

# Junior Ranger

Oregon Caves National Monument

National Park Service  
U.S. Department of Interior



## Grizzly

*Ages 11 and Up*



*My Name is*

---

## WILL YOU ACCEPT THE JUNIOR RANGER CHALLENGE



### *We invite you to explore Oregon Caves National Monument!*

Here is a chance to discover its habitats and old growth forest, its bats and cave critters, its geology and fossils, its people and their history, and learn about caving safely. Please follow these directions and you'll be on your way to becoming a Junior Ranger!

The Grizzly Junior Ranger Booklet is intended for ages 11 and up. There are three ways to become a Junior Ranger. Just complete one of the following three choices:

*Do three activities in this book and attend a cave tour.*

*OR Do four activities in this book and hike a trail or attend a ranger program.*

*OR Do five activities in this book.*



### *Why a Grizzly bear when no grizzlies are here in Oregon?*

In 1992, grizzly bear bones were discovered in Oregon Caves National Monument. One grizzly bone was radiocarbon dated to be over 50,000 years old. At that time they were the oldest known grizzly remains in North America. Found near the bones were numerous claw marks scratched on the walls. Because the soils have no acids like top soils and the temperature and humidity are constant, our cave preserves bones very well.

Oregon Caves National Monument  
19000 Caves Highway  
Cave Junction, OR 97523  
(541)592-2100

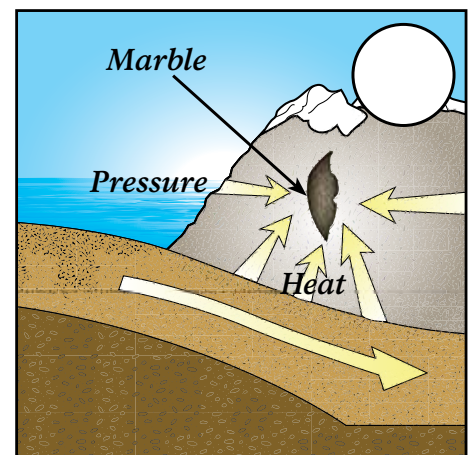
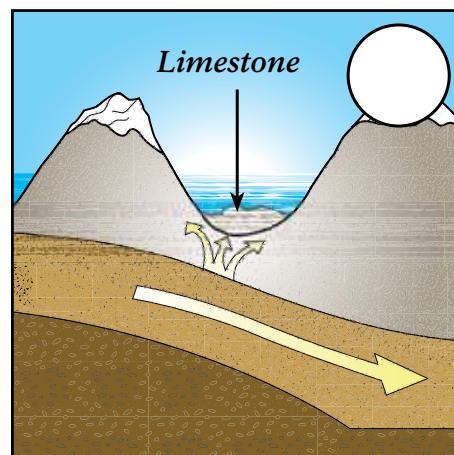
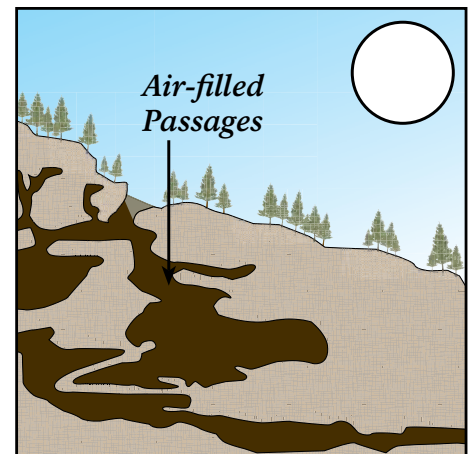
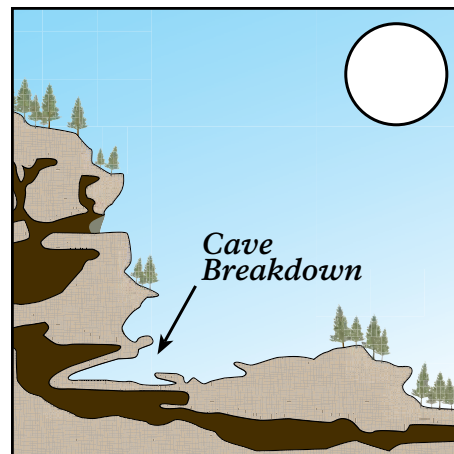
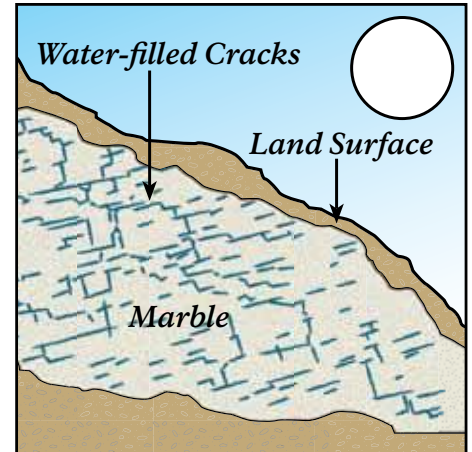
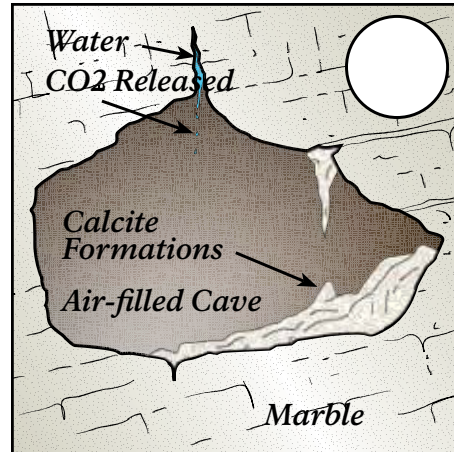
This booklet was printed on recycled paper with soy based inks. Printing of the booklet was made possible by a grant from the Natural History Association and from your generous donations.

# Geology

WHAT HAPPENED  
IN THE PAST

*The story blocks below tell the Oregon Caves story – but they aren't in the correct order. Can you number the blocks in the correct order from number 1 to 6? Read the explanation below to find the answers.*

Millions of years ago, sea creatures living in the ocean basin created a limestone reef. Eons of heat and pressure changed the limestone into marble. During mountain uplift, the marble cracked. Water, acidified by carbon dioxide, seeped through the marble cracks. The cracks widened because the marble dissolved and eroded away. This created streams running inside the mountain. As the streams cut deeper, air-filled passages began to appear. More water seeped into the ground and opened up side passages. As the water table began to lower, rain water began to enter the openings, releasing carbon dioxide and slowly deposits of calcite began to form into cave formations. In the future, the mountain will erode downward and open up the cave passages to the sunlight.





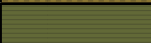



CAN YOU DIG UP  
THE ANSWERS

# Fossils

## Digging Deep

When paleontologists uncover bones, the deeper they dig the older it usually is, but not always. Watch out for disturbances in the soil. Using the diagram and time line below, match the time period of each soil section with the item the paleontologist found.

<i>Time Line</i>	
	0 – 100 years ago
	100 – 500 years ago
	500 – 1,000 years ago
	1,000 – 5,000 years ago
	5,000 – 10,000 years ago
	10,000 – 15,000 years ago

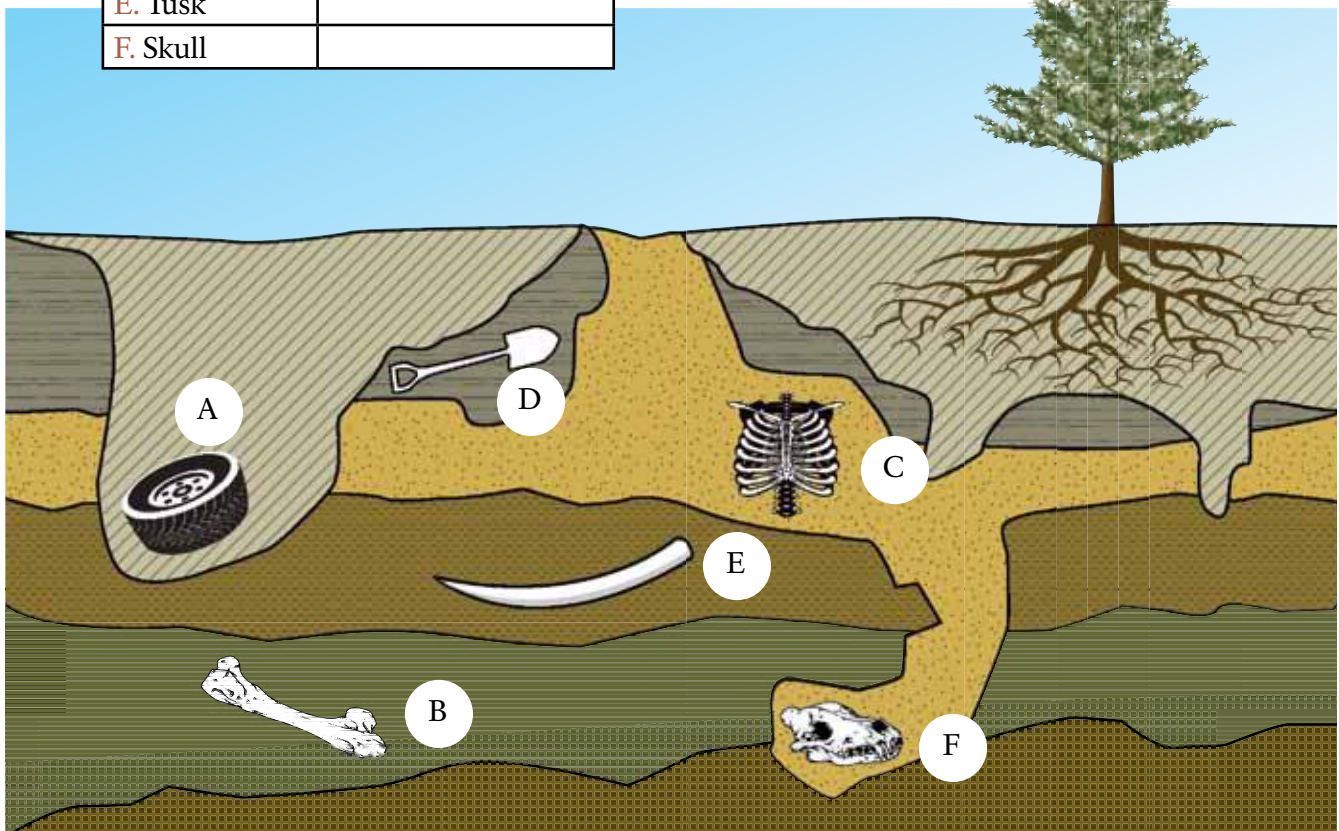
*Could the skull and ribs belong to the same animal? \_\_\_\_\_*

*Why?*

*Could the skull and leg bone belong to the same animal? \_\_\_\_\_*

*Why?*

<i>Item</i>	<i>How old is it?</i>
A. Tire	
B. Leg Bone	
C. Ribs	
D. Shovel	
E. Tusk	
F. Skull	



# People & History

CAN YOU  
IMAGINE

## *Be an early Explorer!*

When Oregon Caves was first discovered it looked a lot different. There were no buildings around. It was just a natural, steep and rugged hillside with a small opening in it that would be very easy to miss.

Elijah Davidson came across this opening while he was hunting in November of 1874. He stood outside the opening considering what it would be like to go inside.

Stand or sit by the original cave entrance (the Carbide Entrance) and imagine what it would be like to be in a position like Elijah's. There would be no other people around, and you could have the chance to be the first person to go in the cave. The Carbide Entrance is up the stairs on the right of the Main Cave Entrance.

*How do you feel with the prospect of entering the cave lying ahead of you?*

*What do you see inside the cave?*

*What do you feel, hear and smell?*



HOW MANY  
WILL YOU SEE

# Cave Habitats

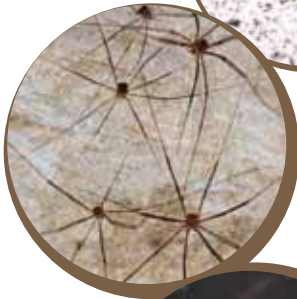
## *Cave Critter Habitats*

Oregon Caves has several endemic Cave Critters. Endemic means that the animal lives in only one place in the world. These Cave Critters live here in Oregon Caves.



### *Grylloblattids*

are sometimes described as cockroach-crickets, ice-crawlers or rock crawlers. They are related to crickets, cockroaches, termites and earwigs. Grylloblattids are special because their body fluids act as antifreeze.



### *Harvestmen*

are also known as daddy long-legs. They are not a true spider as they do not have silk glands and venom. Harvestmen can self-amputate legs to distract predators. These detached legs may remain twitching for several minutes.



### *Millipedes*

differ from centipedes in that most of their body segments have two legs where centipedes have one. Millipedes have two primary defense mechanisms. They curl into tight balls. They also emit hydrogen cyanide gas that smells like cherries. This gas can burn other insects.



### *Pseudoscorpions*

look like scorpions except they do not have a tail with a stinger. They may have arrived in our Caves by hitchhiking on the legs of flies, harvestmen or other bugs. The pincers are used to grab springtails which are their food.

actual size



actual size

### *Springtails*

can leap about 20 times their body length to get away from the predator. They have a tail-like appendage which they can fold beneath their body and place under tension. When a predator comes near, they can snap the tail against the ground and fly through the air.



### *Cave Crickets*

live underground during the day and go out for food at night. Because they live in the dark, they use their long antenna and legs to feel for predators and prey. Cricket's legs can also be used to hear sound vibrations.

HOW MANY  
WILL YOU SEE

## Bat Habitats

Here at Oregon Caves National Monument, we have eight different species of bats which use the dead trees of the old growth forest as their summer homes and the caves as a place to hibernate in the winter.

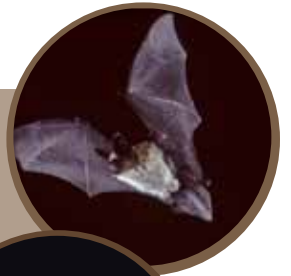
### *California myotis bat*

is the smallest bat that uses our Caves. It weighs between 1 to 2 pennies (3-5 grams). It has a slow jagged flight pattern and hunts along the edges of the forest, over water and in open meadows.



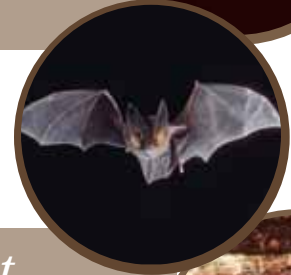
### *Long-eared myotis bat*

likes to roost in rock crevices. It flies slowly as it hunts among the treetops and over ponds. It hunts later in the evening and for longer periods than other bats here at Oregon Caves.



### *Townsend's Big-eared bat*

likes to feed on moths. If the temperature warms up, they will move during hibernation to a place where it remains cold. During hibernation, over half of the bats in our Caves are Townsend's Big-eared.



### *Big Brown bat*

is the largest bat that uses our Caves. It weighs between 5 to 9 pennies (14-21 grams). It will fly on a fairly straight line to its hunting grounds in open areas.



### *Little Brown bat*

likes to hunt over water and other open areas. It will set a hunting pattern which it will follow over and over again. These bats prefer hot attics for daytime roosts so their babies can grow to adults before they move to their winter roosts.



### *Long-legged myotis bat*

will pursue prey over a long distance through, around and over a forest with both conifers and hardwood trees. They are active throughout the night but hunt the most during the first 3-4 hours of darkness.



### *Fringed myotis bat*

migrates in the spring and autumn. It flies slowly but with grace. It hunts just above the tree tops. These bats will awaken from hibernations periodically through winter.



### *Yuma myotis bat*

lives where there is open water nearby. They hunt just above the surface of streams and ponds.



ACROSS & DOWN,  
CAN YOU  
ANSWER THEM

# Bat & Cave Critter Habitat

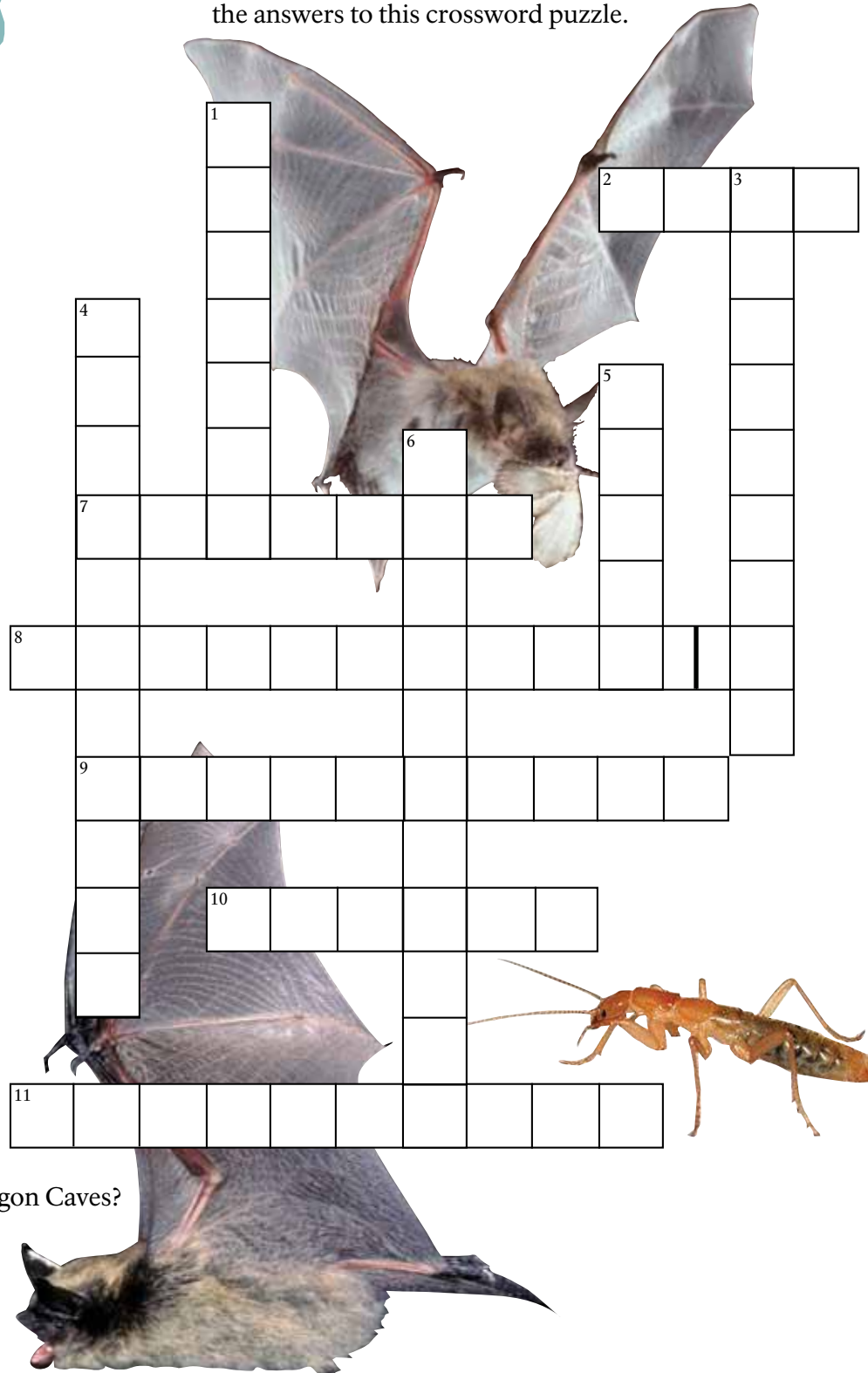
Read the two preceding pages about the bats and cave critters to find the answers to this crossword puzzle.

## Across

2. This bat hunts just above the surface of streams and ponds.
7. What do you call a critter that is only found in one place in the world?
8. I am sometimes described as an ice-crawler or rock-crawler.
9. What is the smallest bat at Oregon Caves?
10. Springtails can leap how many times their body length?
11. What kind of cave critter looks like a daddy-long legs?

## Down

1. This bat migrates in the spring and autumn.
3. I can emit hydrogen-cyanide gas that smells like cherries.
4. I use my legs to hear.
5. How many species of bats do we have at Oregon Caves?
6. What is the largest bat at Oregon Caves?



# Watershed – Old Growth Forest

Even though Oregon Caves National Monument is not designated a Wilderness, it is a special place. When you are exploring, you should leave it the way you find it. About 80,000 people visit Oregon Caves National Monument yearly. Even small changes made by each visitor can make a big impact all together.

*Draw or describe the impacts these changes would make on the Monument... what would happen?*

WHAT WOULD  
HAPPEN IF...



If each park visitor  
scratched their name  
on the walls of the cave  
X 80,000 visitors



If each park visitor  
picked a plant or flower  
X 80,000 visitors



If each park visitor  
fed the wild animals or birds  
X 80,000 visitors

If each park visitor  
collected a few rocks  
X 80,000 visitors



ARE YOU  
PREPARED

# Cave & Hiking Safety

Here's a list of things you should always have with you when you explore to help you stay safe and to be prepared for any emergency.

1. An adult (they can help you carry all this stuff).
2. A map of the area (We have trail guides for all of the trails here at Oregon Caves National Monument. Just ask for the trail guide you need).
3. A compass.
4. Extra food and water.
5. Extra clothes, especially rain gear.
6. First aid kit.
7. Sunscreen and sunglasses.
8. Flashlight with extra batteries and bulbs.
9. An emergency shelter.
10. Your adult should also carry a pocket knife and waterproof matches or a lighter for emergencies.

**Safety  
First!**

*Unscramble these safety sentences and talk them over with your family.*

family and CLOSE to Always your stick friends

Always \_\_\_\_\_ your \_\_\_\_\_ and \_\_\_\_\_.

feed or WILDLIFE Never too close get

\_\_\_\_\_ feed \_\_\_\_\_. Animals and birds need plenty of space and natural foods to stay healthy and safe.

CAREFUL lakes around Campfires be rivers and so fall don't in you

Be \_\_\_\_\_ around \_\_\_\_\_, \_\_\_\_\_, and campfires, \_\_\_\_\_ you don't \_\_\_\_\_ in!

campsite your KEEP Don't Animals attract so you CLEAN

Keep \_\_\_\_\_, so \_\_\_\_\_ animals.

help you NEED Anytime park a ranger ask

Anytime \_\_\_\_\_, \_\_\_\_\_ a \_\_\_\_\_.



*This certifies that*

\_\_\_\_\_



*has completed the Junior Ranger Program at  
Oregon Caves National Monument  
and is hereby considered an  
official Junior Ranger.*

Given on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Ranger Signature



### *Junior Ranger Promise*

As a Junior Ranger, I promise to help protect and preserve all of the National Parks and Monuments,  
my community and the world for everyone to enjoy.



*What did you discover today?*

Grizzly

*Ages 11 and Up*