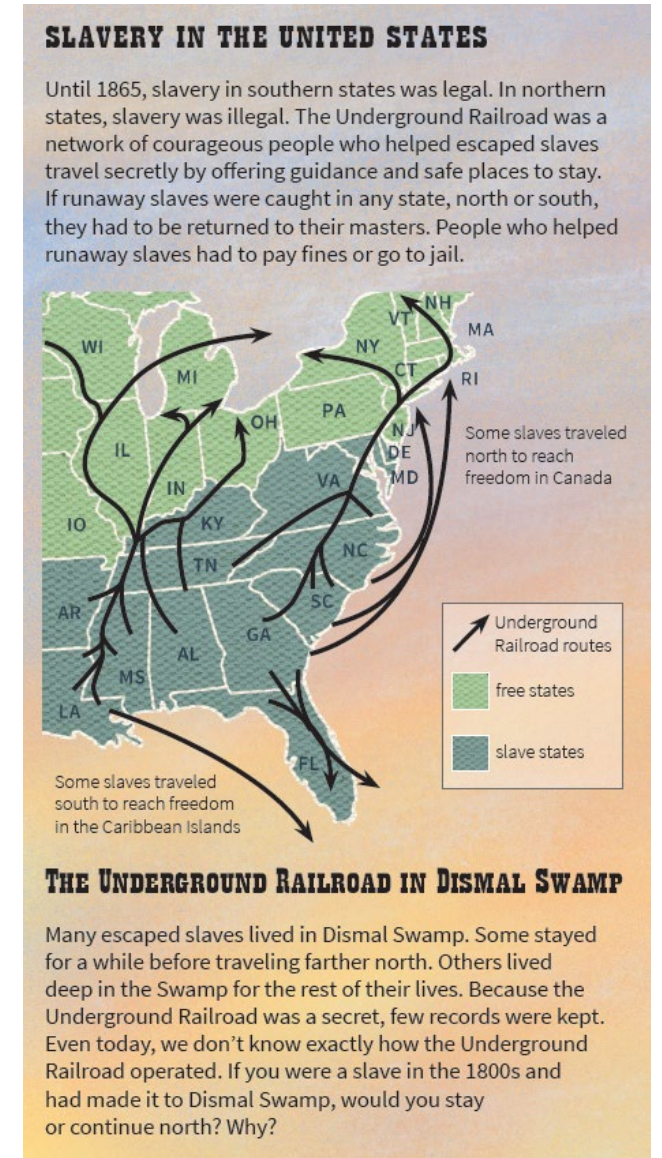
This brochure uncovers how enslaved individuals survived in the swamp – from how to walk discreetly in the woods to what animals and plants were safe to eat. Readers will learn about the magnitude of the underground railroad in providing a new chance at life for thousands of people.

Age Suggestion: 7+ years old

Designed for Dismal Swamp State Park in North Carolina



Cover



Outside Panel

The Underground Railroad in Dismal Swamp Inside Panels

FINDING FREEDOM IN THE SWAMP

Many of the slaves that built the Dismal Swamp Canal became familiar with the Swamp. Some of them escaped into the wilderness. They formed communities called "maroon colonies". The maroons built shelters on areas of higher ground in the swamp. Dismal Swamp was probably home to the largest maroon colony in the United States. What do you think life was like in the Swamp?



WHY LIVE IN THE SWAMP?

The Swamp is a tough place for humans to live. It is nearly impossible to travel in some areas because the peat soil can be up to 15 feet deep. This kept most people out, but escaped slaves who knew the Swamp were able to navigate through it. Be sure to see the exhibits in the visitor center to get an up-close look at the soil.

Slave catchers also avoided the Swamp because of its many myths. The legends of poisonous vapors, ghosts, balls of snakes, swamp creatures, and even an evil spirit called the Swamp Witch kept people from searching here. Tell a story that would scare people away from the Swamp.

written & illustrated by Eise A. Vahl

PASSAGE ON THE UNDERGROUND RAILROAD

The journey to freedom was filled with uncertainty. Escaped slaves often traveled for days or weeks between Underground Railroad stations, and they were always in fear of being found. Slave catchers rode horses and used dogs to track escaped slaves. Most of escaped slaves' time was spent hiding. They had to survive on very little sleep or food.



How would you move undetected through the wilderness?

1. Be quiet by not talking.
2. Walk slowly and carefully to avoid snapping twigs or crunching leaves.
3. Stop every few steps and listen for others.
4. If you see a person or animal, or hear a noise, slowly crouch down.

(Because walking on the soil can be dangerous, please stay on the boardwalk.)

SURVIVING IN THE SWAMP

SHELTER

Bald cypress and Atlantic white cedar trees were used to build shelters in the swamp since they have wood that does not rot easily. Can you find these tree species?

Bald Cypress (*Taxodium distichum*)



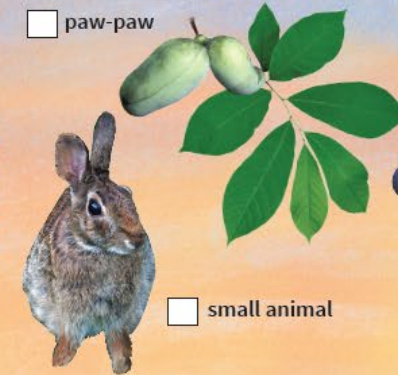
Atlantic White Cedar (*Chamaecyparis thyoides*)



FOOD & WATER

The maroon colonists ate small game and native fruits, such as paw-paws and grapes. Can you find some of the foods that they depended on for survival? *(Many plants have poisonous look-alikes. Please do not collect or eat any of the plants along the trail.)*

paw-paw



muscadine



small animal

LIFE LESSONS

The Underground Railroad is proof that through individual and collective acts of courage, injustices can be overcome. How are you courageous? How will you help others who are treated unfairly throughout your life?

The Blackland Prairie

“The Blackland Prairie” adventure tells the story of this strip of fertile land, deemed the ‘sea of grass’ by early settlers, that runs through a large section of Texas.

In this brochure, visitors will learn about this unique habitat and the animals and plants that call it home. Readers will also learn about the importance of fire management for prairies.

Age Suggestion: 6+ years old

Designed for the Big Bluestem Trail at Grand Park in Frisco, Texas



Cover

FIRE

Fire, often seen as a negative force of nature, is crucial to a healthy prairie. Fires are responsible for returning nutrients to the soil. In the Blackland Prairie, a fire eliminates invasive plants and trees leaving deep rooted grasses behind. The surviving plants resprout within weeks. Land managers enlist the help of professionals to use prescribed burns to lower the risk of intense fires in dry, windy conditions and combat overgrowing vegetation.

STAGES OF FIRE MANAGEMENT

Match the numbers with the photo of the correct stage

1. PREBURN
2. DURING BURN
3. POST BURN
4. REJUVENATED PRAIRIE

What stage do you think the prairie is in today?

Outside Panel

The Blackland Prairie

Inside Panels

THE BLACKLAND PRAIRIE ECOREGION

Stretching from the Red River to San Antonio, the Blackland Prairie is a long sliver of fertile ground described as a 'sea of grass' by European settlers. Along the tall grasses were the American bison that frequently moved in large herds to avoid predation from gray and red wolves. While on the run they would trample saplings, bury seeds in the soil and leave behind valuable manure. Other large animals like pronghorns, black bears and mountain lions once called this land their home beside the bison and wolves until humans started to settle out west.



AGRICULTURE & DEVELOPMENT



The Blackland Prairie features an easily farmed fertile black soil. These rich soils led to the boom of the cotton industry and several other crops in Texas from the 1800s to the 1930s but also destroyed 99% of the ecoregion. Many organizations, including governmental, are working to restore, conserve and preserve the ecoregion.

ANIMALS

Small creatures like the mocking bird, eastern fox squirrel, eastern cottontail, rat snake, white-tail deer, and coyotes are just a few of many that can be found. All the animals play an important part of helping the prairie thrive.

Can you find these animals (or their tracks) in the prairie today?

EASTERN FOX SQUIRREL



COYOTE



BLACK RAT SNAKE



WHITE TAIL DEER



NORTHERN MOCKINGBIRD



PLANTS

There are two types of plants that can be found in Blackland prairie: annuals and perennials. Annuals are plants that will grow for a single year and die. Annuals will have shorter roots as they won't need to worry about coming back at the end of their season. Perennials are plants that will keep coming back every year. Some perennials will have roots that can be over 10 feet deep in the ground. These plants will use the roots to grow back in the spring, after fires, or even after being eaten by bison.

Can you find these plants that make up the sea of grass?

SIDEDATS GRAMA



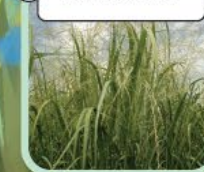
INDIANGRASS



BLUEBONNET



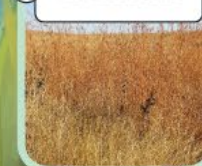
SWITCHGRASS



LITTLE BLUESTEM



BIG BLUESTEM



Accessibility Brochures

The following brochures are examples of our accessible and multilingual brochures. Some of these are site specific, while others offer a bilingual version of our most popular brochures. Available Spanish options:

- Bug Out
- Nature's Hide & Seek
- Flower Power
- Decomposers of the Dead
- Animal Athletes

Please contact us if you are interested in designing a brochure that is specific to your site, or if you want a brochure that can be used across a specific region.



The Power of Plants

“The Power of Plants” adventure identifies a few of the plants found along the Oconaluftee River and their many historical benefits to the Cherokee people.

This brochure shares both the English and Cherokee words for six common plants in western North Carolina and their uses and importance to the Cherokee Nation.

Age Suggestion: 6+ years old



Cover



Outside Panel

The Power of Plants

Inside Panels

LIVING "GREEN"

Plants are very important to the Cherokee way of life. Some plants are used for food and medicine, while others are used to create tools, clothing, fire or shelter.

How many of these plants can you find along the trail today?

○ JEWELWEED - ᏈᏍᏗᏗ A-de-ho-s-gi



Jewelweed likes to grow near water. It has serrated leaves and yellow or orange flowers in the summer and fall. Another common name for the plant is "touch-me-not," because if you touch the seed pods, they explode.

Jewelweed has been used by the Cherokee as an aid in child birth, because the exploding seed pods encouraged the baby to jump down quickly. The juice from the stems is used as a remedy for poison ivy.

○ CROWSFOOT - ᏈᏍᏗᏗᏗᏗ A-na-la-s-gwa-lo-s-gi



Crowsfoot got its name because the leaf has three leaflets and looks like the foot of a crow. It can be mistaken for poison ivy. In spring, crowsfoot blooms with beautiful white flowers. In the cooler months, the Cherokee eat the leaves as a spicy green. The roots of this plant taste similar to horse radish.

○ MAYAPPLE - ᏈᏍᏗᏗᏗᏗᏗ U-nv-la-s-gwe-tu-gi Tsu-na-s-di-ga



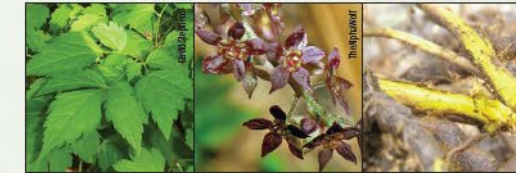
The Cherokee name for mayapple means "they wear a hat." This refers to the umbrella-like shape of the leaf. The Cherokee eat the fruit only when it is yellow and ripe, because all other times it is poisonous. The root is a strong laxative, and the Cherokee use it to cleanse the gallbladder.

○ PIPSISSEWA - ᏈᏍᏗᏗᏗᏗ U-s-da-s-di U-s-di-ga



Pipsisewa, or spotted wintergreen, is a tiny plant with red stalks. The leaves are dark green and waxy, with white veins. The summer flowers are small, whitish-pink, and very fragrant. The Cherokee gather the roots of this plant and make a tea for colds and fevers.

○ YELLOWROOT - ᏈᏍᏗᏗᏗᏗᏗ Da-lo-ni-ge A-ma-yu-la-di E-hi



Yellowroot is a small shrub that grows along the edges of streams. The leaflets are toothed and usually grouped in five on a long stalk. Clusters of purple flowers appear at the end of the stalk in spring. The yellow roots are used by the Cherokee to make dye, and for a wide range of medical conditions, especially digestive problems.

Sense of Adventure

The “Sense of Adventure” adventure encourages the use of all five senses to experience and learn about the outdoors.

This brochure provides engaging sensory exercises for all ages. These activities can help individuals ground themselves, regain focus, and fulfill sensory stimulation for those with hyposensitivity while enjoying the trail.

Age Suggestion: 4+ years old





















































Cover



Outside Panel

Sense of Adventure

Inside Panels

<h2>Sight </h2>	<h2>Sound </h2>	<h2>Smell </h2>																		
 <p>Our eyes give us a sense of sight. We can use our eyes to see and understand our surroundings.</p>	 <p>Our ears let us sense sounds. We can use our ears to hear things around us that go unseen.</p>	 <p>Our nose gives us a sense of smell. We can use our nose to detect smells of things in the world around us.</p>																		
<h3>Look around...</h3> <p>1 A MAP can help you know what to expect and where to go on the trail. </p> <p>2 Look for leaves with...</p> <table border="0"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>sharp points</td> <td>rounded points</td> <td>smooth edges</td> <td>jagged edges</td> </tr> </table> <p>3 Look for these colors...</p> 					sharp points	rounded points	smooth edges	jagged edges	<h3>Listen closely...</h3> <p>1 Find a spot to listen. You can choose a noisy or quiet place.</p> <p>2 Listen for...</p> <table border="0"> <tr> <td>BIRDS </td> <td>INSECTS </td> <td>WATER </td> </tr> <tr> <td>WIND </td> <td>PEOPLE </td> <td>VEHICLES </td> </tr> </table>	BIRDS 	INSECTS 	WATER 	WIND 	PEOPLE 	VEHICLES 	<h3>Sniff the air...</h3> <p>1 Can you smell something...</p> <table border="0"> <tr> <td>FLORAL </td> <td>STINKY </td> <td>EARTHY </td> <td>PINEY </td> </tr> </table> <p>2 Do you like the smell of the air? <input type="radio"/> YES <input type="radio"/> NO</p> <p>3 What do you like or dislike about the smell of the air? <input style="width: 100%; height: 40px;" type="text"/></p>	FLORAL 	STINKY 	EARTHY 	PINEY 
																				
sharp points	rounded points	smooth edges	jagged edges																	
BIRDS 	INSECTS 	WATER 																		
WIND 	PEOPLE 	VEHICLES 																		
FLORAL 	STINKY 	EARTHY 	PINEY 																	

Descomponedores de los Muertos

La aventura de los “Descomponedores de los Muertos” enseña a los niños la importancia de los descomponedores y carroñeros en la naturaleza.

This brochure is the Spanish version of “Decomposers of the Dead,” and readers will learn about decomposers and scavengers, the importance of these species in maintaining a healthy ecosystem, and what they help breakdown.

Age Suggestion: 5+ years old



Cover

The inside panel has a dark blue background. At the top, it asks '¿ SE DESCOMPONE ?' in yellow, dripping letters. Below this, a paragraph explains that decomposers are busy with natural items and that some take hundreds of years to decompose. Three items are shown with their decomposition times: a blue can (200 años), an apple core (1 mes), and a plastic bottle (450 años). At the bottom, there is a section titled 'TRAÉLO CONTIGO, LLÉVALO CONTIGO' with instructions to use the space for a list of items to bring on a hike and mark them for packing.

¿ SE DESCOMPONE ?

Los descomponedores están muy ocupados con todas las cosas que caen en el bosque de forma natural. Depende de nosotros asegurarnos de no agregar cosas que sean difíciles de descomponer. Algunas cosas pueden tardar cientos de años en descomponerse, por lo que es importante nos llevemos con nosotros lo que traemos.

LATA DE REFRESCO:
200 AÑOS
PARA DESCOMPONERSE

CORAZÓN DE MANZANA:
1 MES
PARA DESCOMPONERSE

BOTELLA DE PLÁSTICO:
450 AÑOS
PARA DESCOMPONERSE

TRAÉLO CONTIGO, LLÉVALO CONTIGO

Utiliza este espacio para hacer una lista de las cosas que uste traes contigo en tu caminata. Después de tu caminata, marca cada artículo para asegurarte de haberlo empacado.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Outside Panel

Descomponedores de los Muertos

Inside Panels

GUARDIANES ASQUEROSOS

Los descomponedores y carroñeros son los equipos de limpieza de la naturaleza. Descomponen escombros como troncos, animales muertos y excrementos de animales para mantener el mundo limpio. Es un trabajo asqueroso, pero alguien tiene que hacerlo. ¡Exploremos el mundo de los descomponedores y carroñeros!

MUNDO SIN DESCOMPOVEDORES

Sin los descomponedores, cada caminata sería una escalada difícil a través de montones de árboles caídos, animales muertos y excrementos. TRACK está enterrado en una pila de restos de plantas y animales. Piensa como un descomponedor y encuentra cosas a lo largo del camino que necesitan descomponerse para liberarlo.

✕ los elementos a medida que los encuentres.



MUERTO PARA LA CENA

Los carroñeros son los primeros en llegar a la escena cuando un animal muere. Atraídos por el olor a carne podrida, buscan el cuerpo. Es posible que vea buitres dando vueltas en el cielo o moscas zumbando mientras buscan comida.

Así es. Comen cosas muertas. Puede sonar asqueroso, pero comen la carne, llamada carroña, y devuelven los nutrientes al suelo cuando defecan.

¿Listo para una 'Búsqueda del Tesoro'? Encuentra tantos carroñeros en tu caminata como puedas.



BACTERIAS MICROSCÓPICAS

Los descomponedores como los hongos y las bacterias usan productos químicos para descomponerse y alimentarse de la materia muerta. Comen plantas, animales, caca, hojas y otras cosas.

Muchos descomponedores son demasiado pequeños para verlos, pero los hongos son una excelente manera de verlos en acción.



Los hongos vienen en diferentes formas y colores. ¿Cuántos puedes encontrar?



TRONCOS PARA EL ALMUERZO

Los hongos y las bacterias pueden tardar más de 100 años en "comerse" por completo a un árbol caído. Mientras recorre el sendero, cuente los troncos que encuentre en diferentes etapas de descomposición.



Caminata y Búsqueda de la Naturaleza

La Aventura de “Caminata y Búsqueda de la Naturaleza” es para que los niños de todas las edades caminen y descubran cosas comunes a menudo ocultas en la naturaleza..

This bilingual Spanish version of the “Nature’s Hide & Seek” brochure accentuates our most common brochure issued to every TRACK Trail. The brochure offers a fun scavenger hunt that will have hikers searching high and low.

Age Suggestion: 4+ years old



Cover



Outside Panel

Caminata y Búsqueda de la Naturaleza

Inside Panels

El tamaño, el color y la ubicación pueden hacer que muchas cosas en la naturaleza sean difíciles de encontrar. En tu caminata, busca estas cosas escondidas en la naturaleza.

Size, color, and location can make many things in nature hard to find. On your hike, seek out these things hiding in nature.

Recuerda que todas las cosas en la naturaleza tienen un lugar especial. Déjalos aquí para que otros también puedan encontrarlos.

Remember that all things in nature have a special place. Leave them here so others can find them too.

			
<p><input type="radio"/> Pájaro Bird</p>	<p><input type="radio"/> Araña Spider</p>	<p><input type="radio"/> Árbol joven Sapling (young tree)</p>	<p><input type="radio"/> Musgo Lichen</p>
			
<p><input type="radio"/> Flor silvestre Wildflower</p>	<p><input type="radio"/> Agua Water</p>	<p><input type="radio"/> Pluma Feather</p>	<p><input type="radio"/> Polinizador Pollinator</p>
			
<p><input type="radio"/> Huellas de animales Animal tracks</p>	<p><input type="radio"/> Corteza áspera Rough bark</p>	<p><input type="radio"/> Roca con dos colores Rock with two colors</p>	<p><input type="radio"/> Algo hecho por humanos Something human-made</p>

Animales Atletas

La Aventura de los “Atletas animales” desafía a los niños a hacer ejercicio junto con los animales que se encuentran en la naturaleza.

This brochure is a bilingual (Spanish-English) option for “Animal Athletes.” The brochure lists eight animal-themed exercises that kids can do along the trail while tapping into their imagination and having fun!

Age Suggestion: 4+ years old



Cover



Outside Panel

Animales Atletas

Inside Panels

■ Aleteos de Colibri

Hummingbird Handswings

¿Cuántos aleteos puedes hacer en 30 segundos?

Los colibries aletean sus alas más de 50 veces por segundo.

How many wing-flaps can you do in 30 secs?

Hummingbirds flap their wings over 50 times per second.



■ Salto de altura de un venado

Deer High Jump

¿Qué alto puedes saltar?

Para moverse rápidamente a través de la hierba alta, los venados saltan muy alto. ¡A veces 6 pies!

How high can you jump?

To move quickly through tall grass, deer leap very high. Sometimes 6 feet!



■ Equilibrio de la ardilla

Squirrelly Balancing

Camina como si estuvieras en una barra de equilibrio. ¿Que tan rapido puedes ir?

Las ardillas tienen colas largas para ayudarlas a mantener el equilibrio mientras se mueven por las ramas.

Walk like you are on a balance beam. How fast can you go?

Squirrels have long tails to help them balance as they move along branches.



■ Salto de rana

Frog Hop

¡Salta como una rana que escapa de un depredador!

Las ranas usan sus fuertes patas traseras para alejarse de las serpientes y las garzas.

Hop like a frog escaping a predator!

Frogs use strong back legs to hop away from snakes and herons.



■ Postura halcón

Hawk Stance

¿Cuánto tiempo puedes mantenerte en equilibrio sobre una pierna?

Para conservar energía, las aves rapaces se paran sobre una pata a la vez.

How long can you balance on one leg?

To conserve energy, birds of prey stand on one leg at a time.



■ Carrera de Conejo

Rabbit Dash

Corre en zig-zag hacia un árbol para esconderte detrás de él.

Cuando los persiguen, los conejos corren en zig-zag hasta que encuentran refugio.

Run in a zig-zag to a tree to hide behind.

When being chased, rabbits sprint in a zig-zag pattern until they find cover.



e-Adventures

Kids in Parks has converted some of our most popular TRACK Trail brochures into e-Adventures that kids can enjoy on a smartphone or tablet. Families have the option to complete an e-Adventure in their backyard, schoolyard, local park, an official TRACK Trail, or anywhere in between. The following brochures are available online:

- Bug Out
- Nature's Hide & Seek
- Flower Power
- Animal Athletes

Other e-Adventures can be found at kidsinparks.com. We are continuously adding new content to our website and take any e-Adventure suggestions.

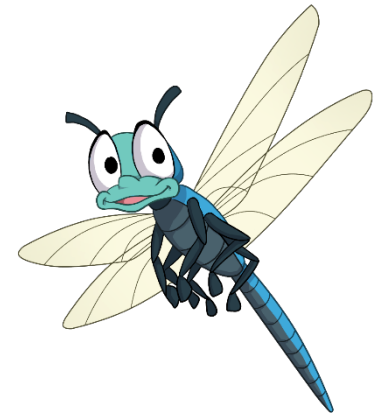


Developing other Brochures and Materials

We are constantly developing new brochures to add to our collection of general brochures. Most of our brochures have been developed out of a site's needs for specific content (i.e. geology, species-specific, historical significance, etc.).

We would be more than happy to assist in the development of new brochures that would be applicable to various locations. Site specific brochure development is also available at an additional fee.

Please feel free to let us know if your site has specific brochure needs that our current list of brochures does not meet.





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