



# Activity Book

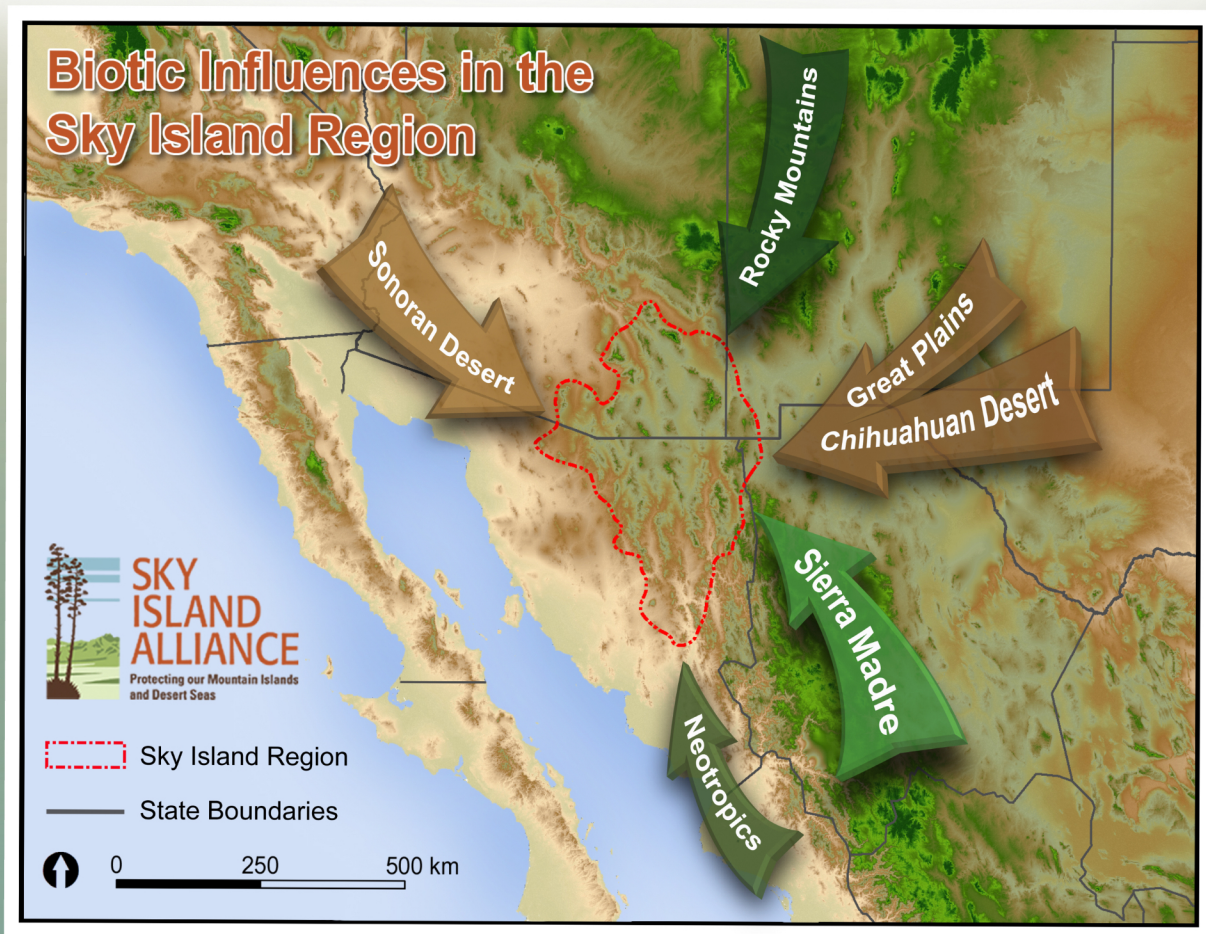
Get ready to explore springs! With this book in your hands, you are ready to become a Junior Spring Seeker!

Hello, my name is Charlie the Coati. I work with Sky Island Alliance to help look for and protect springs as part of their Spring Seeker program. First, let me introduce to you Sky Island Alliance and let you know a little about what they do!



Sky Island Alliance has worked to protect and restore the wild lands, wildlife, and waters that exist in the Sky Islands since 1991. They work in southeastern Arizona, southwestern New Mexico, and northwestern Mexico to ensure the Sky Islands are a place where open space and clean water are available to all plants, animals, and people.

What is a Sky Island? Well, Sky Islands are isolated mountain ranges that are surrounded by very different lowland environments. This results in a habitat island, such as a forest, surrounded by desert or grasslands. In southern Arizona and northern Mexico, many North American ecosystems blend to make up the unique Sky Island region.







Now let me tell you about my job with the Spring Seeker program!

In most places in western North America, water is in short supply. Can you think of the closest lake to Tucson? There are not many lakes or rivers for wildlife or people. That is why the springs located in the Sky Island region are important to protect and the reason the Spring Seeker program was created. We go out and look for as many springs as we can and record their locations. Once we find a spring, we also use our smartphones to record what we observe near the spring.

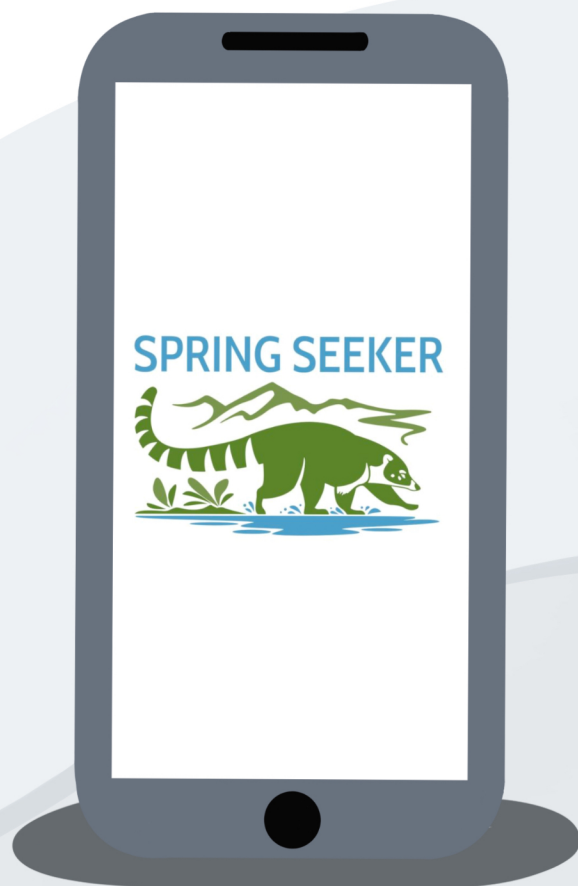
Are there any human-made structures around the spring like dams, water tanks, or wells? Human impacts like mining, livestock, or trash? How about evidence of fire? How deep is the spring's water and where is it coming from?

Are there any trees around the spring? Wetland plants? Invasive species? Or insects and amphibians?

Knowing details such as these helps us decide which locations are the most important to protect.



The Spring Seeker program uses a smartphone app to help us collect photos, locations, and other information about springs located in the Sky Islands.



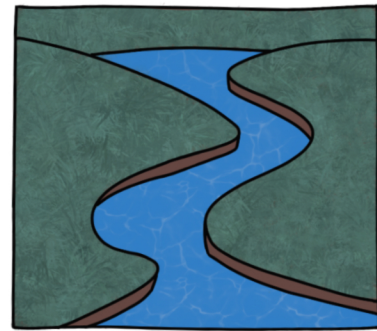


That is who I work with and what I do, but what are springs?

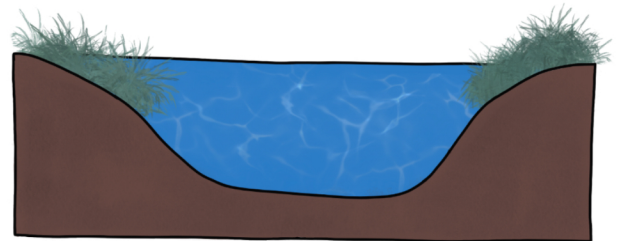
A spring is a place where groundwater is exposed or emerges at the surface.

Springs are classified into two main categories — lotic and lentic. Lotic springs flow. Lentic (sounds like “lenses”) springs form pools where water may not flow.

Scientists have even sub-categorized these types of springs into more subtypes, depending on how the water emerges from the ground. In the Sky Islands, water most commonly emerges as springs in riverbeds, on the sides of hills, and in wet meadows.



**Lentic spring**



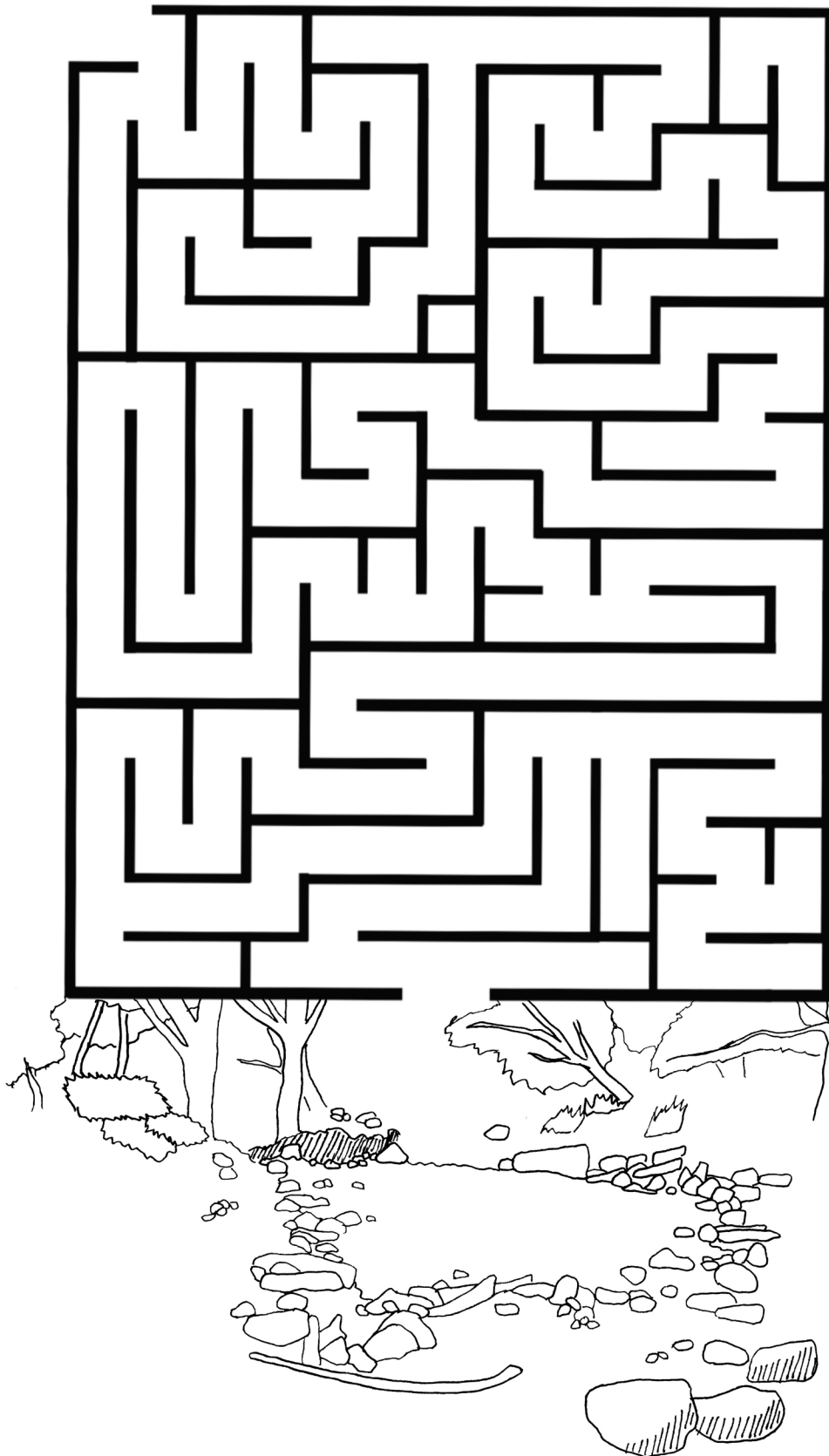
**Lotic spring**

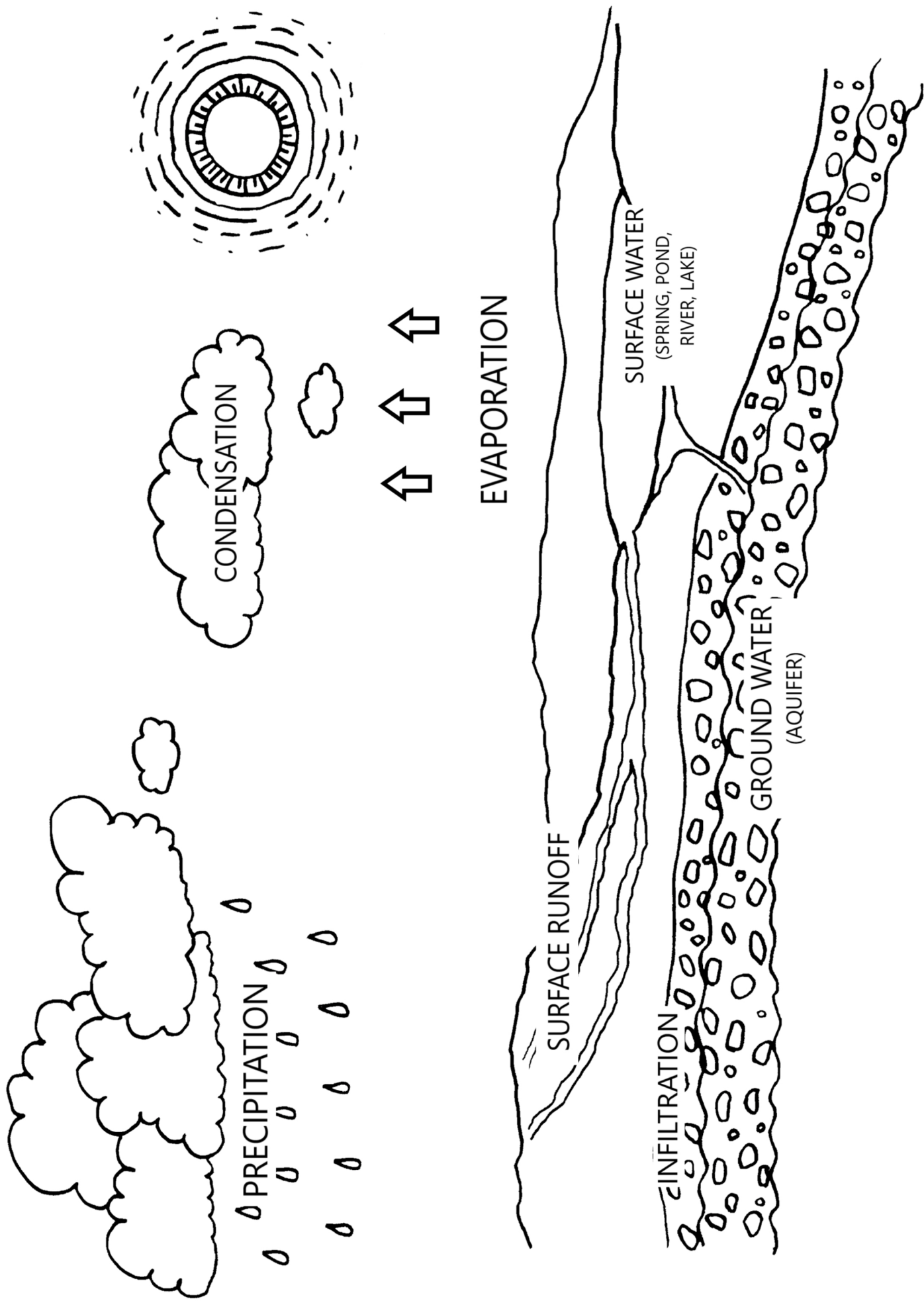


**Fun fact:** Springs are more common in mountainous areas because there are more opportunities for all these different types of rock layers and the groundwater table to intersect.



Help the water make it to the surface!



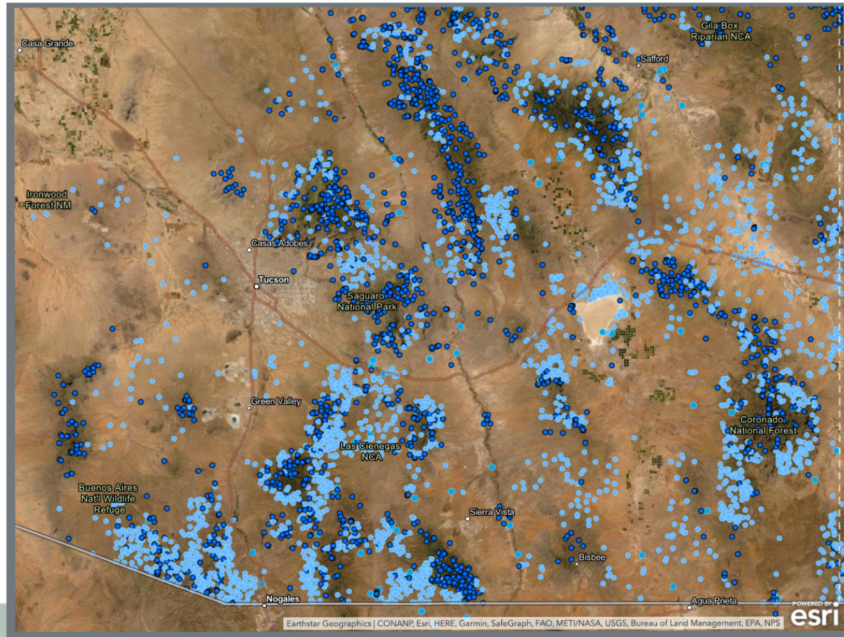






There are a lot of springs in the Tucson area!

Springs are mostly found in the mountains, and in the Sky Island region there are estimated to be over 10,000 springs! We currently know of at least 4,000 springs on the U.S side in Arizona and can guess that there are more than 3,500 springs in Sonora, Mexico—but we just don't know for sure! We are always finding more springs through our Spring Seeker program. To date, we've been able to verify springs in at least 80 locations in Mexico and over 400 locations in the U.S.








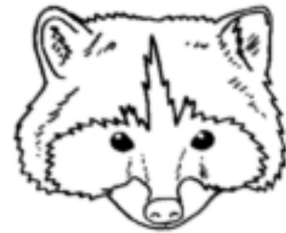
Springs in the Sky Island region are an incredibly important source of water for plants and animals. The Sonoran Desert is very dry and we're also in the middle of a long-term drought, so water is necessary for both the species that are native to this area (like antelope jackrabbits and Gould's turkeys) and those that migrate through on their way to other destinations (like grey hawks, turkey vultures, jaguars, and black bears).

Water is also very important for the humans who populate this area, including the Native American tribes who have been here for thousands of years and call many of these springs sacred.

Springs are where groundwater emerges at the surface. Groundwater is actually one of the major water sources for us in Tucson, or anywhere there is a drinking water well into the ground. Taking care of springs helps us care for our own water too!



There are a variety of animals and plants that you can find near springs!  
How many can you find?

		
<p>             S W S J A N E S L R I M E G C R A M              Y S K D E R C I A C A P I N O D N E              C S U R H Z B O Z L A C L M A J T S              A P N A P O J U T P A T C E T Z J Q              M I K G Q C R A L T T M T O I Q G U              O K J O W O J S L L O O A A O Y G I              R E S N P Y G T E D F N A N I N I T              E R N F S O O O A T E R W K D L L E              F U A L E T M A X B A R O O K E K H              R S K Y J E F D H P X I Z G O C R G              N H E C B C N O J L N U L U B D B G              B N L M R O B E A R O L C T Y C X M           </p>		
		

Coyote	Dragonfly	Toad
Snake	Skunk	Salamander
Coati	Bullfrog	Bear
Raccoon	Alder	Sycamore
Mesquite	Cottonwood	Oak
Horsetail	Spikerush	Cattail

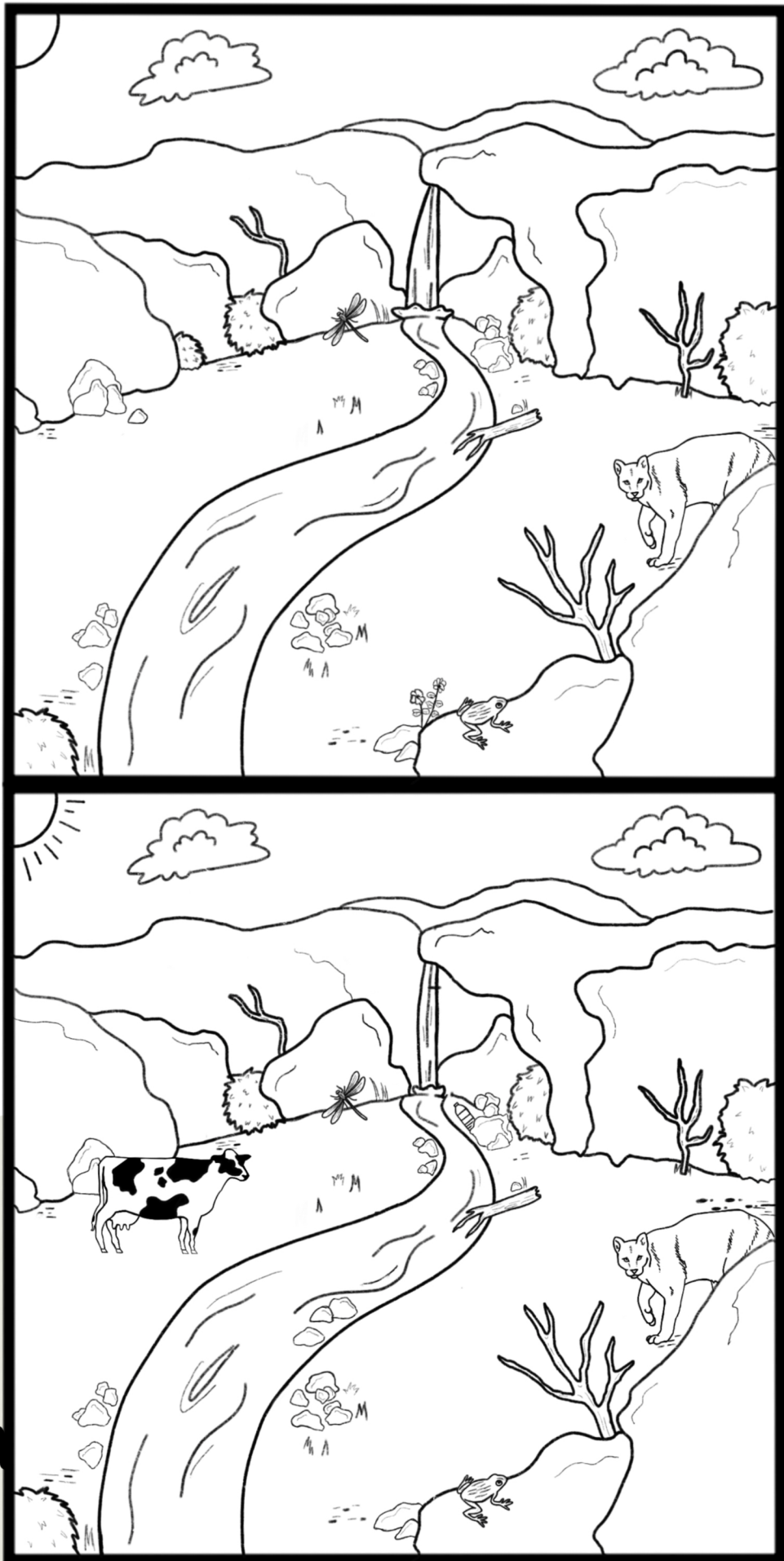


Springs are unfortunately threatened in our region. Climate change can dry springs out. If people aren't careful, they can trample sensitive plants, or bring in cattle who do the same. If there is a fire, sometimes there can be a lot of dead plants or erosion, where lots of sand and rocks bury the spring entirely. If we take out too much groundwater to drink, we can lower the amount available to emerge at springs.

Luckily there is evidence that springs, if they don't dry out, can be helpful to plants and animals as climate changes. Because they provide water, when there is severe drought around a spring, sometimes the little bit of water available helps plants and animals survive until the drought gets better!

Wow! Our springs are in danger, and we can help by visiting them and writing down or drawing what we see!

**Study the pictures to the right:  
Find and circle the 8 differences.**



Springs are usually located in the mountains, so dress appropriately when you go looking for them. Always find an adult to go with you!



**Unscramble the letters below.**

1. tspna

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2. soobt

---

3. Ingo-levesve

---

4. erensusns

---

5. ath

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Remember, always be aware of your surroundings. You don't know what critters could be out there.



A black and white illustration of a collage of various animals, including cats, dogs, birds, and insects, arranged in a circular pattern. The animals are depicted in various poses and orientations, creating a dynamic and playful composition. The style is simple and cartoonish, with bold outlines and minimal shading. The animals include several cats, dogs, birds, and insects, all arranged in a circular pattern. The overall effect is a whimsical and engaging visual representation of a diverse group of animals.



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If you and an adult are able to go to a spring, fill out the checklist below. If you can't make it to a spring, do the next activity instead!


These are the types of plants you see near springs. Do you see any? Check the plants that you see.

Woody plants or trees




Willow

☐




Walnut

☐



Sycamore


☐



Cottonwood

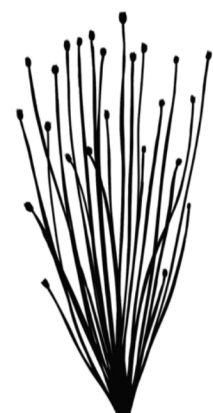
☐

Wetland plants




Yellow/seeep monkeyflower

☐




Spikerush

☐



Canyon grape

☐



Cattail

☐

Draw any other plants you see in the spaces below!

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These are the types of animals you see near springs. Do you see any? Check the animals that you see.

Do you see any fish?


☐  
☐

No  
Yes

Do you see any snails?


☐  
☐  
☐

No  
Large ones (about the size of a dime)  
Tiny ones (smaller than your pinkie nail)

Frogs/toads


☐

Any kind of tadpole


☐

Salamanders


☐

Dragonflies


☐

Giant water bug


☐

Mayfly


☐

Diving beetles

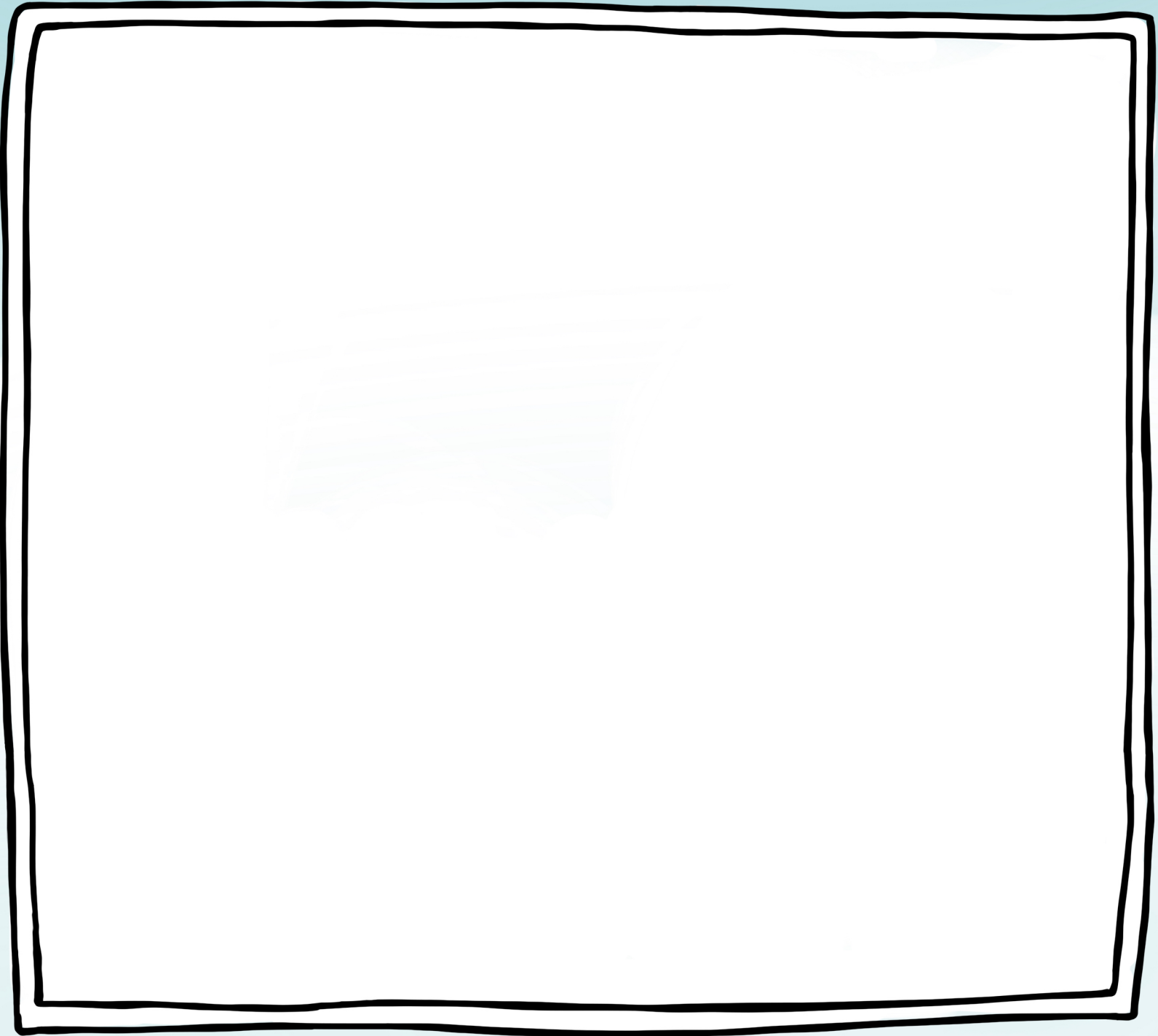

☐

Draw any other animals you see in the spaces below!

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**Can't make it to a spring? No problem! Design your own spring with the animals and plants shown in the last activity. Don't forget to show the water flowing or pooling!**



## Glossary

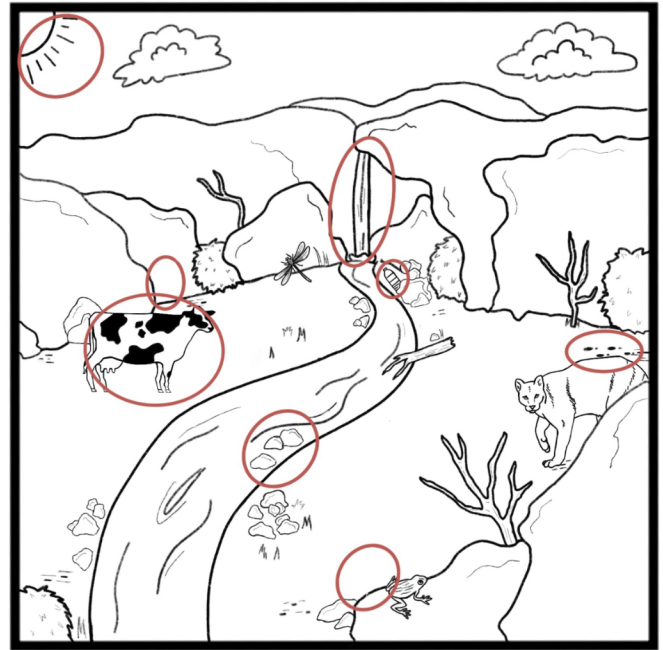
**Groundwater:** water that comes from the ground. It is a source of drinking water and also a major source of water for irrigation.

**Lowland:** an area where the land is at, near, or below the level of the sea and where there are not usually mountains or large hills

**Desert:** a dry place that receives little or almost no rainfall.

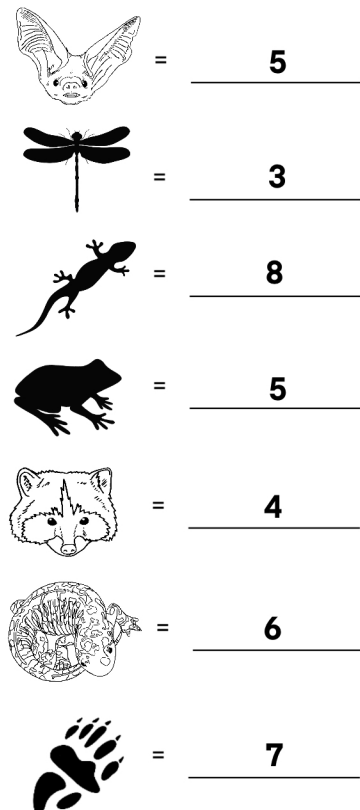
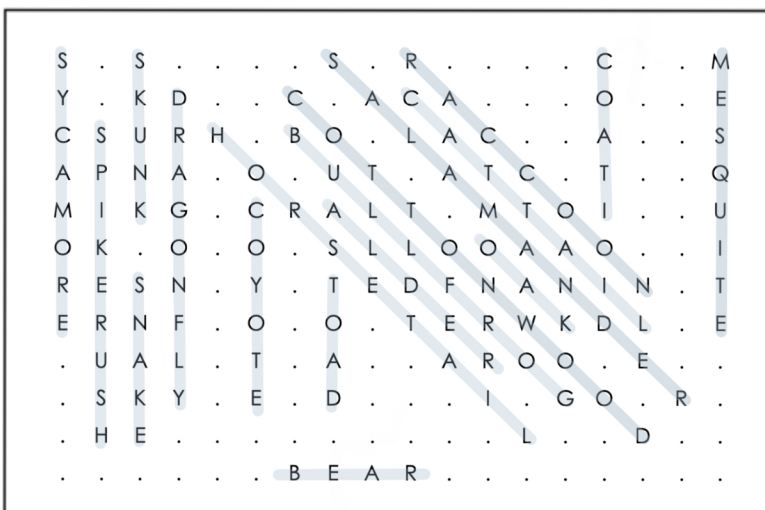
**Grasslands:** Large areas covered with grasses

**Ecosystems:** areas where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life.



- |                 |
|-----------------|
| 1. Pants        |
| 2. Boots        |
| 3. Long-sleeves |
| 4. Sunscreen    |
| 5. Hat          |

## Answer Key



Special thanks to Public Allies Arizona for helping produce this book.



## Junior Seeker Pledge

I will do my best to honor the water and land,  
To learn and protect the animals and plants.

I will seek the spring that hides,  
Find the waters that flow.  
I will protect the life that binds,  
Share the knowledge I know.

I am proud to be a Junior Spring Seeker.

### JUNIOR SPRING SEEKER CERTIFICATE

This is to certify that

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has completed the requirements and is a

*Junior Spring Seeker*



Congratulations! You are now a Junior Spring Seeker. Stop by and see us at one of our events so we can give you a special prize. Also, record yourself saying the pledge, post it to your social media, and tag us. We would love to see them and post them on our social media! Make sure you get your parents' permission when you record your video.

Instagram: @skyislandalliance

Facebook: <https://www.facebook.com/SkyIslandAlliance>

Twitter: [http://twitter.com/Sky\\_Islands](http://twitter.com/Sky_Islands)

