

BECOME A JUNIOR RANGER!

WHAT IS A JUNIOR RANGER?

A Junior Ranger explores the environment around them.
A Junior Ranger cares for plants, animals, and the land.
A Junior Ranger encourages others to respect the land and to recreate responsibly.

HOW DO I BECOME A JUNIOR RANGER?

Complete six or more activities in this book.

Read, sign, and date the Junior Ranger Oath page located at the back of this book.

To receive an Aravaipa Canyon Wilderness Junior Ranger Patch, bring your completed book to:

Bureau of Land Management Safford Field Office 711 S. 14th Avenue, Suite D Safford, AZ 85546

or email: blm_az_sfoweb@blm.gov

If you have any questions, please call: (928) 348-4400

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Western Apache Culture and Language Credits: Vernelda Grant • Tsé Binest'i'é Elders
 • San Carlos Apache Archaeology Department • San Carlos Forest Resources Program
 • San Carlos Apache Language Preservation

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SPECIES SHOWN ON THE COVER:

All the common trees, shrubs, and water plants, saguaro, ocotillo, agave, equisetum, canyon grape, pipevine swallowtail, western tiger swallowtail, rubyspot damselfly, black phoebe, bridled titmouse, American dipper, canyon wren, hooded oriole, great blue heron, common black hawk, vermilion flycatcher, verdin, broad-billed hummingbird, blue grosbeak, blackneck gartersnake, canyon tree frog, bighorn sheep, striped skunk, white-nosed coati.



Aravaipa Canyon Wilderness

A True Wilderness Experience

Welcome, Junior Ranger! This Junior Ranger Activity Book will introduce you to Aravaipa's wildlife, plants, **geology**, and history. You will also learn about the Western Apache, Native Americans who call this place home. Throughout this book you will discover how you can become a **steward** of the land.

Aravaipa Canyon Wilderness is part of the Bureau of Land Management's National Conservation Lands. These lands are protected for their scenic, historic, and natural qualities. They provide clean air, water, and habitat (homes) important for rare and endangered plants and animals.

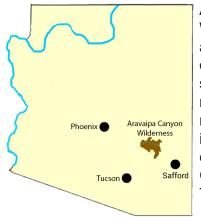
In 1984 the US Congress recognized the public land in Aravaipa Canyon as a beautiful, unique, and fragile place that supports many different types of plants and wildlife, and decided to protect it for future generations. Congress **designated** this land to become a wilderness area. The designation preserves and protects the canyon's beauty and history as well as the desert **riparian ecosystem**, including the land, water, soil, rocks, plants, and wildlife that are connected to Aravaipa Creek.

Glossary:

geology: the study of rocks and other nonliving things that make up the planet Earth **steward:** someone who is responsible for taking care of the land

designated: chosen for a special purpose riparian ecosystem: all living (plants, animals, and insects) and nonliving things (rocks, soil, water, etc) that interact with or live around bodies of water, such as rivers, creeks, streams, etc.

perennial stream: a stream or river which always flows in some parts all year round.



Aravaipa Canyon
Wilderness is located
about 54 miles west
of Safford, 190 miles
southeast of Phoenix and 150 miles
northeast of Tucson,
in Graham and Pinal
counties, between the
Galiuro and Santa
Teresa Mountains.

Aravaipa Canyon Wilderness Fun Facts:

- Aravaipa Canyon Wilderness is about 10 miles across from east to west, and includes 9 major side canyons.
- Aravaipa Creek's 22-mile perennial stream is home to some of the last remaining communities of native fish in Arizona, which includes 7 native species of fish.
- The wilderness provides habitat for 233 species of birds, 50 reptiles, 48 mammals, and 10 amphibians.
- Over 500 species of plants have been found in the wilderness.
- At first, the Aravaipa Canyon Wilderness was 6,699 acres, but it was increased by Congress in 1990 to include a total of 19,410 acres.

To help protect the Aravaipa Canyon Wilderness, a permit is required to visit Aravaipa Canyon and all the side canyons within the wilderness. For more information, visit www. recreation.gov, or call the Bureau of Land Management, Safford Field Office at (928) 348-4400.



What is Wilderness?



Wilderness is an area that is wild! Wild means to be free, to live without being controlled by others. Wilderness is an area in its natural state. There are no buildings, paved roads, drones or noisy bikes, cars, or trucks. In wilderness you will only hear the peaceful sounds of nature.

Wilderness can mean different things to many people. Before Europeans arrived, Native Americans saw North America as a place full of open space and wildlife. They believed all land and life should be respected. Many Native American cultures view humans as part of the land.

They do not believe they are separate from it. Their traditions and stories are tied to the land and animals. When Europeans arrived to the Americas, they saw the wilderness as a wild place of adventure and wealth. They moved into wild areas and farmed, mined the land cut the trees, and built homes. Soon the wilderness began to shrink and disappear.

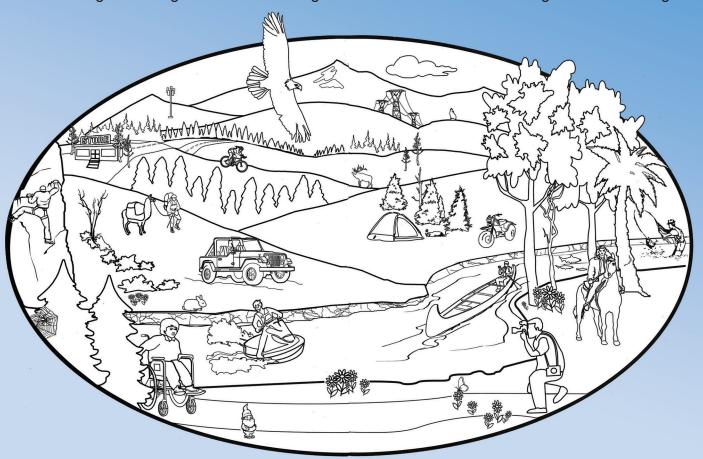
During the early 1900's, groups of **Americans** wanted to save and take care of the wilderness. Presidents and states set aside land for protection. These areas became national parks, national monuments, and state parks. In 1964, President Lyndon B. Johnson and the US **Congress** passed the Wilderness Act to protect certain wild places forever. The Act defined the wilderness as an area "where the earth and its community of life are untrammeled [meaning: not limited or controlled] by man, where man himself is a visitor who does not remain." Today **visitors** can go to places like Aravaipa Canyon Wilderness and enjoy what remains of America's wilderness as it was before **humans** changed it.

Using the words in the yellow box below, fill in the missing words in each sentence. Copy the letters from the numbered boxes into the numbered spaces to complete the question at the bottom of the page.

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What Doesn't Fit?

The Wilderness Act says the "imprint of man's work" must be "unnoticeable" in the Wilderness. That's a **BIG** job to make a place look like humans haven't visited it. To keep the **WILD** in wilderness, some things are not allowed. Structures (houses and buildings) and roads are not allowed. Motorized and mechanized vehicles and equipment (chain saws, bicycles, drones, jeeps, UTVs, motorcycles), are also not allowed. In the picture below, put an **X** through the things that do not belong in wilderness. Color all the things that **DO** belong.



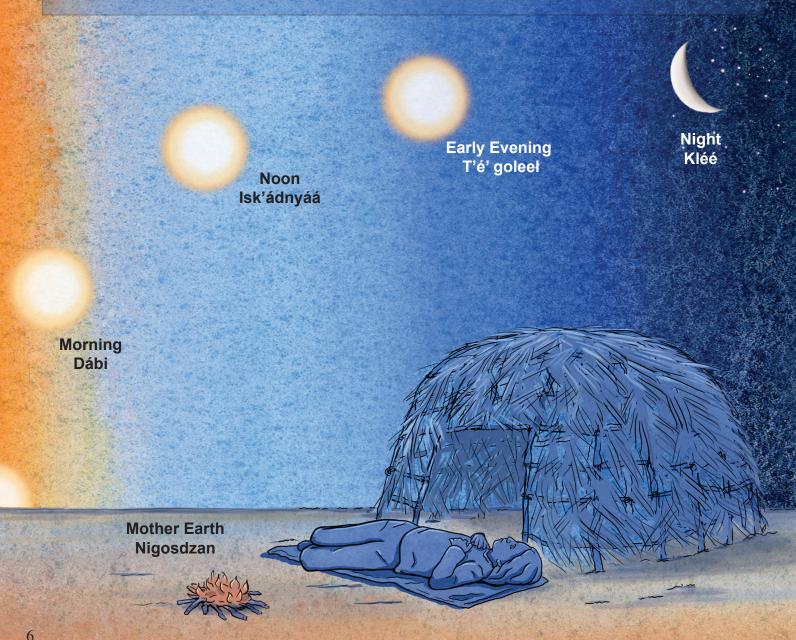
Draw Yourself

Draw yourself doing something that **YOU** would like to do in Wilderness.

Don't Let the Sun Rise Without You "Ch'igoná ái doo daniltsé hagháh doleet"

Early Western Apache, the "Ndee," did not have clocks to tell time. Their clock was the sun and the moon. The sun told them when to farm, hunt, gather food, tell stories, and have ceremonies. The position of the sun was very important to tell time. The Ndee knew when it was time to eat, sleep, work, and play, depending on where the sun was in the sky.

A long time ago, Ndee children would wake up before the sun rose. Their elders would say "Ch'igona ai doo daniltsé haghah doleel," which meant "Do not let the sun rise without you." It was very important for children to wake up early in the morning (dábj) and start the day with the sun. Children rarely stayed inside, because nature was their playground. They worked and played until early evening (tl'é' goleeł). Ndee children still hear this saying today!



Humans in the Canyon

People have been coming to Aravaipa Canyon for over 10,000 years. Early hunters and gatherers were the first people, followed by the Ancestral Puebloans. Native people thrived here. They hunted, farmed, gathered plants, and fished. They made their own clothes, shoes, tools, baskets, and houses. The most recent native people were the Aravaipa band of the Western Apache tribe. The Western Apache refer to themselves as Nnee or Ndee, meaning "the people." The Aravaipa band was first known as Tsé Zhinné, "Dark Rock People," for a place in the Galiuro Mountains that is dense with dark rocks. By the 1920's (and still today) they were called Tsé Binest'i'é, "Surrounded by Rocks People," which was the largest clan within the Aravaipa band.

In the 1500's, Spanish explorers traveled through the canyon. By the 1800's, Anglo and Hispanic settlers arrived. In 1873, A clash of cultures evolved and resulted in a brutal massacre of the Aravaipa and Pinal Apache at Camp Grant, a place known by the Apache as Gashdla'a Choh O'áá or "Big Sycamore Stands Alone." After this, the Aravaipa Apache were forced to leave their land and move to the San Carlos Reservation. The forced removal had a devastating impact on the Apache because their connection to the land was the key to who they are. Many refused to leave.

Today, no humans live in the wilderness, but evidence of native people can be found in place names and in the language that has been passed down from generation to generation. Sound out the words below to learn how to pronounce some words in the language of the Ndee.

Apache Words

Land	Ni	"i" is pronunced like the "i" in "it"
Rocks	Tsé	pronounced like the word "set" without the "t"
Water	Tú	pronounced like the word "two"
Spring	Daa	"aa" is pronounced like the "a" in "Nora"
Summer	Shii	"ii" is pronunced like "e" in "she"
Autumn	Ak'ee	"ee" is pronounced the "e" in "bend"
Winter	Hai	"i" is pronounced like the "i" in "it"

Be a Good Steward

You can help protect Aravaipa Canyon Wilderness by being a good steward. **Stewardship** means the responsibility to care for the environment. Stewardship in Apache is "Nowhi Ni' Nłteego A'nitsih", which means taking care of the land with respect. If you care for the land, it will be protected for everyone to enjoy. You can be a good steward by practicing the **7 Leave No Trace** principles. As a good steward, you can teach your friends and family the rules too. Help keep the **WILD** in wilderness!



Becareful with fire. Use a camp stove for cooking. If it's ok to have a fire, collect lose sticks from the ground. Use an exisiting fire ring. Burn the wood to white ash. Be sure the fire is OUT and COLD before you leave.



Watch wildlife from a distance. Never approach, feed, or follow animals. Store your food and garbage tightly.



Respect other visitors. Listen to nature. Avoid making loud noises or yelling. Remember that other visitors want to enjoy nature too.

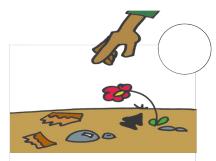
Match each picture with one of the Leave No Trace principles below and write the number in circle above the picture.

7 Leave No Trace Principles

- 1. Plan ahead and prepare
- 2. Travel and camp on durable surfaces.
- 3. Dispose of waste properly
- 4. Leave what you find.
- 5. Minimize campfire impacts
- 6. Respect wildlife
- 7. Be kind to other visitors



Pack it in, pack it out! Carry your litter home and recycle what you can. Bury your poop in a small hole 6-8 inches deep and 100 big steps away from water sources. Place your toilet paper in a plastic bag and carry it out with you. Keep water clean. Don't put soap, food, trash, or poop in water.



Leave plants, rocks, and artifacts where you find them. Don't dig trenches or build tables and chairs in your campsite. Let Aravaipa Creek flow free without any dams.



Be prepared! Know the for the place you will visit. Bring clothes to protect you from cold, heat, and rain. Use maps so you won't get lost.



Use existing camp areas and walk on the main trail. Hike in Aravaipa Creek to protect the plants that grow on the banks. Camp at least 100 big steps away from water sources.

Please Don't Feed the Animals!

Little Tséskosi ("rock rodent" in Apache pronounced Ses-go-see) was a squirrel who lived at a campsite near Horse Camp Canyon. He was a friendly squirrel. When people came near his home, he would go out to greet them and sit on the

logs nearby. Soon people

started to feed Tséskosi.



He became addicted to human food and ate anything that had human food on it, like plastic and paper. He ripped holes in backpacks and tents, searching for food. Once he almost bit someone who tried to feed him! One day, Tséskosi disappeared. What happened to Tséskosi? Did plastic kill him? Did another animal kill him because he grew too big from eating human food and was too slow to run away?



Help guide this squirrel back to his burrow. Help Tséskosi live a healthy life by leading him to natural food sources on the way to his burrow in the maze.

List **ONE** thing **YOU** can do to help Tséskosi and all the other animals in the canyon live a long life:

Who Swims in Aravaipa Creek?

Aravaipa Creek supports seven native fish species. All of them are protected; fishing is not allowed. Look closely in the creek. Which species do you see? Circle the fish you find.

Native Fish

Loach Minnow (Tiaroga cobitis): Live in swift water in rocky areas. They lay their eggs underneath rocks. Bottom dwelling insectivores, they eat larva at the creek bottom.



Spikedace (*Meda fulgida*): Feed mostly on terrestrial (living on dry land) and aquatic (living in or near water) insects in the stream flow. Breeding males show off a brightly golden or brassy color.



Longfin Dace (Agosia chrysogaster): Create saucer-shaped nests in the streambed where eggs are laid and newly hatched young grow. They eat algae, insects, and waste or debris of any kind.



Roundtail Chub (Gila robusta): An omnivore, they will eat whatever food is available to them, such as insects, fish, snails, and algae.



Speckled Dace (Rhinichthys osculus): Inhabit water that flows over gravelly parts of the stream bed. They are omnivores, meaning they eat other animals and plants. They eat algae and other plant material as well as aquatic insects.



Sonora Sucker (Catostomus insignis): Eat cottonwood tree seeds that fall in the water. They lift their heads out of the water to suck at floating seeds that collect behind objects like rocks and sticks that poke out of the water.



Desert Sucker (*Pantosteus clarkii*): A bottom dwelling fish. Their special mouth allows them to scrape algae and other food items off of rocks.



Aquatic Habitat Threats

Water is limited and threatened throughout our southwestern deserts. Water removal is a big threat in Arizona. Water is pumped out of streams, rivers, and lakes to provide water for crops, mining, livestock and people. If too much water is removed, waterways can dry up and leave wildlife without enough water to live. Trash and pollution become a threat when they reach the water. Chemicals can kill fish and the

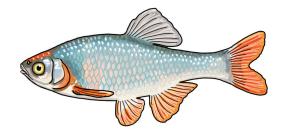
food they need to survive. Plastic and other trash can kill fish if they eat it or become tangled in it. Non-native species threaten native species by eating them or by eating too much of their food sources. Every animal and plant has a native habitat where it lives naturally. When they are moved to a new area, they can harm the native species and their habitat. What can you do to help?

Unscramble the underlined words below to find out what you can do to help:

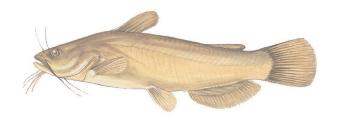
1.	(rcceeyl) everything you can.
2.	(ackp uto) everything you bring to Wilderness areas and dispose of your trash properly.
3.	Conserve (atwer) so less water needs to be pumped out of the ground or taken from rivers. Take shorter showers and turn off water when you're not using it, like when you're brushing your teeth, so there is more water for wildlife.
4.	Never release (etps) or aquatic plants into the wild.
	ANSWERS: 1. recycle, 2. pack out, 3. water, 4. pets

Non-native Fish

Two species of non-native fish also inhabit Aravaipa Creek. These species compete with native fishes for food. They also eat native fish.



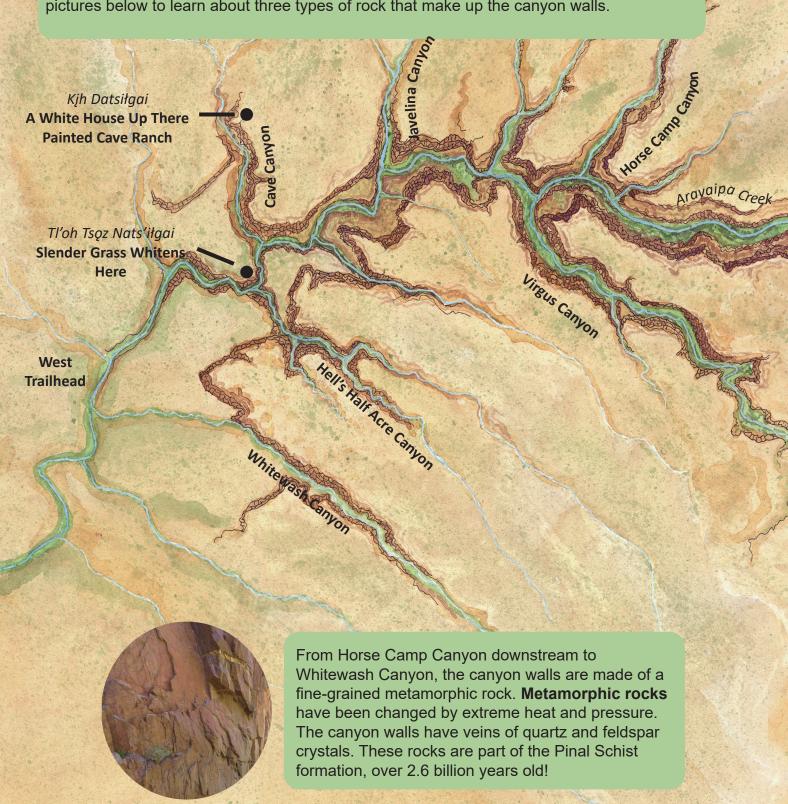
Red Shiner (Cyprinella lutrensis)

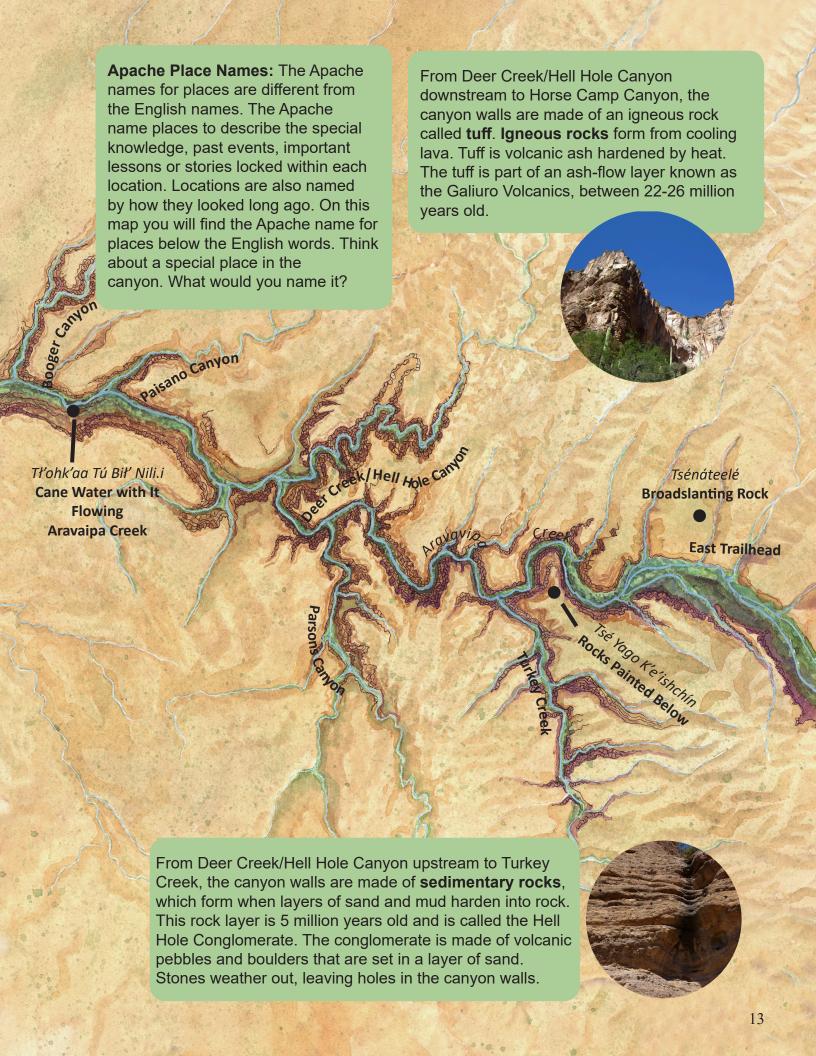


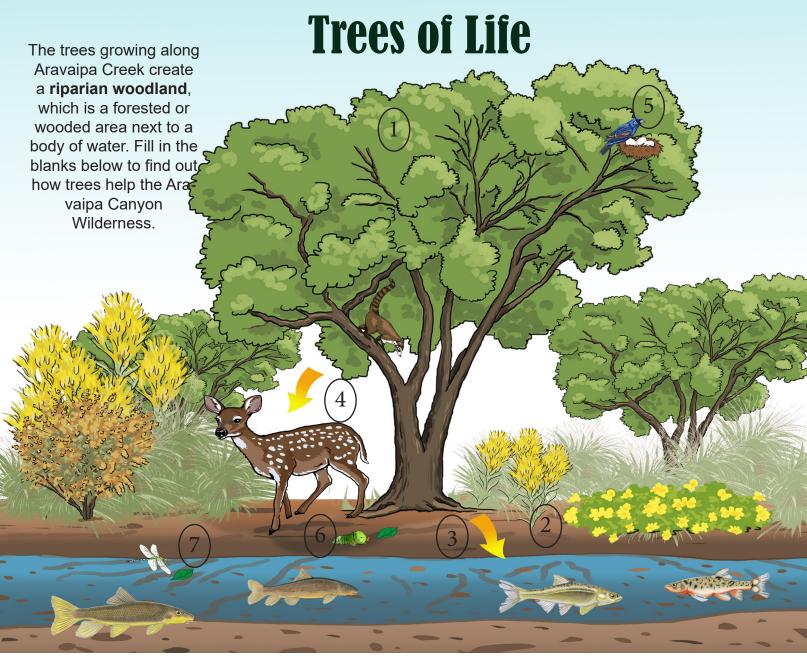
Yellow Bullhead (Ameiurus natalis)

What Kind of Rocks Do You See?

Geology is the study of the Earth, the rocks that compose it, and the processes by which they change over time. In Apache, geology is **Ni'gosdzán Bits'in** meaning "the Earth's skeleton/bones." Aravaipa Canyon was formed by earthquakes, volcanoes, and through erosion. As the rocks were deposited and uplifted by a fault, Aravaipa Creek cut down through them, shaping the canyon. Flash floods and rock falls change the canyon each year. Look at the pictures below to learn about three types of rock that make up the canyon walls.







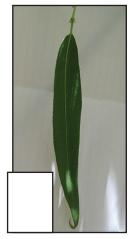
Fill in the blanks with the words provided:

	·
1. Many different types of ${f t}$	grow all along Aravaipa Creek and in many of the side canyons.
2. Trees support the creek banks, r	naking them less prone to C
3. Trees take nutrients from the $S_{_}$	and return them to the $f W$
4. They provide S <i>,</i>	cooling temperatures for the animals, fish, and hikers.
5. Tall trees provide safe spots high	above ground for baby black bears and coatis to hide, and for birds to $oldsymbol{n}$
6. Leaf litter on the ground provide	s shelter and food for insects like the C $_$
The insects then provide $f_{__}$ _	for birds, reptiles, fish, amphibians, and mammals.
7. When 🖳 fall	into the creek, they are broken down by bacteria and eaten by
i	like the larva of water beetles, mayflies, midges, and
caddisflies. These larva become	food for the fish, who in turn become food for other animals.

invertebrates, food, soil, caterpillar, shade, water, erosion, trees, shelter, nest, leaves

Meet the Trees: Scavenger Hunt

Meet the trees of Aravaipa Canyon Wilderness. Read the description of each tree. Check off each tree you find as you explore the Canyon. Happy hunting!



Willow: The willow leaf is longer than it is wide. It almost looks like a feather. The leaves and bark contain salicin and were used long ago to cure aches and fever like aspirin.



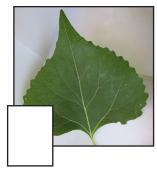
Paloverde: Palo verde means "green stick" in Spanish. Paloverde have tiny compound leaves that drop off in dry seasons. Their bark is green.



Alder: The Alder's egg shaped leaf has small jagged edges with veins (lines) running from the center of the leaf to the edge. They are a pioneer species. Bacteria growing on their roots put nitrogen in the soil, which increases nutrients (food) for other plants.



Tamarisk: The tamarisk has slender branches with many small, scalelike leaves. This non-native tree grows fast, in thick stands. They use a lot of water and make too much shade for native plants to grow nearby.



Cottonwood: Cottonwood leaves look like a round triangle with a thin, flat stem. They are one of the most common trees along the creek. They provide shade, shelter, and food for many species.



Walnut: The walnut tree has pointy, long compound leaves with 9-15 leaflets. Birds and mammals enjoy the delicious nuts.



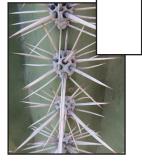
Mesquite: Mesquite trees have many (12-20) tiny compound leaves on one branch. They are members of the pea family. Their bean pods are eaten by many different species, including humans.



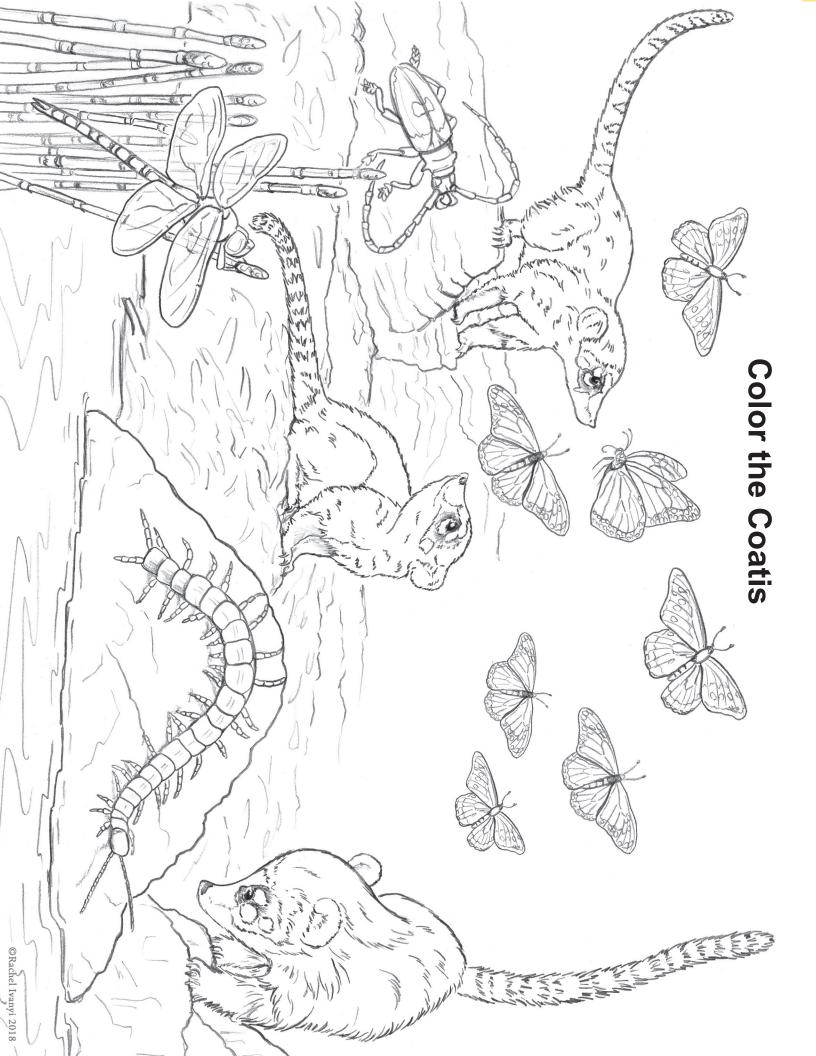
Sycamore: Sycamore leaves are star shaped with five lobes (points). The sycamore has peeling white bark. Spiky seed balls dangle from their branches.



Ash: The Ash has long compound leaves, which means many small leaves (5-9 leaflets) grow on a central stem. They produce a flat wing-shaped achene (fruit).



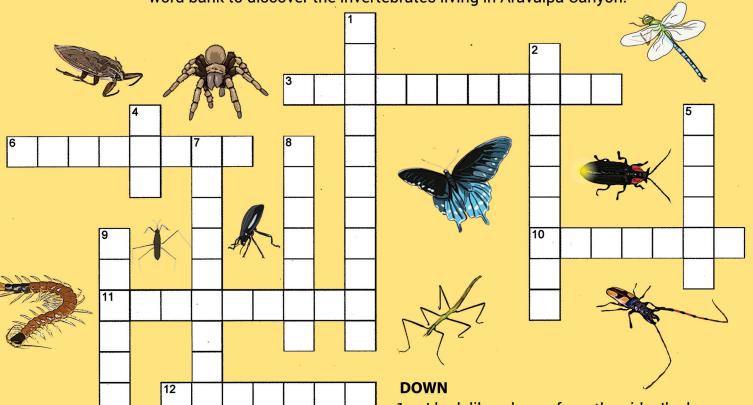
Saguaro: Sagaro is a tree-like cactus and covered in sharp, thorny spines. They can grow more than 40' tall! Their white flowers bloom in April and their red fruits are ready to eat when the monsoon arrives in late June or July.



What's Bugging You?

Invertebrates are some of the most important organisms on the planet.

Invertebrates are animals who do not have a backbone or a skeleton. Insects, spiders, worms, jellyfish and snails are invertebrates. Invertebrates pollinate plants, create and maintain the soil quality, and filter water. Without invertebrates, our **ecosystem**, all the living and non-living things in a given area, would collapse. Read the clues below and fill in the crossword puzzle using the words in the word bank to discover the invertebrates living in Aravaipa Canyon.



Word Bank:

centipede, swallowtail, bug, grasshopper, beetle, tarantula, strider, firefly, damselfly, mosquito, cicada, walking

ACROSS

- I am poisonous to predators from all the pipevine I eat as a caterpillar. I have blue wings. Pipevine ______ Butterfly.
- 6 I might annoy and bite, but I feed bats, fish, birds, and other insects.
- 10 At night I flash a yellow light to attract mates and to ward off predators.
- 11 My name means "hundred feet". I bite.
 My red-orange and black body is a warning to predators. Giant______.
- 12 I may look like a twig, but it's all part of my camouflage. _____ stick.

- 1 I look like a horse from the side. I'm known as a jumper. My giant flashy pink wings scare away predators. Horse Lubber _____.
- 2 Males have a red body and females have a green body. I fly around rivers and streams. I eat insects, such as mosquitoes. American Rubyspot ______.
- 4 I am called a "toe biter." I can breathe underwater. I eat mosquitoes, fish, frogs, and insects. Males carry eggs on their back. Giant Water _____.
- My antenna are almost longer than my body and I have enormous jaws (mandibles). Long-jawed Longhorn _____.
- 7 I have eight legs and can live 10-20 years.
- 8 Sliding along the surface of the creek, I look like an ice skater. Water_____.
- 9 My song can be heard for ½ mile! Most of my life is spent underground, but I emerge as an adult for about a month above the surface. I help give air to the soil.

Who Lives Here?

Many different species share the precious waters of Aravaipa Creek. Although you may not see the animals, their tracks are plentiful. Tracks can tell you who lives here, how many animals there are, where they spend time, how fast they were moving, and what direction they traveled. Look closely at the tracks you find. How big is the track? What shape is it? How many toes do you see? Do you see the drag mark of a tail or body? Think about the feet of the animal and how the animal moves.

Who shared the trail with you? Check off the tracks you find on your way!

Below the animal name you will find the Apache name too!

10

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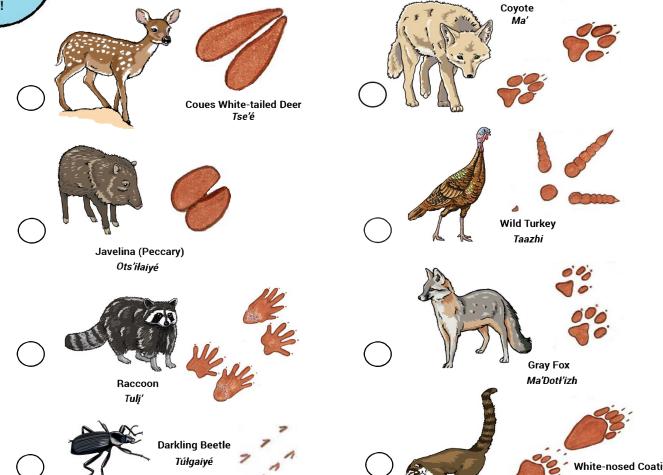
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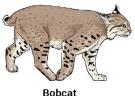
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The size of a track can help determine who left it. The length of a track is measured from the lead toe to the heel or to the hallux (the hind toe of a bird). The width is measured between the outside edges of the toes. Use the ruler on the edge of this page to measure the tracks you find.



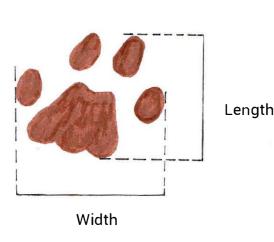
Bobcat *Ndóíłbáh*

Front Paws:

Length 6.7 - 8.9 cm Width 2.8 - 4.1 cm

Back Paws:

Length 3.7 - 5.8 cm Width 3.7 - 5.0 cm



Width



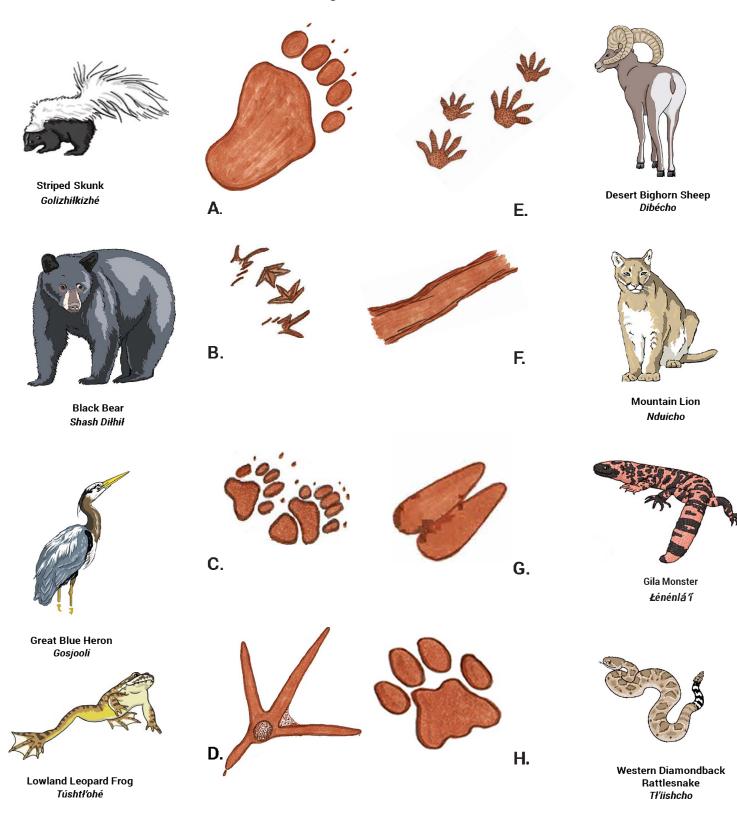
Ma'Nnee

Greater Roadrunner. Length 6.7 - 8.9 cm Width 2.8 - 4.1 cm

18



The tracks below are are much smaller than normal sized tracks. Can you guess who left them? Draw a line to connect the right animal to their tracks.



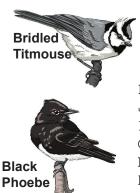
Aravaipa Bird Search

Aravaipa Canyon is an important place for birds. 233 species have been found here. Many live here year-round. Others spend a season in the winter or the summer. Some only stay a few days during migrations. Which species can you find in the canyon? Find and circle the underlined words in the word search below.

- 1. Great Blue Heron
- 2. Bridled Titmouse
- 3. Gila Woodpecker
- 4. Verdin
- 5. Black Phoebe
- 6. Back-tailed Gnatcatcher
- 7. Green-winged Teal

- 7. Canyon Wren
- 8. American Dipper
- 9. Belted Kingfisher
- 10. Blue Grosbeak
- 11. Yellow Warbler
- 12. Purple Martin
- 13. Elf Owl

- 14. Broad-billed Hummingbird
- 15. Hooded Oriole
- 16. Bell's Vireo
- 17. Vermilion Flycatcher
- 18. Common Black Hawk
- 19. Peregrine Falcon
- 20. Spotted Sandpiper









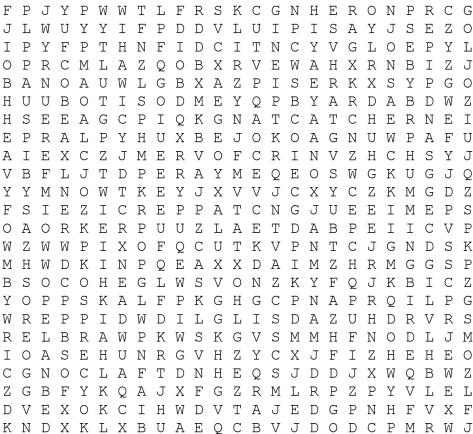






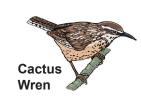
Falcon







Woodpecker





Purple Martin





NYDGROSBEAKPPPWOPC





V

Common Black Hawk



WHO KEEPS THE WILDERNESS WILD?

We ALL do!

Biologists and Ecologists: Monitor endangered species and study the plants, soil, and wildlife to keep populations healthy.

Recreation Planners and Managers:

Decide how humans will use the land, to ensure the wilderness is not harmed by humans.

Hydrologists: Study the water to be sure there is enough clean water for wildlife, plants, and humans to live.

Archaeologists: Find historic and prehistoric houses and artifacts, then protect them for future visitors to enjoy.

Wilderness Rangers: Teach visitors to Leave No Trace and to respect nature. Make sure people obey the rules that protect the wilderness.

Neighbors: Report problems, control weeds before they spread, and clean up trash so it doesn't reach the wilderness.

You! What will you do to help keep the wilderness and the environment healthy? List five things you can do to help:

1. ָ	
2.	
3.	
4.	











More Places to Play and Learn on the National Conservation Lands



