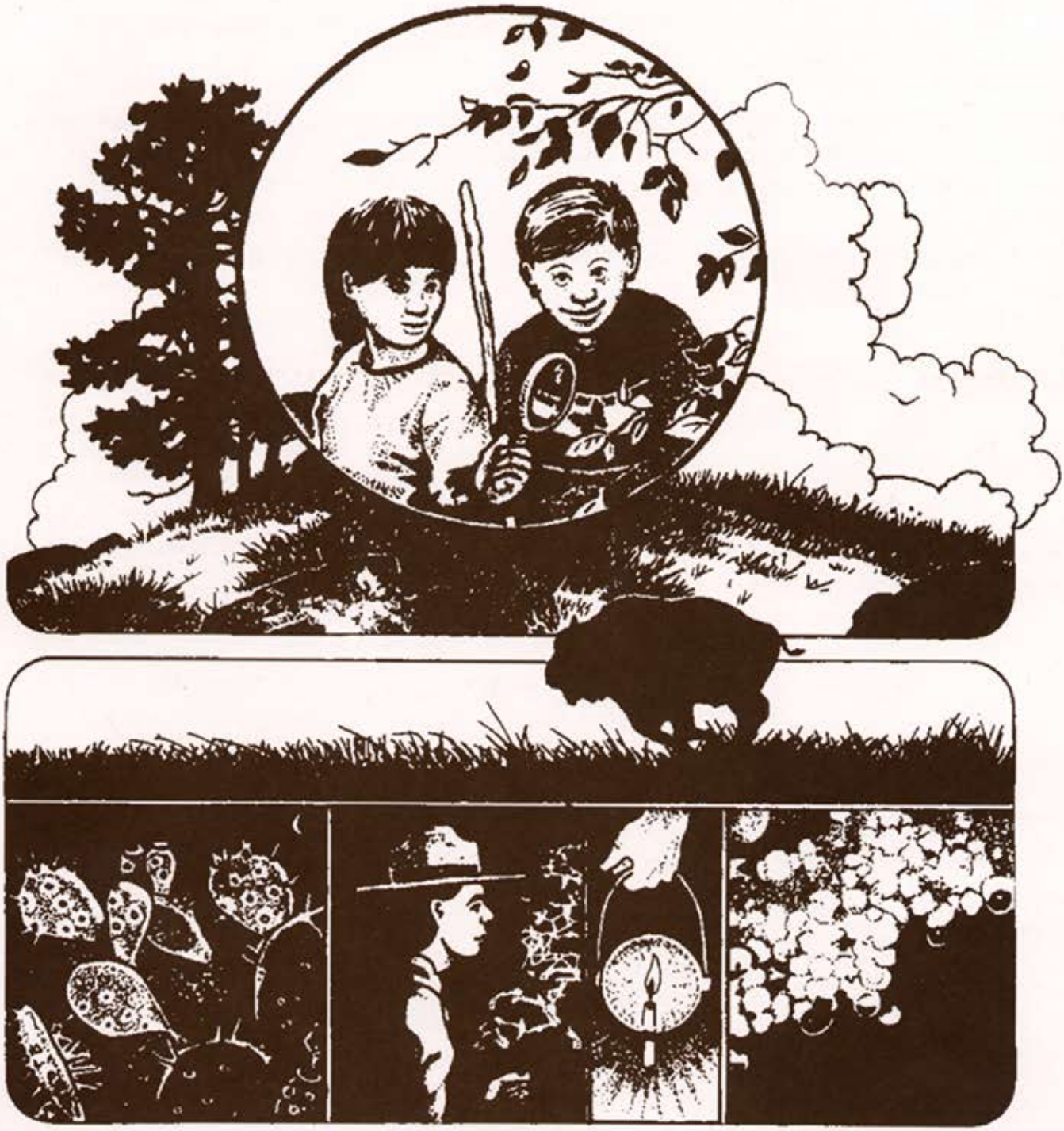
Wind Cave

National Park Service
U.S. Department of the Interior

Wind Cave National Park
26611 U.S. Highway 385
Hot Springs, SD 57747

JUNIOR RANGERS



A WORLD TREASURE

Wind Cave National Park is a combination of two very different worlds. One world is the vast prairie and all the animals that live there and one is hidden deep beneath the earth.

Wind Cave is one of the longest caves in the world. It is famous for a formation called boxwork. Wind Cave is also known for its maze-like passages.

The prairie world of Wind Cave National Park is one of the few mixed-grass prairies left in the United States. When you visit this prairie you can often see or hear wildlife. Look for bison, pronghorn, mule deer, prairie dogs, coyotes, elk, golden eagles, turkeys, porcupines, badgers, meadowlarks, and bullsnakes.

All of the resources of the park are protected because this is a national park. Resources include all of the park animals, plants, cave features, and rocks. They are protected so that everyone can enjoy these treasures for years to come.

More than five million people have visited Wind Cave. It is important that each of us helps protect this beautiful place. Please do not touch the cave rocks. Once the cave is damaged it cannot heal itself.

HOW TO BECOME A JUNIOR RANGER

As a Junior Ranger you will discover what makes this park unique. You will learn how you can help protect the park. Also, you will recognize what you can do at home to help nature.

To become a Junior Ranger complete the activities for your age group. Ask your parents to help you with the activities. When you have finished, bring this booklet to the visitor center desk. A ranger will review what you have learned and sign your certificate.

Ages 6 and Under	Ages 7 to 9	Ages 10 to 12
Join a Ranger p. 4	National Park Story p. 3	National Park Story p. 3
Scavenger Hunt Bingo p. 5	Join a Ranger p. 4	Join a Ranger p. 4
What Belongs? p. 14	Private Eye p. 8 & 9	Explore the Park p. 6
Connections p. 15	Park Protectors p. 12 & 13	Water is Important p. 7
Park Protectors p. 12 or 13	Connections p. 15	Fire Ecology p. 10 & 11
Junior Rangers Help p. 16	Junior Rangers Help p. 16	Connections p. 15
Picture Wind Cave p. 17	Protect Nature p. 18	Junior Rangers Help p. 16
		Protect Nature p. 18

THE NATIONAL PARK STORY

Early last century was a time when the animals roamed throughout the west. Most of the land was unsettled except for the small villages and tipis of the Native Americans.

In 1870, a group of men explored what is now Yellowstone National Park. They were excited about the beauty they saw around them. Some members were concerned that people would ruin this beautiful wilderness.

One evening, as the story goes, these men were sitting around a campfire. They thought that the Yellowstone area should be a great national park to be enjoyed by everyone. One of the explorers, Mr. Langford, went home and told others about the idea. Yellowstone became a national park on March 1, 1872. Other areas were also protected. Wind Cave became a national park in 1903.

Number the following pictures in the order they occurred in the story.

_____ _____ _____

_____ _____ _____

DISCOVER WIND CAVE NATIONAL PARK

All Ages JOIN A PARK RANGER

Attend a discovery program, prairie hike, cave tour or a campfire program. A schedule can be found at the visitor center or in the park newspaper.

Describe what you learned from this program: _____

_____

_____

_____

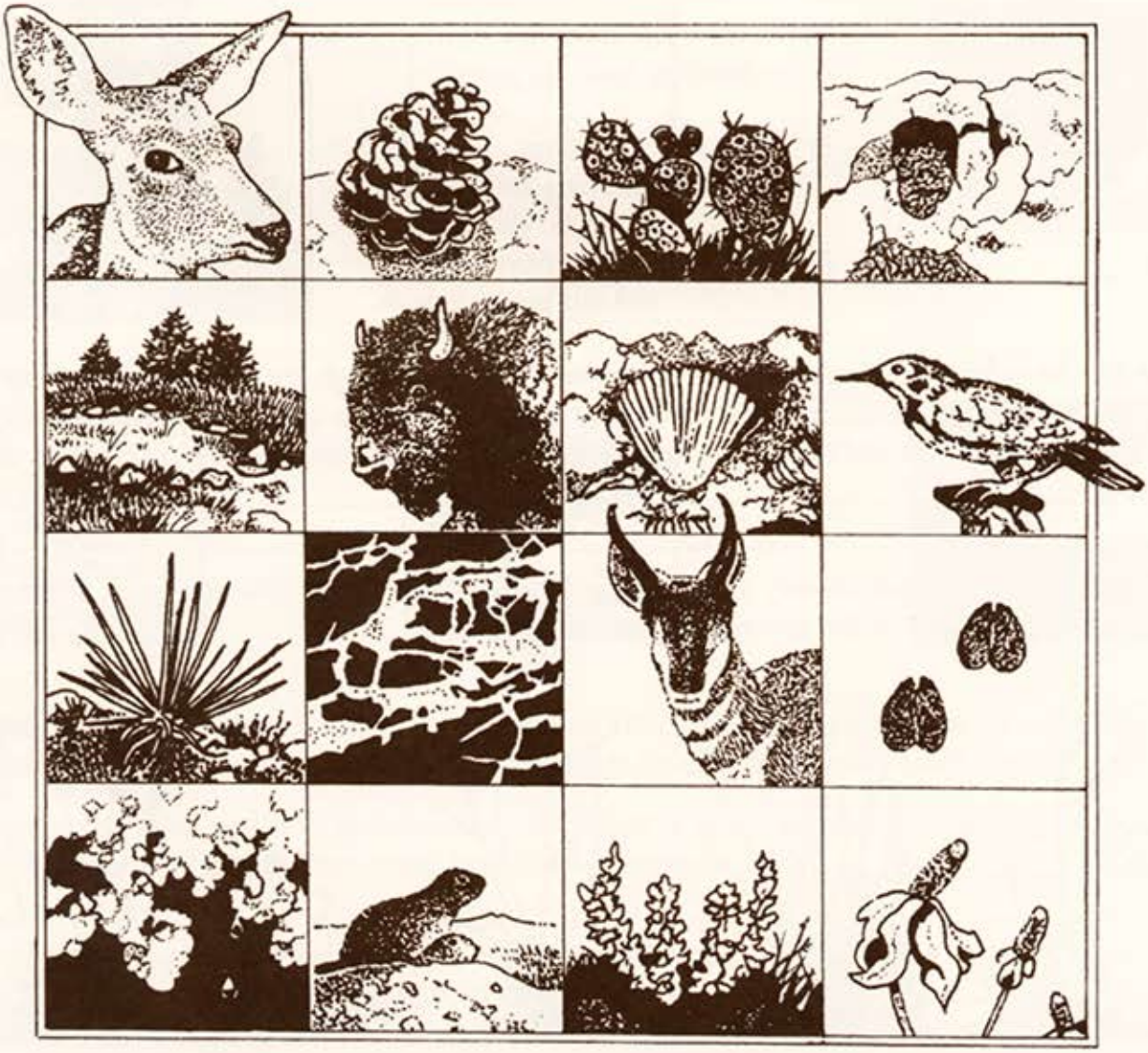
_____

Signature of ranger giving the program _____

6 and Under

SCAVENGER HUNT BINGO

Go on a scavenger hunt in the park. Look for things in the boxes below. Remember to leave the plants and rocks where they are. Try to find four in a row down, across or diagonally. Can you find them all?



EXPLORE THE PARK

Hike the Rankin Ridge, Elk Mountain, or the Prairie Vista Nature Trail. Pick up a trail guide at the trailhead of either the Rankin Ridge or the Elk Mountain Nature Trail and read it on your walk. The Prairie Vista Trail has interpretive signs along the way for you to read.

The Rankin Ridge Trail takes you through the forested area of the park. Forest habitats are important to many animals and plants. Match the term on the left with its definition.

1. Mixed-grass Prairie ___
2. Water ____
3. Snags ____
4. Ponderosa Pine ____
5. Fire ____

A. The most important factor that determines what plants will grow in an area.

B. A standing dead tree that could become a nesting site for woodpeckers and other birds

C. Helps keep the forest from expanding onto the prairie.

D. Found on the ridges and prefers arid environments and rocky soils.

E. Contains grasses from both the short and tall grass prairies.

On **the Elk Mountain or Prairie Vista Trail** you will hike through the mixed-grass prairie. This diverse habitat is unique because it contains a mixture of both tall and short grasses. The edges between the forest and the prairie also provide diverse habitats. Why is diversity important? _____

_____

Take a few minutes to look closely at the prairie grasses. How many different types of grasses can you see? Circle any of the grasses that you find.

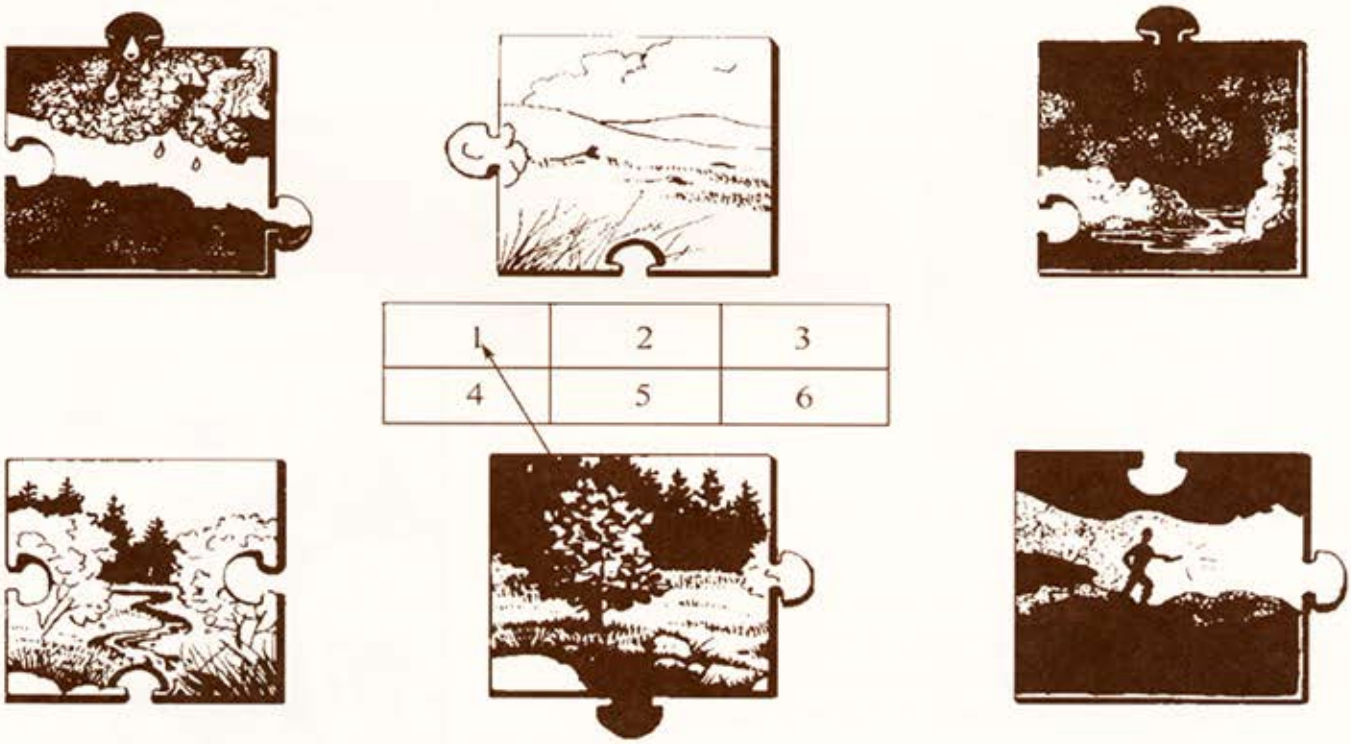
Needle and Thread **Little Bluestem** **Blue Grama** **Buffalo Grass** **Side Oats Grama**

Ages 10 to 12 WATER IS IMPORTANT TO WIND CAVE NATIONAL PARK

Wind Cave National Park has many parts. Fitting all these parts together can be puzzling! It is important to understand how everything fits together so we can protect the park. While walking on the prairie you may forget there could be a cave below. Although the cave is hidden, our activities on the surface affect it. Water is one connecting link.

At Wind Cave National Park we study the water's journey. On its journey, water is used by plants and animals, flows away in streams, or evaporates. The remaining water seeps into the ground. Some of it travels into the cave. Once in the cave, the water may create crystals or become part of the park's drinking water. Rangers test the water in the cave for pollution that may be caused by activities above it. Visitors can protect the cave by remembering that anything dumped in the campground or elsewhere in the park may end up in the cave.

Draw lines to put each puzzle piece in its correct place.



All of the resources in the park have things that can affect them or their habitat. Answer the questions below. Answers may be found in the upper-level visitor center exhibit room.

1. There are harmful weeds in prairie areas over the cave that could destroy the habitat for native grasses. Why don't we spray herbicides to remove them? _____

_____

2. Without fire, there could be too many pine trees in the park. How could too many trees affect the water for the cave, the prairie, or the animals of the park? _____

_____

Ages 7 to 9

VISITOR CENTER PRIVATE EYE

Junior Rangers must have good detective skills. Look closely at the exhibits on both floors of the visitor center and solve these riddles. Good Luck, Private Eye!

What Is It?

The Touch and Feel Table will be a help;
It is found on male deer and elk.
It is hard like a bone but not quite the same;
Find what it is and give it a name.

It is an _____

Funtastic Fact: After deer and elk shed these, small mammals chew on them for calcium. It is important that they are not removed from the park.

What Am I?

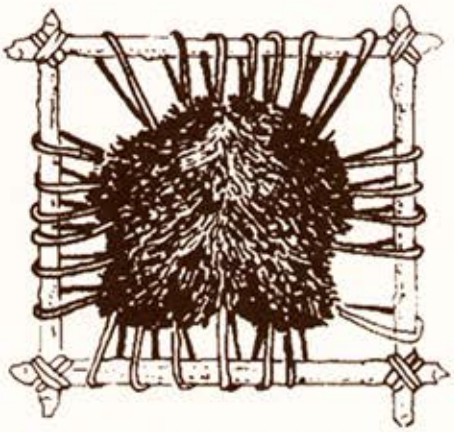
American Indians knew of me long ago;
In and out of me the wind does blow.
I blew the hats off two brothers in 1881,
I lead to miles of cave passageway fun.

I am the _____.

Funtastic fact: The winds blow into or out of the cave when the weather changes.

Is the wind blowing in or out today? _____

What Am I?



I once roamed the prairie, wild and free,
Fifty to sixty million of me.
My struggle to survive is an inspiration,
Symbolizing the freedom and majesty of this nation.

I am a _____.

Funtastic Fact: Did you know that American Indians used these hides for their clothing, tipis, and blankets?

What Is It?

It is a rare, square formation located underground,
Wind Cave is where the most is found.
It's neither a stalagmite nor a stalactite,
It is a very different form of calcite.

Name this unusual cave formation. _____

Funtastic Fact: Wind Cave is known for the amount and variety of this unique formation.

Who Am I?

I began cave exploration when I was sixteen,
I fit through small cracks because I was lean.
I went by candlelight to find a new route,
And I laid down string to find my way out.

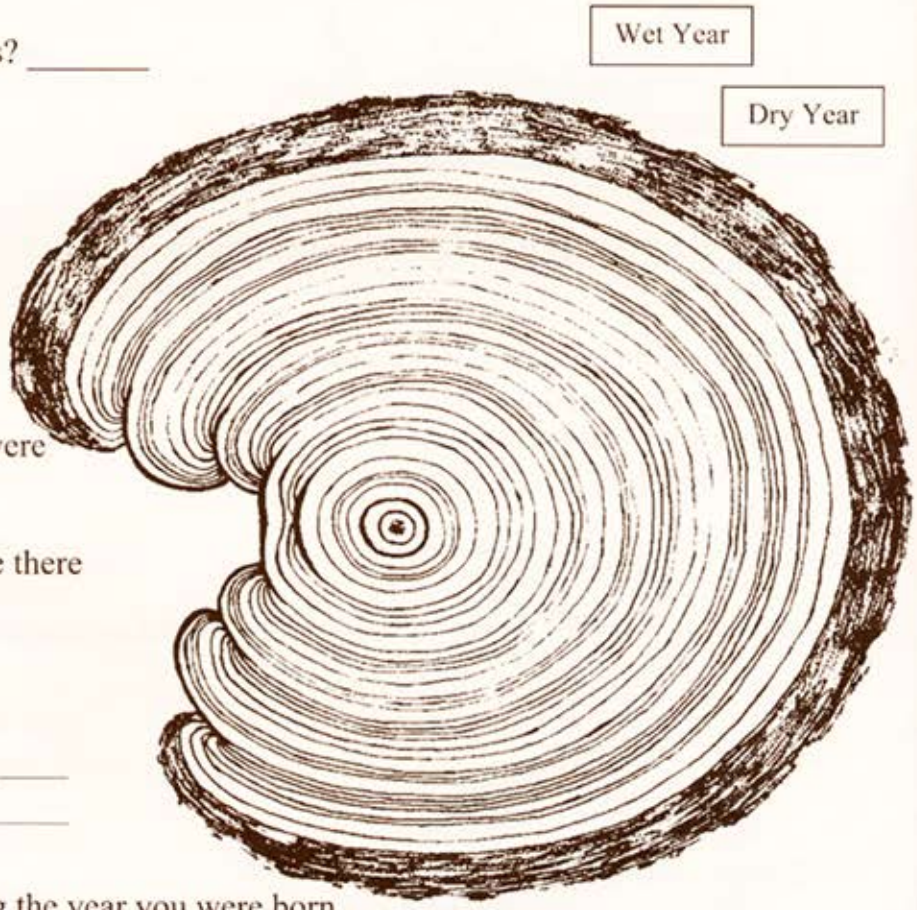
Who was this early cave explorer? _____

Funtastic Fact: This early explorer kept a diary of his life at Wind Cave. We have learned a lot about the cave from this diary.

FIRE ECOLOGY

We can learn a lot by studying tree rings. The thickness of the yearly ring tells us about the conditions where the tree lived. Some years the rings are very thick. From this we might hypothesize that conditions for growing were excellent and the tree was getting plenty of sunshine and moisture. Other years, the rings are thin and close together. This tells us conditions were not as good. Perhaps there was a drought or the forest was too thick and there was not enough rainfall or sunlight reaching the tree. Learning about trees this way is called dendrochronology. *Dendro* means tree, *chronology* means time. Examine the tree rings below and answer the questions to learn more about this tree.

How old do you think the tree was? _____



The marks on the left side of the tree are called fire scars. They tell us that a fire burned the forest where this tree lived.

How many forest fires did the tree live through? _____

Approximately how many years were between the fires? _____

How old was the tree the first time there was a forest fire? _____

Look at the thick bark of the tree. How does thick bark help protect the tree? _____

_____

Draw an arrow to the ring marking the year you were born.

Take a close look at the tree rings. Draw a line from the words "wet year" to a place on the tree that shows when the tree was getting plenty of sunshine and moisture.

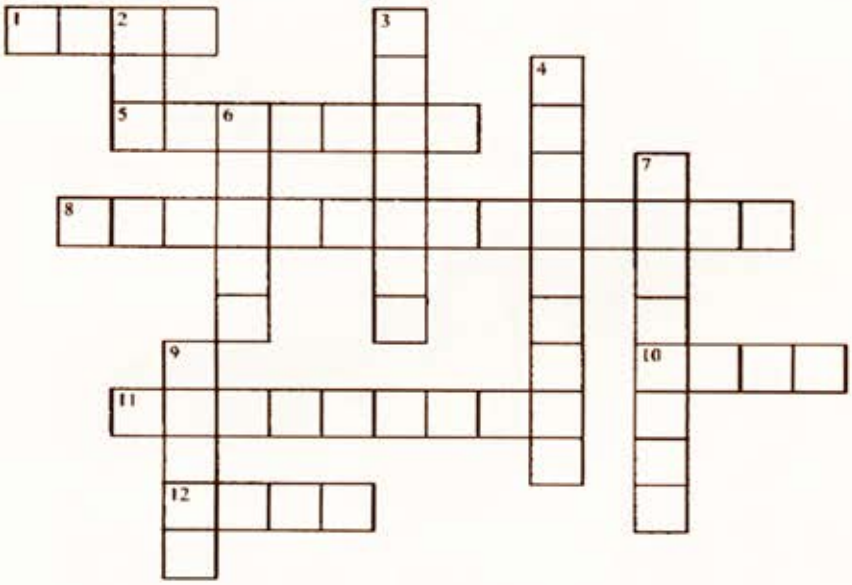
Draw a line from the words "dry year" to a place on the tree that shows when the tree was stressed or not getting enough moisture. How many times do you think the tree may have gone through a time of stress? _____

FIRE ECOLOGY (Continued)

Fire is an important tool rangers use to improve park habitats. Prescribed fires, set by rangers under strict guidelines, help reduce the amount of fuel and protect prairie grasses. Fire releases minerals into the soil which help plants grow. Because there is more food, grazing animals have more to eat. Fire also thins the forest, opening up places for shrubs and other plants to grow. Elk, deer, birds, and small animals find more berries and plants to eat and places to nest.

Fire is a very dangerous tool and should only be used with great planning, care, and knowledge of its power. The effect of a fire on animals and plants depends on the type of fire. Fires in a thick forest with heavy fuel can burn hotter and can kill animals and plants. These unplanned fires are called wildfires. Instead of helping habitats, wildfires can destroy them. We should always be careful with fire and remember it is a powerful force that must be respected.

Explore the upstairs visitor center exhibits to find the answers for this crossword puzzle.



Across

1. A fire can leave a __ in the tree rings.
5. An animal's home is its __.
8. A fire set by park rangers to improve the park's habitat is called a __ __.
10. Prescribed fires help rid the forest of excess __.
11. By examining __ __ scientist can learn many things about a tree.
12. A fire can help improve the __ in which plants grow.

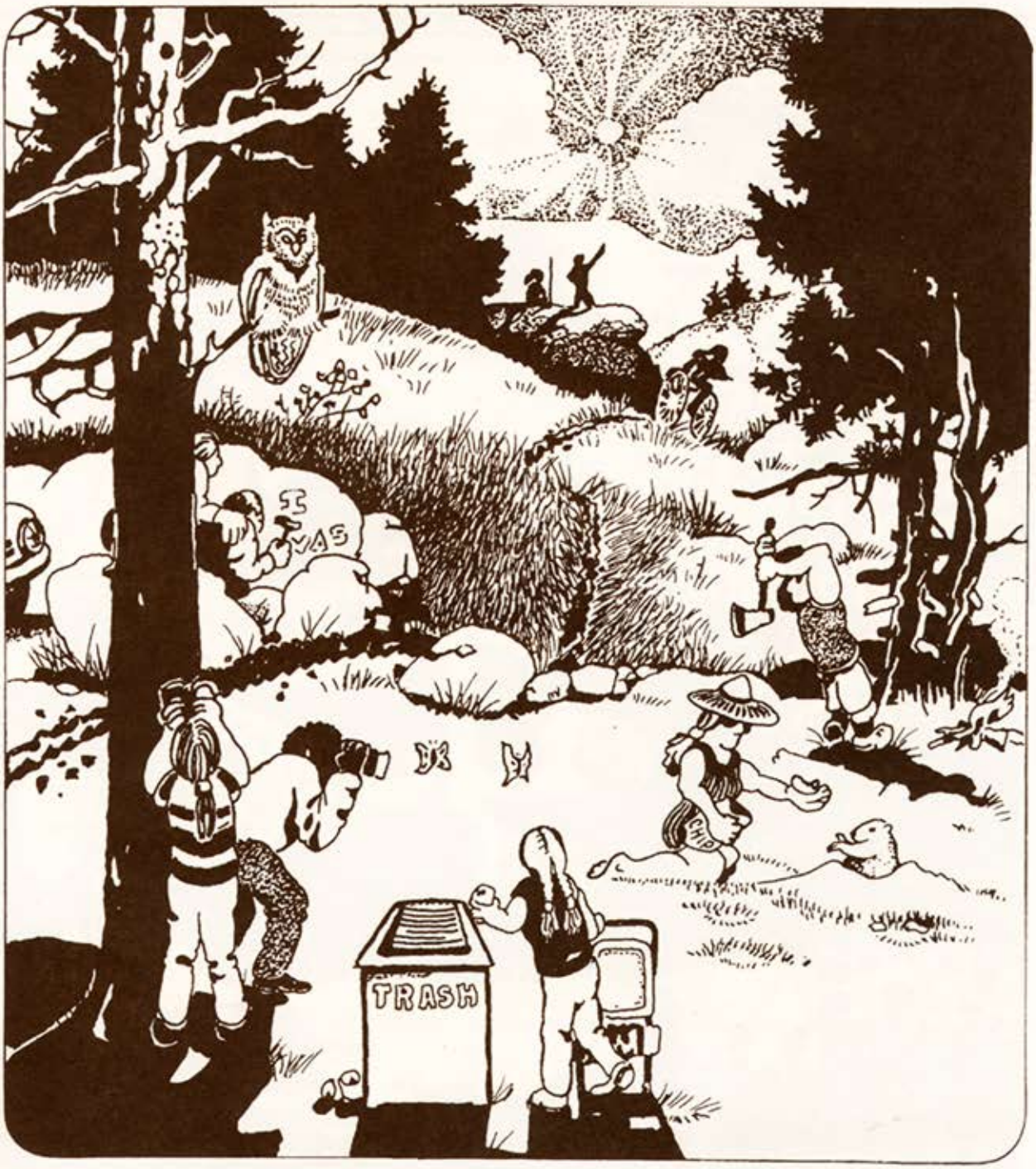
Down

2. A fire can change dead plant material into a rich __ and help improve the soil.
3. Prescribed fires help protect the prairie grasses for bison and other __ animals.
4. The pine tree most common in the Black Hills is the __ pine.
6. Another name for the large mammal called a buffalo is a __.
7. A prescribed fire helps rid the forest of excess fuels resulting in a less severe __.
9. Food for bison and other grazing animals.

PARK PROTECTORS

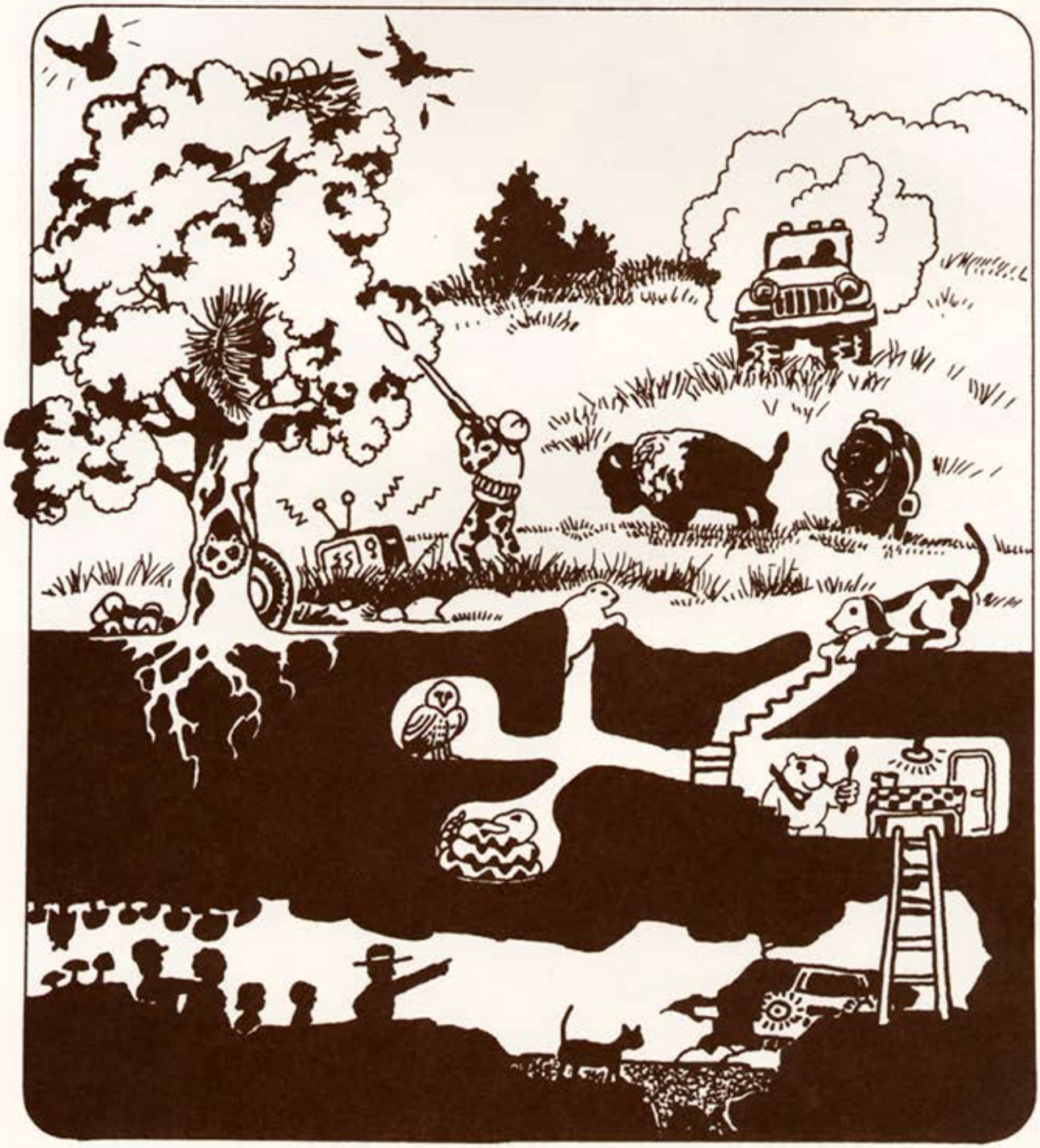
Changes in the cave may damage the fragile decorations and change the cave's beauty. Any change we make in the cave is permanent. Circle the people in the following pictures that are not park protectors.

Junior Rangers can help protect the park by keeping it natural. You can remind others about the rules and set a good example. Some people are unaware of how they harm the natural beauty and life at national parks. We need **park protectors** to encourage others to help protect national parks.



Ages 6 and under WHAT BELONGS? - - - WHAT DOESN'T?

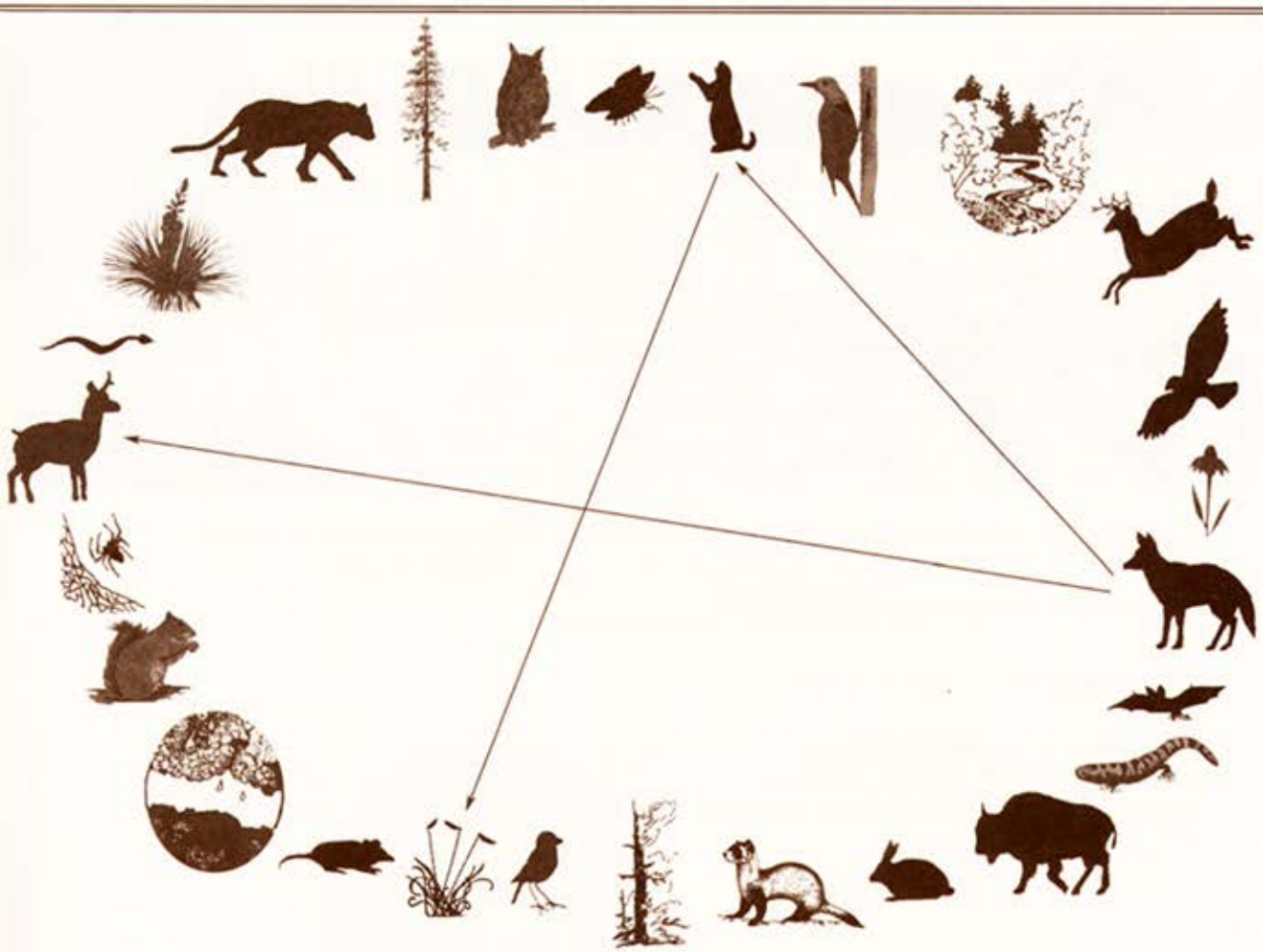
National parks are places where all of nature is protected. This is because plants, animals and rocks are important. As a Junior Ranger, you can help protect national parks by keeping them natural. Circle the things hidden in the picture that are <u>not</u> natural to Wind Cave National Park or are out of place.



CONNECTIONS

Wind Cave National Park is made up of many connections, not just in the cave, but also in prairie and forest ecosystems. These habitats are home to many different plants, animals, birds, reptiles, amphibians, and insects. All living things rely on each other for survival. Together they make a web of life that connects all the plants, animals, and habitats together.

Connect the pictures below to show who eats whom and who uses what for shelter. When finished, you will have found some of the Wind Cave National Park connections. Where do you fit in? Some plants, animals, or habitats will have more than one connection.



Ages 6 and under find at least **10** web of life connections.

Ages 7 to 9 find at least **20** web of life connections.

Ages 10 to 12 find at least **30** web of life connections and write a sentence explaining why it is important to preserve and protect all parts of an ecosystem. _____

_____

_____

JUNIOR RANGERS CAN HELP AT HOME

National parks are not the only places to enjoy the outdoors. Are there any natural areas near your home that you enjoy visiting?____ What is your favorite place? _____

It is important to protect national parks but it is just as important to protect natural areas everywhere. Animals, plants, and people need space, clean air, and clean water. As a Junior Ranger you can take an interest in the natural areas near your home.

Did you see the same things at Wind Cave National Park that you see at home?

What animals did you see at the park? _____

What animals do you see at home? _____

Draw or describe a place or thing you enjoyed seeing at Wind Cave National Park.

Draw or describe a special outdoor place or thing you enjoy near your home.

How can you help protect your favorite place at home? _____

_____

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_____

PICTURE WIND CAVE

Draw a picture below of your favorite memory at Wind Cave National Park. Share this picture with friends and family at home. Tell them about your favorite memory. Share what you learned as a Junior Ranger with everyone.

Ages 7 to 12 PROTECT NATURE IN THE PARK AND AT HOME

Many people have been inspired by what they have found in national parks. These places are national treasures to be enjoyed for generations. Because thousands of people come to visit these natural areas, their fragile beauty is endangered. We need help protecting their beauty. Below are some ways you can help with this difficult task.

Find and circle the underlined words in the puzzle below.

Help keep Wind **Cave** National Park and other natural areas clean! If you find any **litter**, please pick it up and put it in a trash container. Help protect our natural resources.

Enjoy, but don't destroy. Preserve the beautiful landscapes by leaving rocks, **flowers**, plants, fossils and other interesting things where you find them. As a Junior Ranger you can stay at the back of a cave tour and remind others not to touch the cave. Tell the park **ranger** you want to help before the tour.

Encourage others to respect the animals. It is **dangerous** to approach wildlife. Bison can charge at 35 miles per hour. Sometimes rattlesnakes and black widow spiders are found inside prairie dog **burrows.** Do not feed the wildlife. They stay healthy when they eat their natural foods.

Remember the 3 R's - **reduce**, **reuse** and **recycle**. Find out where you can recycle glass, plastic and aluminum in the park and at home. Recycling helps save land from being used as landfills.

Share what you've learned here at Wind Cave National Park with family and friends. Look at how natural areas where you live are being **protected**.

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

This Certifies That

_____

is an official

Junior Ranger

Wind Cave National Park

You have shown a willingness to serve national parks and nature everywhere by helping others to better understand and respect the great outdoors. We hope that you will continue to visit, enjoy and support America's greatest treasures, our national parks. Completion of the Junior Ranger program shows that you care and that's a great start! Thank you for your special effort.

Signed_____ Date_____

National Park Ranger